# SECTION SEC
# SECURITY CONTROL SYSTEM

## CONTENTS

### WITH INTELLIGENT KEY SYSTEM

# PRECAUTION

## PRECAUTIONS

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

INFOID:0000000008460459

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 AIR BAG” and “SEAT BELT” of this Service Manual.

**WARNING:**

**Always observe the following items for preventing accidental activation.**

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

**WARNING:**

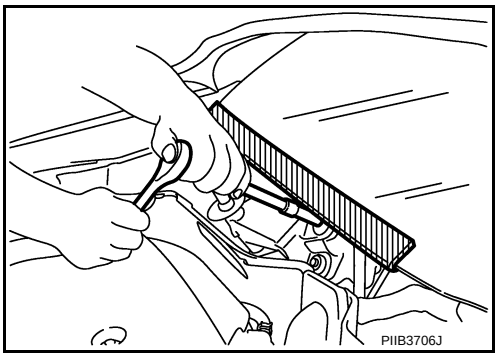
**Always observe the following items for preventing accidental activation.**

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

### Precaution for Procedure without Cowl Top Cover

INFOID:0000000008460460

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.




### Precaution for Battery Service

INFOID:0000000008460461

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

### Service Procedure Precautions for Models with a Pop-up Roll Bar

INFOID:0000000008460462

**WARNING:**

**Always observe the following items for preventing accidental activation.**

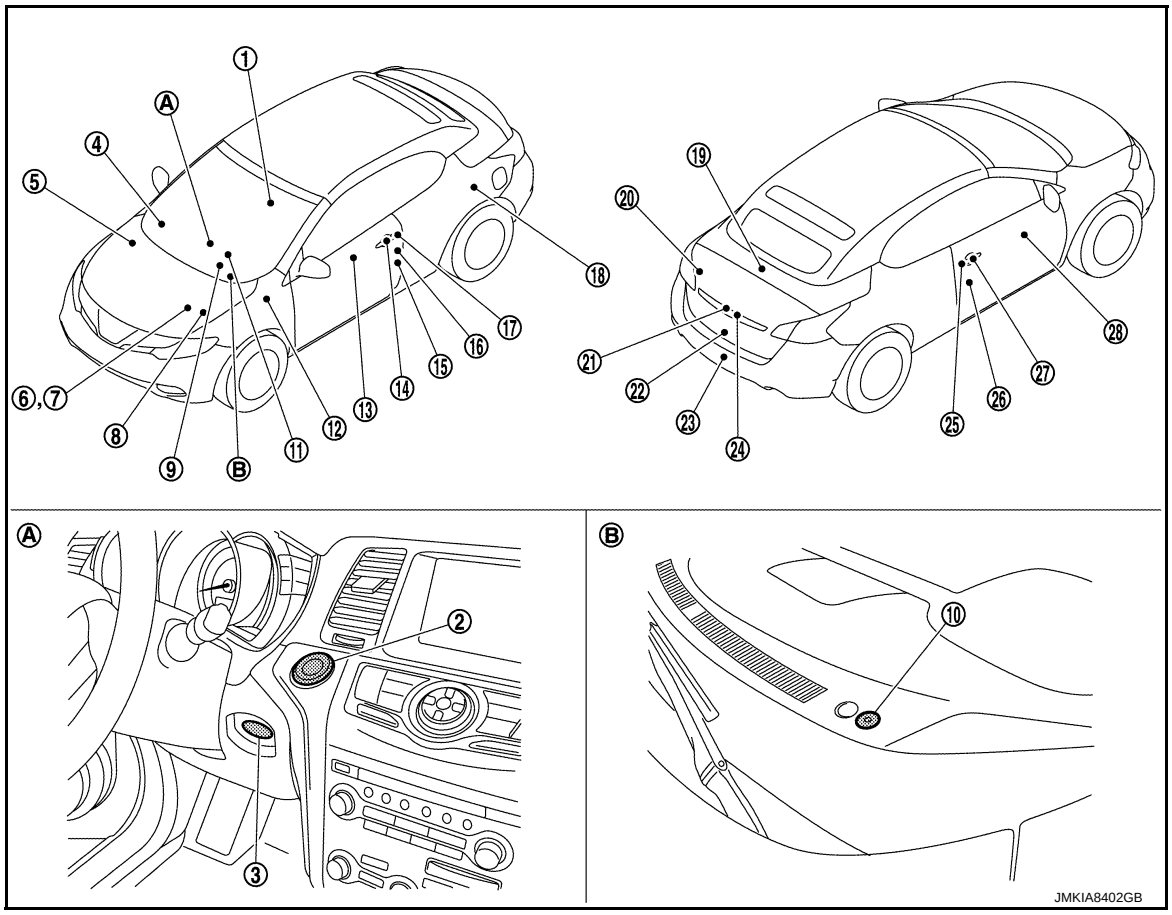
- **Risk of passenger injury or death may increase if the pop-up roll bar does not deploy during a roll over collision. In order to reduce the chance of an incident where the pop-up roll bar is inoperative, all maintenance must be performed by a NISSAN or INFINITI dealer.**
- **Before removing and installing the pop-up roll bar component parts and harness, always turn the ignition switch OFF, disconnect the battery negative terminal, and wait for 3 minutes or more. (The purpose of this operation is to discharge electricity that is accumulated in the auxiliary power supply circuit in the air bag diagnosis sensor unit.)**
- **When repairing, removing, and installing a pop-up roll bar, always refer to SRS AIR BAG and SRS AIR BAG CONTROL warnings in the Service Manual.**

# SYSTEM DESCRIPTION

## COMPONENT PARTS

### Component Parts Location

INFOID:0000000008460463




1. Inside key antenna (console) Refer to DLK-10, "DOOR LOCK SYSTEM : Component Parts Location".
2. Push-button ignition switch
3. Key slot
4. Remote keyless entry receiver (Front side) Refer to DLK-10, "DOOR LOCK SYSTEM : Component Parts Location".
5. ABS actuator and electric unit (control unit) Refer to BRC-8, "Component Parts Location".
6. TCM Refer to TM-10, "CVT CONTROL SYSTEM : Component Parts Location".
7. ECM Refer to EC-15, "ENGINE CONTROL SYSTEM : Component Parts Location".
8. IPDM E/R Refer to PCS-4, "Component Parts Location".
9. BCM Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location".
10. Security indicator lamp
11. Combination meter Refer to MWI-6, "METER SYSTEM : Component Parts Location".
12. Stop lamp switch Refer to EC-15, "ENGINE CONTROL SYSTEM : Component Parts Location".
13. Power window main switch (Door lock and unlock switch)
14. Front outside handle LH (Outside key antenna)
15. Front door lock assembly (driver side) (Door key cylinder switch)
16. Front door switch (driver side)
17. Front outside handle LH (Request switch)
18. Soft top control unit Refer to RF-9, "Component Parts Location".

19. Inside key antenna (trunk room) Refer to DLK-10, "DOOR LOCK SYSTEM : Component Parts Location".
20. Remote keyless entry receiver (rear side) Refer to DLK-10, "DOOR LOCK SYSTEM : Component Parts Location".
21. Trunk lid opener request switch
22. Trunk lid lock assembly (Trunk room lamp switch)
23. Outside key antenna (rear bumper) Refer to DLK-10, "DOOR LOCK SYSTEM : Component Parts Location".
24. Trunk key cylinder switch
25. Front outside handle RH (Request switch)
26. Front door switch (passenger side)
27. Front outside handle RH (Outside key antenna)
28. Front power window switch (passenger side) (Door lock and unlock switch)

A. Around instrument lower panel LH
B. Instrument panel assembly

## Component Description

INFOID:0000000008460464

| Component | Reference |
|---|---|
| ABS actuator and electric unit (control unit) | SEC-7 |
| BCM | SEC-7 |
| CVT shift selector (detention switch) | SEC-8 |
| ECM | SEC-8 |
| IPDM E/R | SEC-8 |
| TCM | SEC-8 |
| Combination meter | SEC-8 |
| Door switch | SEC-8 |
| Inside key antenna | SEC-8 |
| Intelligent Key | SEC-8 |
| Key slot | SEC-9 |
| Push-button ignition switch | SEC-9 |
| Remote keyless entry receiver | SEC-9 |
| Security indicator lamp | SEC-9 |
| Soft top control unit | SEC-9 |
| Starter control relay | SEC-9 |
| Starter relay | SEC-9 |
| Stop lamp switch | SEC-9 |
| Trunk key cylinder switch | SEC-9 |
| Trunk room lamp switch | SEC-9 |

## ABS Actuator and Electric Unit (Control Unit)

INFOID:0000000008460465

ABS actuator and electric unit (control unit) transmits the vehicle speed signal to BCM via CAN communication.
BCM also receives the vehicle speed signal from combination meter via CAN communication. BCM compares both signals to detect the vehicle speed.

## BCM

INFOID:0000000008460466

BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS and VEHICLE SECURITY SYSTEM.
BCM performs the ID verification between BCM and Intelligent Key when the Intelligent Key is carried into the detection area of inside key antenna, and push-button ignition switch is pressed. If the ID verification result is OK, push-button ignition switch operation is available.

Then, when the ignition switch is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine.

## CVT Shift Selector (Detention Switch)

INFOID:0000000008460467

Detention switch detects that selector lever is locked in the P position, and then transmits ON/OFF signal to BCM and IPDM E/R.
BCM confirms the selector lever position with the following 5 signals.
- P position signal from CVT shift selector (detention switch)
- P/N position signal from TCM
- P position signal from IPDM E/R (CAN)
- P/N position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the selector lever position with the following 3 signals.
- P position signal from CVT shift selector (detention switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

## ECM

INFOID:0000000008460468

ECM controls the engine.
When the ignition switch is turned ON, BCM starts communication with ECM and performs the ID verification between BCM and ECM.
If the verification result is OK, the engine can start. If the verification result is NG, the engine can not start.

## IPDM E/R

INFOID:0000000008460469

Starter control relay and starter relay are integrated in IPDM E/R, and used for the engine starting function. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R while communicating with BCM. IPDM E/R sends the starter control relay and starter relay status signal to BCM.

## TCM

INFOID:0000000008460470

TCM transmits the shift position signal (P/N position) to BCM via CAN communication.
BCM confirms the selector lever position with the following 5 signals.
- P position signal from CVT shift selector (detention switch)
- P/N position signal from TCM
- P position signal from IPDM E/R (CAN)
- P/N position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the selector lever position with the following 3 signals.
- P position signal from CVT shift selector (detention switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

## Combination Meter

INFOID:0000000008460471

Combination meter transmits the vehicle speed signal to BCM via CAN communication.
BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM compares both signals to detect the vehicle speed.

## Door Switch

INFOID:0000000008460472

Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.

## Inside Key Antenna

INFOID:0000000008460473

Inside key antenna detects whether Intelligent Key is inside the vehicle or not, and transmits the signal to BCM.
Two inside key antennas are installed in console and trunk room.

## Intelligent Key

INFOID:0000000008460474

Each Intelligent key has an individual electronic ID, and transmits the ID signal by request from BCM.

Carrying the Intelligent Key whose ID is registered in BCM, the driver can performs door lock/unlock operation and push-button ignition switch operation.

## Key Slot

INFOID:0000000008460475

Key slot has key-in switch and NATS antenna amp. inside. Key-in switch detects whether Intelligent Key is inserted into key slot or not, and transmits ON/OFF signal to BCM. When Intelligent Key is inserted into key slot, BCM receives NATS ID signal from the transponder integrated in Intelligent Key via NATS antenna amp. Key slot indicator blinks when Intelligent Key insertion is required.

## Push-button Ignition Switch

INFOID:0000000008460476

Push-button ignition switch has push switch which detects that push-button is pressed, and then transmits ON/OFF signal to BCM. BCM changes the ignition switch position with the operation of push-button ignition switch. BCM maintains the ignition switch position status while push-button is not operated.

## Remote Keyless Entry Receiver

INFOID:0000000008460477

Remote keyless entry receiver receives each button operation signal and electronic key ID signal from Intelligent Key, and then transmits the signal to BCM. Two remote keyless entry receivers are installed in center console and trunk room.

## Security Indicator Lamp

INFOID:0000000008460478

Security indicator lamp is located on the driver′s side instrument panel assembly.
Security indicator lamp blinks when ignition switch is in any position other than ON, to warn that this vehicle is equipped with Nissan Vehicle Immobilizer System-NATS.

## Soft Top Control Unit

INFOID:0000000008460479

Soft top control unit controls the soft top system, and controls local communication between BCM and power window switches (door lock and unlock switches are integrated). Soft top control unit has the self diagnosis function that detects a malfunction of the communication line.

## Starter Control Relay

INFOID:0000000008460480

Starter control relay and starter relay are integrated in IPDM E/R, and used for the engine starting function. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R while communicating with BCM. IPDM E/R sends the starter control relay and starter relay status signal to BCM.

## Starter Relay

INFOID:0000000008460481

Starter control relay and starter relay are integrated in IPDM E/R, and used for the engine starting function. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R while communicating with BCM. IPDM E/R sends the starter control relay and starter relay status signal to BCM.

## Stop Lamp Switch

INFOID:0000000008460482

Stop lamp switch detects that brake pedal is depressed, and then transmits the ON/OFF signal to BCM.

## Trunk Key Cylinder Switch

INFOID:0000000008460483

Trunk key cylinder switch detects trunk key cylinder operation condition and then transmits ON (trunk lid open)/OFF (not operated) signal to BCM. BCM uses this signal input to judge whether trunk lid is opened by the authorized means or not for the vehicle security system.

## Trunk Room Lamp Switch

INFOID:0000000008460484

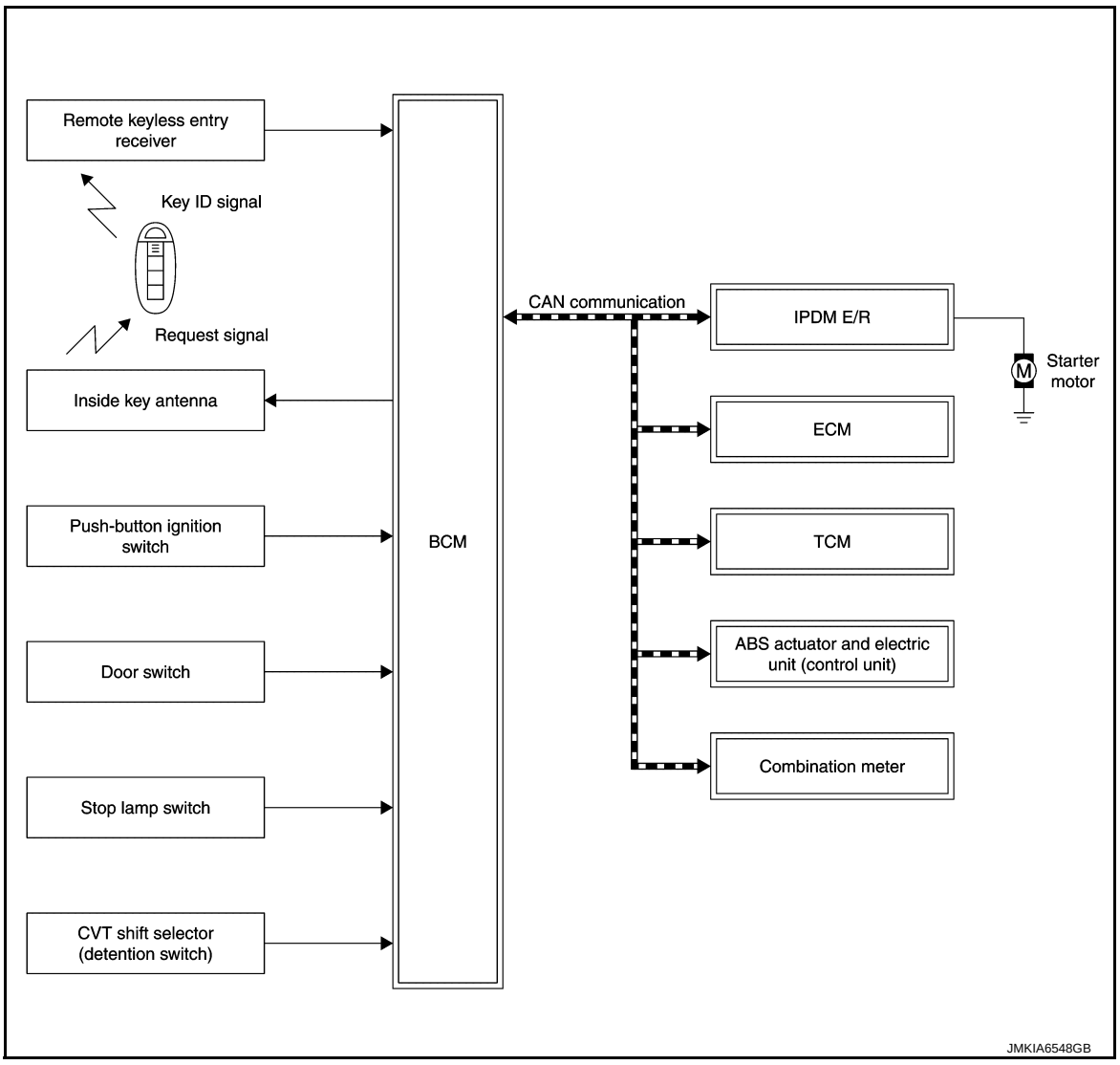
Trunk room lamp switch detects engagement of trunk lid lock assembly and trunk lid striker, then transmits the trunk room open/close signal to BCM.

# SYSTEM

## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

### INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Diagram

INFOID:0000000008460485




### INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:0000000008460486

SYSTEM DESCRIPTION

- The engine start function of Intelligent Key system makes it possible to start and stop engine without using the key based on the electronic ID verification. The electric ID verification is performed between BCM and Intelligent Key when the push-button ignition switch is pressed while the Intelligent Key is within the detection area of inside key antenna.
  **NOTE:**
  The driver should carry the Intelligent Key at all times.
- Intelligent Key has 2 IDs [Intelligent Key ID and for NVIS (NATS) ID]. It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) on request from the owner.
  **NOTE:**
  - Refer to DLK-15, "INTELLIGENT KEY SYSTEM : System Description" for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

- **The transponder [the chip for NVIS (NATS) ID verification] is integrated into the Intelligent Key. (For the conventional models, it is integrated into the mechanical key.) Therefore, ID verification cannot be performed by mechanical key only. In that case, the NVIS (NATS) ID verification can be performed when Intelligent Key is inserted into key slot. If verification result is OK, engine can be started.**

## OPERATION WHEN INTELLIGENT KEY IS CARRIED

1. When push-button ignition switch is pressed, BCM activates inside key antenna and transmits the request signal to Intelligent Key.
2. Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to BCM.
3. BCM receives the Intelligent Key ID signal via remote keyless entry receiver, and verifies it with the registered ID.
4. If the verification result is OK, BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
5. IPDM E/R turns ignition relay ON and starts the ignition power supply.
6. BCM detects that selector lever is in the P or N position.
7. BCM transmits the starter request signal via CAN communication to IPDM E/R and turns starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
8. IPDM E/R turns starter control relay ON when receiving the starter request signal.
9. Battery power is supplied through starter relay and starter control relay to operate starter motor.
   **CAUTION:**
   **If a malfunction is detected in the Intelligent Key system, “KEY” warning lamp in the combination meter illuminates. At that time, engine cannot be started.**
10. When BCM received feedback signal from ECM indicating that the engine is started, BCM transmits a stop signal to IPDM E/R and stops the cranking by turning OFF starter motor relay. (If the engine start is unsuccessful, the cranking operation stops automatically within 5 seconds.)
    **CAUTION:**
    **When Intelligent Key is carried outside of the vehicle (inside key antenna detection area) while ignition switch is in the ACC or ON position, even if the engine start condition* is satisfied, engine cannot be started.**

*: For the engine start condition, refer to “IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION”.

## OPERATION RANGE

Engine can be started when Intelligent Key is inside the vehicle. However, sometimes engine might not start when Intelligent Key is on instrument panel or in glove box.

## OPERATION WHEN KEY SLOT IS USED

When the Intelligent Key battery is discharged, the NVIS (NATS) ID verification between BCM and transponder (integrated into Intelligent Key) is performed when Intelligent Key is inserted into key slot.
For details relating to starting the engine using key slot, refer to SEC-13, "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description".

## IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

The ignition switch position can be changed by performing the following operations.

**NOTE:**

- When an Intelligent Key is within the detection area of inside key antenna, and when it is inserted to the key slot, it is equivalent to the operations below.
- When starting engine, BCM checks the following conditions and then changes the ignition switch position.
  - Brake pedal operating condition
  - Selector lever position
  - Vehicle speed
- This models do not have the steering lock system. However, the ignition switch position changes to the LOCK position and LOCK indicator illuminates without steering lock operation when the following conditions are fulfilled.
  - Ignition switch: OFF
  - Selector lever position: P
  - Any of the following condition is met
- Opening door

- Closing door
- Door is locked by request switch operation
- Door is locked by Intelligent Key operation

Vehicle speed: less than 4 km/h (2.5 MPH)

| Power supply position | Engine start/stop condition | | Push-button ignition switch operation frequency |
|---|---|---|---|
| | Selector lever | Brake pedal operation condition | |
| LOCK → ACC | — | Not depressed | 1 |
| LOCK → ACC → ON | — | Not depressed | 2 |
| LOCK → ACC → ON → OFF | — | Not depressed | 3 |
| LOCK → START<br>ACC → START<br>ON → START | P or N position | Depressed | 1 |
| Engine is running → OFF | — | — | 1 |

Vehicle speed: 4 km/h (2.5 MPH) or more

| Power supply position | Engine start/stop condition | | Push-button ignition switch operation frequency |
|---|---|---|---|
| | Selector lever | Brake pedal operation condition | |
| Engine is running → ACC | — | — | Emergency stop operation |
| Engine stall return operation while driving | N position | Not depressed | 1 |

Emergency stop operation

- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

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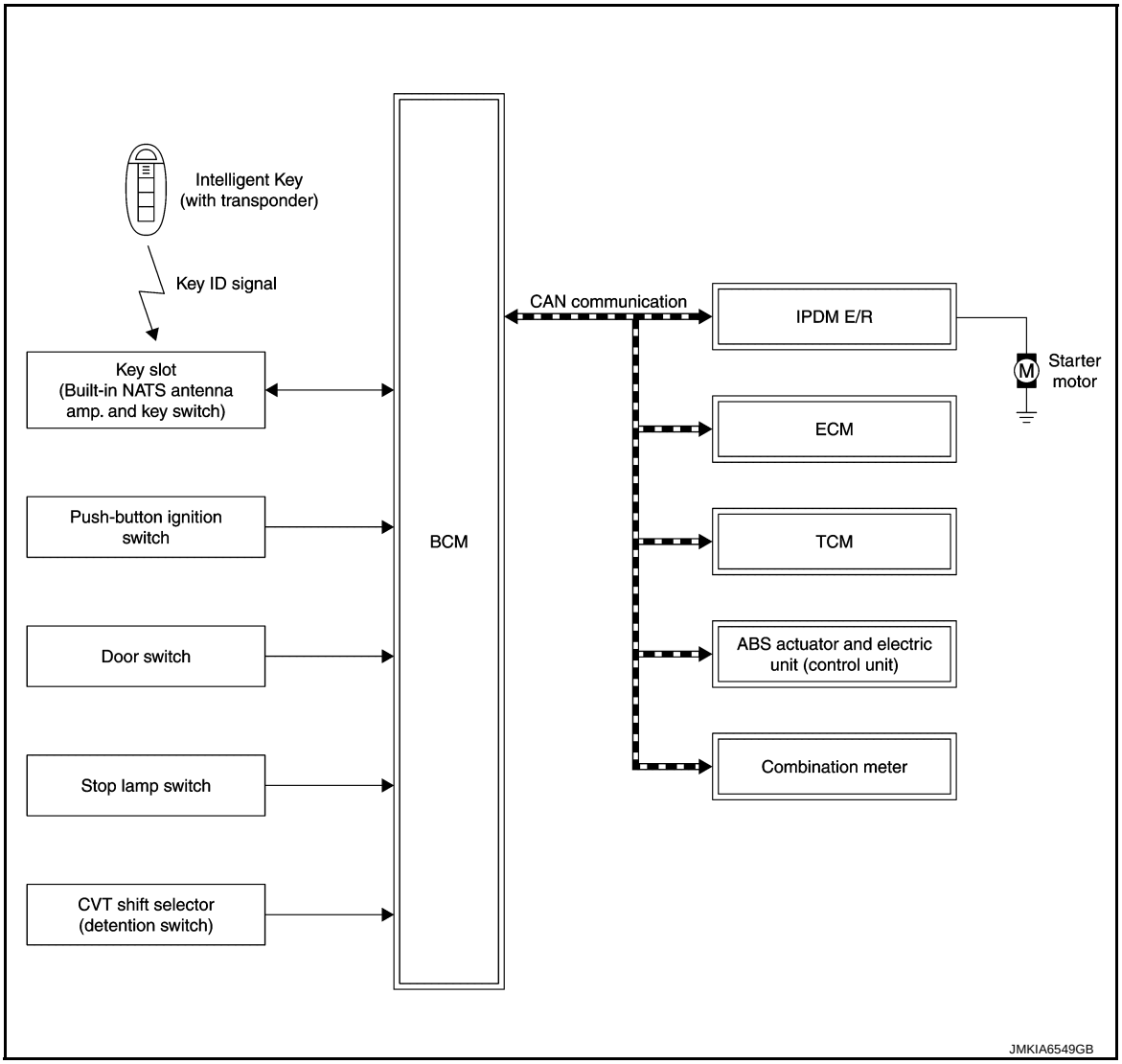



## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:0000000008460488

### SYSTEM DESCRIPTION

- The NIssan Vehicle Immobilizer System-NATS [NVIS (NATS)] prevents engine being started by Intelligent Key whose ID is not registered to the vehicle (BCM). It has a higher protection against auto theft involving the duplication of mechanical keys.
- The mechanical key integrated in the Intelligent Key cannot start the engine. When Intelligent Key battery is discharged, the NVIS (NATS) ID verification is performed between BCM and transponder integrated into Intelligent Key when Intelligent Key is inserted into key slot. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Security indicator lamp always blinks when the ignition switch is in any position except ON, to warn that the vehicle is equipped with NVIS (NATS).
- Up to 4 Intelligent Key can be registered (Including the standard ignition key) on request from the owner.
- When replacing ECM, BCM or Intelligent Key, the specified procedure (Initialization and registration) using CONSULT is required.
- Possible symptom of NVIS (NATS) malfunction is “Engine can not start”. However, this symptom may occur because of other than NVIS (NATS) malfunction. So, start the trouble diagnosis according to SEC-37, "Work Flow".
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-118, "Work Procedure".

### PRECAUTIONS FOR KEY REGISTRATION

- The ID registration is a procedure that erases the current NVIS (NATS) ID, and then registers a new ID. Therefore, before starting the registration operation, collect all registered Intelligent Keys from the customer.
- When registering Intelligent Key, perform only one procedure to register both IDs [Intelligent Key ID and NVIS (NATS) ID] simultaneously.

## SECURITY INDICATOR LAMP

- Security indicator lamp always blinks when the ignition switch is in any position except ON.
- This blinking warns that the vehicle is equipped with NVIS (NATS).

**NOTE:**
Because security indicator lamp is highly efficient, the battery is barely affected.

## OPERATION WHEN INTELLIGENT KEY IS INSERTED INTO KEY SLOT

1. When Intelligent Key is inserted into key slot, BCM activates NATS antenna amp. that is integrated into key slot to transmit the request signal to Intelligent Key.
2. Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to BCM.
3. BCM receives the Intelligent Key ID signal via NATS antenna amp. and verifies it with the registered ID.
4. If the verification result is OK, BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
5. IPDM E/R turns ignition relay ON and starts the ignition power supply.
6. BCM detects that selector lever is in the P or N position.
7. BCM transmits the starter request signal via CAN communication to IPDM E/R and turns starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
8. IPDM E/R turns starter control relay ON when receiving the starter request signal.
9. Battery power is supplied through starter relay and starter control relay to operate starter motor.
10. When BCM received feedback signal from ECM indicating that the engine is started, BCM transmits a stop signal to IPDM E/R and stops the cranking by turning OFF starter motor relay. (If the engine start is unsuccessful, the cranking operation stops automatically within 5 seconds.)

*: For the engine start condition, refer to “IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION”.

## IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

The ignition switch position can be changed by performing the following operations.

**NOTE:**

- When an Intelligent Key is within the detection area of inside key antenna, and when it is inserted to the key slot, it is equivalent to the operations below.
- When starting engine, BCM checks the following conditions and then changes the ignition switch position.
  - Brake pedal operating condition
  - Selector lever position
  - Vehicle speed
- This models do not have the steering lock system. However, the ignition switch position changes to the LOCK position and LOCK indicator illuminates without steering lock operation when the following conditions are fulfilled.
  - Ignition switch: OFF
  - Selector lever position: P
  - Any of the following condition is met
- Opening door
- Closing door
- Door is locked by request switch operation
- Door is locked by Intelligent Key operation

Vehicle speed: less than 4 km/h (2.5 MPH)

| Power supply position | Engine start/stop condition | | Push-button ignition switch operation frequency |
|---|---|---|---|
| | Selector lever | Brake pedal operation condition | |
| LOCK → ACC | — | Not depressed | 1 |
| LOCK → ACC → ON | — | Not depressed | 2 |

| Power supply position | Engine start/stop condition | | Push-button ignition switch operation frequency |
|---|---|---|---|
| | Selector lever | Brake pedal operation condition | |
| LOCK → ACC → ON → OFF | — | Not depressed | 3 |
| LOCK → START<br>ACC → START<br>ON → START | P or N position | Depressed | 1 |
| Engine is running → OFF | — | — | 1 |

Vehicle speed: 4 km/h (2.5 MPH) or more

| Power supply position | Engine start/stop condition | | Push-button ignition switch operation frequency |
|---|---|---|---|
| | Selector lever | Brake pedal operation condition | |
| Engine is running → ACC | — | — | Emergency stop operation |
| Engine stall return operation while driving | N position | Not depressed | 1 |

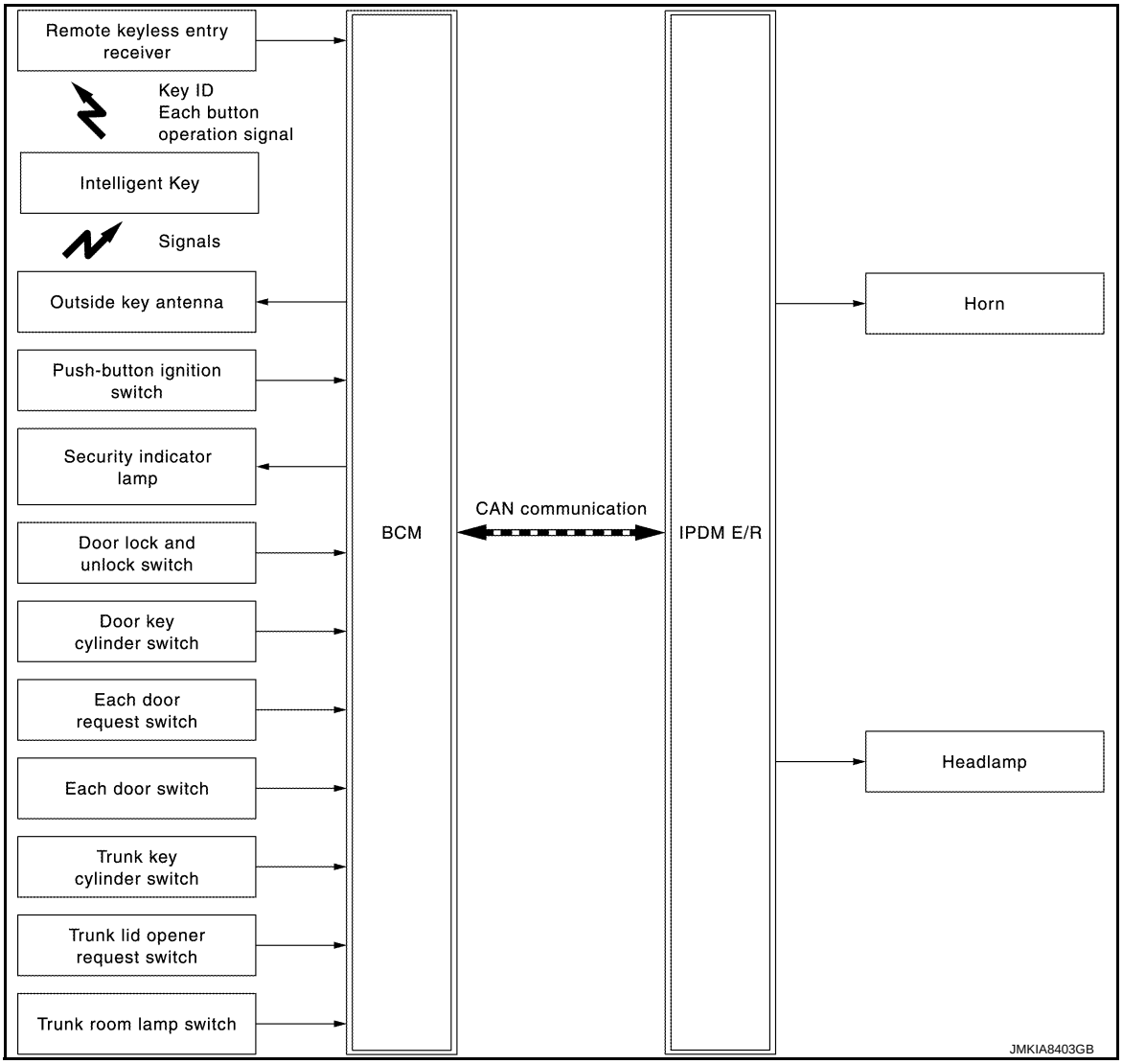
Emergency stop operation

- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

## VEHICLE SECURITY SYSTEM

## VEHICLE SECURITY SYSTEM : System Diagram

INFOID:0000000008460489




## VEHICLE SECURITY SYSTEM : System Description

INFOID:0000000008460490

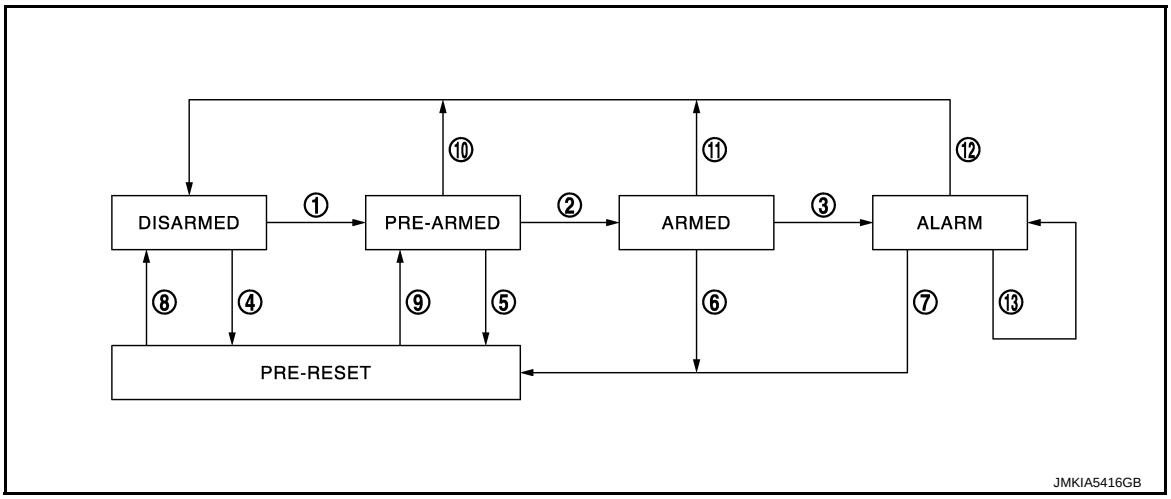
- The vehicle security system has two alarm functions (theft warning alarm and panic alarm), and reduces the possibility of a theft or mischief by activating horns and headlamps intermittently.
- The panic alarm does not start when the theft warning alarm is activating, and the panic alarm stops when the theft warning alarm is activated.
  The priority of the functions are as per the following.

| Priority | Function |
|---|---|
| 1 | Theft warning alarm |
| 2 | Panic alarm |

### THEFT WARNING ALARM

- The theft warning alarm function activates horns and headlamps intermittently when BCM detects that any door or trunk lid is opened by unauthorized means, while the system is in the ARMED state.
- Security indicator lamp always blinks when ignition switch is any position other than ON. Security indicator lamp blinking warns that the vehicle is equipped with a vehicle security system.

Operation Flow




| No. | System state | Switching condition | | |
|---|---|---|---|---|
| 1 | DISARMED to PRE-ARMED | When all conditions of A and one condition of B are satisfied. | A | B |
| | | | • Ignition switch: OFF/LOCK<br>• All doors: Closed<br>• Trunk lid: Closed | All doors are locked by:<br>• Door key cylinder LOCK switch<br>• LOCK button of Intelligent Key<br>• Door request switch<br>• Door lock and unlock switch |
| 2 | PRE-ARMED to ARMED | When all of the following conditions are satisfied for 30 seconds. | • Ignition switch: OFF/LOCK<br>• All doors: Closed<br>• Trunk lid: Closed | |
| 3 | ARMED to ALARM | When the condition A and one condition of B are satisfied. | A | B |
| | | | Intelligent Key function: Not used | • Any door: Open<br>• Trunk lid: Open |
| 4 | DISARMED to PRE-RESET | When all conditions of A and one condition of B are satisfied. | A | B |
| | | | • Ignition switch: OFF/LOCK<br>• All doors: Closed<br>• Trunk lid: Open | All doors are locked by:<br>• Door key cylinder LOCK switch<br>• LOCK button of Intelligent Key<br>• Door request switch |
| 5 | PRE-ARMED to PRE-RESET | When the following condition is satisfied. | Trunk lid: Open | |
| 6 | ARMED to PRE-RESET | When one of the following conditions is satisfied. | • Trunk key cylinder switch: ON<br>• Trunk lid opener request switch: ON<br>• TRUNK OPEN button of Intelligent Key: ON | |
| 7 | ALARM to PRE-RESET | | | |
| 8 | PRE-RESET to DISARMED | When one of the following conditions is satisfied. | • Ignition switch: ACC/ON/CRANKING/RUN<br>• Door key cylinder UNLOCK switch: ON<br>• UNLOCK button of Intelligent Key: ON<br>• Door request switch: ON<br>• UNLOCK switch of door lock and unlock switch: ON<br>• Any door: Open<br>• Soft top open permission signal from soft top control unit: ON | |
| 9 | PRE-RESET to PRE-ARMED | When all conditions of A and condition B are satisfied. | A | B |
| | | | • Ignition switch: OFF/LOCK<br>• All doors: Closed | Trunk lid: Closed |
| 10 | PRE-ARMED to DISARMED | When one of the following conditions is satisfied. | • Ignition switch: ACC/ON/CRANKING/RUN<br>• Door key cylinder UNLOCK switch: ON<br>• UNLOCK button of Intelligent Key: ON<br>• Door request switch: ON<br>• Any door: Open<br>• Soft top open permission signal from soft top control unit: ON | |

| No. | System state | Switching condition | |
|---|---|---|---|
| 11 | ARMED to DISARMED | When one of the following condition is satisfied. | • Ignition switch: ACC/ON/CRANKING/RUN<br>• Door key cylinder UNLOCK switch: ON<br>• UNLOCK button of Intelligent Key: ON<br>• Door request switch: ON |
| 12 | ALARM to DISARMED | | |
| 13 | RE-ALARM | When one of the following conditions is satisfied after ALARM operation is finished. | • Any door: Open<br>• Trunk lid: Open |

**NOTE:**

- BCM ignores the door key cylinder UNLOCK switch signal input for 1 second after the door key cylinder LOCK switch signal input.
- To lock/unlock all doors or trunk lid by operating remote controller button of Intelligent Key or door/trunk lid request switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to DLK-16, "DOOR LOCK FUNCTION : System Description".

DISARMED Phase

The vehicle security system is not set in the DISARMED phase. The vehicle security system stays in this phase while any door is open, because it is assumed that the owner is inside or nearby the vehicle. Security indicator lamp blinks every 2.4 seconds.
When the vehicle security system is reset, each phase switches to the DISARMED phase directly.

PRE-ARMED Phase

The PRE-ARMED phase is the transient state between the DISARMED phase and the ARMED phase. This phase is maintained for 30 seconds, so that the owner can reset the setting due to a mis-operation. This phase switches to the ARMED phase when vehicle conditions are not changed for 30 seconds. Security indicator lamp illuminates while being in this phase.
To reset the PRE-ARMED phase, refer to the switching condition of No. 10 in the table above.

ARMED Phase

The vehicle security system is set, and BCM monitors all necessary inputs. If any door or trunk lid is opened without using Intelligent Key or mechanical key, vehicle security system switches to the ALARM phase. Security indicator lamp blinks every 2.4 seconds.
If the theft warning alarm is activated irregularly when the customer opened trunk lid using mechanical key, trunk key cylinder switch circuit might have a malfunction. Check the switch circuit. Refer to SEC-98, "Component Function Check".
To reset the ARMED phase, refer to the switching condition of No. 11 in the table above.

ALARM Phase

BCM transmits “Theft Warning Horn Request” signal and “High Beam Request” signal intermittently to IPDM E/R via CAN communication. In this phase, horns and headlamps are activated intermittently for approximately 50 seconds to warn that the vehicle is accessed by unauthorized means. ON/OFF timings of horns and headlamps are synchronized. After 50 seconds, the vehicle security system returns to the ARMED phase. At this time, if BCM still detects unauthorized access to the vehicle, the system is switched to the ALARM phase again. This RE-ALARM operation is carried out a maximum of 2 times.
To cancel the ALARM operation, refer to the switching condition of No. 12 in the table above.

**NOTE:**

If a battery terminal is disconnected during the ALARM phase, theft warning alarm stops. But when the battery terminal is reconnected, theft warning alarm is activated again.

PRE-RESET Phase

The PRE-RESET phase is the transient state between each phase and DISARMED phase. If only the condition of trunk lid is not satisfied, the system switches to the PRE-RESET phase. Then, when any condition is changed, the system switches to the DISARMED phase or PRE-ARMED phase.

## PANIC ALARM

- The panic alarm function activates horns and headlamps intermittently when the owner presses the PANIC ALARM button of Intelligent Key outside the vehicle while the Ignition switch position is OFF or LOCK.
- When BCM receives panic alarm signal from Intelligent Key, BCM transmits “Theft Warning Horn Request” signal and “High Beam Request” signal intermittently to IPDM E/R via CAN communication. To prevent the activation due to mis-operation of Intelligent Key by owner, the panic alarm function is activated when BCM receives the signal for 0.4 - 0.6 seconds.
- Panic alarm operation is maintained for 25 seconds.
- Panic alarm operation is cancelled when BCM receives one of the following signals.

- LOCK button of Intelligent Key: ON
- UNLOCK button of Intelligent Key: ON
- TRUNK OPEN button of Intelligent Key: ON
- PANIC ALARM button of Intelligent Key: Long pressed
- Any door request switch: ON

# DIAGNOSIS SYSTEM (BCM)
## COMMON ITEM
## COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000008973097

### APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

| Diagnosis mode | Function Description |
|---|---|
| Work Support | Changes the setting for each system function. |
| Self Diagnostic Result | Displays the diagnosis results judged by BCM. |
| CAN Diag Support Monitor | Monitors the reception status of CAN communication viewed from BCM. |
| Data Monitor | The BCM input/output signals are displayed. |
| Active Test | The signals used to activate each device are forcibly supplied from BCM. |
| Ecu Identification | The BCM part number is displayed. |
| Configuration | • Read and save the vehicle specification.<br>• Write the vehicle specification when replacing BCM. |

### SYSTEM APPLICATION
BCM can perform the following functions for each system.
**NOTE:**
It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

| System | Sub system selection item | Diagnosis mode | | |
|---|---|---|---|---|
| | | Work Support | Data Monitor | Active Test |
| Door lock | DOOR LOCK | × | × | × |
| Rear window defogger | REAR DEFOGGER | | × | × |
| Warning chime | BUZZER | | × | × |
| Interior room lamp timer | INT LAMP | × | × | × |
| Exterior lamp | HEAD LAMP | × | × | × |
| Wiper and washer | WIPER | × | × | × |
| Turn signal and hazard warning lamps | FLASHER | × | × | × |
| — | AIR CONDITONER* | | | |
| • Intelligent Key system<br>• Engine start system | INTELLIGENT KEY | × | × | × |
| Combination switch | COMB SW | | × | |
| Body control system | BCM | × | | |
| NVIS - NATS | IMMU | | × | × |
| Interior room lamp battery saver | BATTERY SAVER | × | × | × |
| Trunk lid opener system | TRUNK | | × | × |
| Vehicle security system | THEFT ALM | × | × | × |
| RAP system | RETAINED PWR | | × | |
| Signal buffer system | SIGNAL BUFFER | | × | × |
| TPMS | AIR PRESSURE MONITOR | × | × | × |

**NOTE:**

*: This item is displayed, but is not used.

### FREEZE FRAME DATA (FFD)
The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

| CONSULT screen item | Indication/Unit | Description | |
|---|---|---|---|
| Vehicle Speed | km/h | Vehicle speed of the moment a particular DTC is detected | |
| Odo/Trip Meter | km | Total mileage (Odometer value) of the moment a particular DTC is detected | |
| Vehicle Condition | SLEEP>LOCK | Power position status of the moment a particular DTC is detected | While turning BCM status from low power consumption mode to normal mode (Power supply position is “LOCK”*) |
| | SLEEP>OFF | | While turning BCM status from low power consumption mode to normal mode (Power supply position is “OFF”.) |
| | LOCK>ACC | | While turning power supply position from “LOCK” to “ACC” |
| | ACC>ON | | While turning power supply position from “ACC” to “IGN” |
| | RUN>ACC | | While turning power supply position from “RUN” to “ACC” (Vehicle is stopping and selector lever is except P position.) |
| | CRANK>RUN | | While turning power supply position from “CRANKING” to “RUN” (From cranking up the engine to run it) |
| | RUN>URGENT | | While turning power supply position from “RUN“ to “ACC” (Emergency stop operation) |
| | ACC>OFF | | While turning power supply position from “ACC” to “OFF” |
| | OFF>LOCK | | While turning power supply position from “OFF” to “LOCK”* |
| | OFF>ACC | | While turning power supply position from “OFF” to “ACC” |
| | ON>CRANK | | While turning power supply position from “IGN” to “CRANKING” |
| | OFF>SLEEP | | While turning BCM status from normal mode (Power supply position is “OFF”.) to low power consumption mode |
| | LOCK>SLEEP | | While turning BCM status from normal mode (Power supply position is “LOCK”*) to low power consumption mode |
| | LOCK | | Power supply position is “LOCK”* |
| | OFF | | Power supply position is “OFF” (Ignition switch OFF) |
| | ACC | | Power supply position is “ACC” (Ignition switch ACC) |
| | ON | | Power supply position is “IGN” (Ignition switch ON with engine stopped) |
| | ENGINE RUN | | Power supply position is “RUN” (Ignition switch ON with engine running) |
| | CRANKING | | Power supply position is “CRANKING” (At engine cranking) |
| IGN Counter | 0 - 39 | The number of times that ignition switch is turned ON after DTC is detected<br>• The number is 0 when a malfunction is detected now.<br>• The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON.<br>• The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. | |

**NOTE:**

*: Power supply position shifts to “LOCK” from “OFF”, when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.

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

The power supply position shifts to “ACC” when the push-button ignition switch (push switch) is pushed at “LOCK”.

## INTELLIGENT KEY

## INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000008973096

### WORK SUPPORT

| Monitor item | Description |
|---|---|
| CONFIRM KEY FOB ID | It can be checked whether Intelligent Key ID code is registered or not in this mode |
| AUTO LOCK SET | Auto door lock time can be changed in this mode<br>• MODE 1: 1 minute<br>• MODE 2: 5 minutes<br>• MODE 3: 30 seconds<br>• MODE 4: 2 minutes |
| LOCK/UNLOCK BY I-KEY | Door lock/unlock function by door request switch mode can be changed to operate (ON) or not operate (OFF) in this mode |
| ENGINE START BY I-KEY | Engine start function mode can be changed to operate (ON) or not operate (OFF) with this mode |
| TRUNK/GLASS HATCH OPEN | Buzzer reminder function mode by trunk lid opener request switch can be changed to operate (ON) or not operate (OFF) with this mode |
| PANIC ALARM SET | Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode<br>• MODE 1: 0.5 sec.<br>• MODE 2: Non-operation<br>• MODE 3: 1.5 sec. |
| PW DOWN SET | Unlock button pressing time on Intelligent Key button can be selected from the following with this mode<br>• MODE 1: 3 sec.<br>• MODE 2: Non-operation<br>• MODE 3: 5 sec. |
| TAKE OUT FROM WIN WARN | **NOTE:**<br>This item is displayed, but cannot be used |
| TRUNK OPEN DELAY | Trunk button pressing on Intelligent Key can be selected as per the following in this mode<br>• MODE 1: Press and hold<br>• MODE 2: Press twice<br>• MODE 3: Press and hold, or press twice |
| LO- BATT OF KEY FOB WARN | Intelligent Key low battery warning mode can be changed to operate (ON) or not operate (OFF) with this mode |
| ANTI KEY LOCK IN FUNCTI | Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode. |
| HAZARD ANSWER BACK | Hazard reminder function mode can be selected from the following with this mode<br>• LOCK ONLY: Door lock operation only<br>• UNLOCK ONLY: Door unlock operation only<br>• LOCK/UNLOCK: Lock/unlock operation<br>• OFF: Non-operation |
| ANS BACK I-KEY LOCK | Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode<br>• Horn chirp: Sound horn<br>• Buzzer: Sound Intelligent Key warning buzzer<br>• OFF: Non-operation |
| ANS BACK I-KEY UNLOCK | Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode |
| SHORT CRANKING OUTPUT | Starter motor can operate during the times below<br>• 70 msec<br>• 100 msec<br>• 200 msec |
| INSIDE ANT DIAGNOSIS | This function allows inside key antenna self-diagnosis |
| HORN WITH KEYLESS LOCK | Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode |

## SELF-DIAG RESULT

Refer to BCS-55, "DTC Index".

## DATA MONITOR

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor Item | Condition |
|---|---|
| REQ SW -DR | Indicates [ON/OFF] condition of door request switch (driver side) |
| REQ SW -AS | Indicates [ON/OFF] condition of door request switch (passenger side) |
| REQ SW -RR | **NOTE:**<br>This item is displayed, but cannot be monitored |
| REQ SW -RL | **NOTE:**<br>This item is displayed, but cannot be monitored |
| REQ SW -BD/TR | Indicates [ON/OFF] condition of trunk lid opener request switch |
| PUSH SW | Indicates [ON/OFF] condition of push-button ignition switch |
| IGN RLY2 -F/B | Indicates [ON/OFF] condition of ignition relay 2 |
| ACC RLY-FB | **NOTE:**<br>This item is displayed, but cannot be monitored. |
| CLUCH SW | **NOTE:**<br>This item is displayed, but cannot be monitored |
| BRAKE SW 1 | Indicates [ON/OFF]* condition of brake switch power supply |
| BRAKE SW 2 | Indicates [ON/OFF] condition of brake switch |
| DETE/CANCL SW | Indicates [ON/OFF] condition of P position |
| SFT PN/N SW | Indicates [ON/OFF] condition of P or N position |
| S/L -LOCK | **NOTE:**<br>This item is displayed, but cannot be monitored |
| S/L -UNLOCK | **NOTE:**<br>This item is displayed, but cannot be monitored |
| S/L RELAY -F/B | **NOTE:**<br>This item is displayed, but cannot be monitored |
| UNLK SEN -DR | Indicates [ON/OFF] condition of driver door unlock status |
| PUSH SW -IPDM | Indicates [ON/OFF] condition of push-button ignition switch |
| IGN RLY1 -F/B | Indicates [ON/OFF] condition of ignition relay 1 |
| DETE SW -IPDM | Indicates [ON/OFF] condition of P position |
| SFT PN -IPDM | Indicates [ON/OFF] condition of P or N position |
| SFT P -MET | Indicates [ON/OFF] condition of P position |
| SFT N -MET | Indicates [ON/OFF] condition of N position |
| ENGINE STATE | Indicates [STOP/START/CRANK/RUN] condition of engine states |
| S/L LOCK-IPDM | **NOTE:**<br>This item is displayed, but cannot be monitored |
| S/L UNLK-IPDM | **NOTE:**<br>This item is displayed, but cannot be monitored |
| S/L RELAY-REQ | **NOTE:**<br>This item is displayed, but cannot be monitored |
| VEH SPEED 1 | Display the vehicle speed signal received from combination meter by numerical value [Km/h] |
| VEH SPEED 2 | Display the vehicle speed signal received from ABS or VDC or CVT by numerical value [Km/h] |
| DOOR STAT-DR | Indicates [LOCK/READY/UNLOCK] condition of driver side door status |
| DOOR STAT-AS | Indicates [LOCK/READY/UNLOCK] condition of passenger side door status |
| ID OK FLAG | Indicates [SET/RESET] condition of key ID |
| PRMT ENG STRT | Indicates [SET/RESET] condition of engine start possibility |
| PRMT RKE STRT | **NOTE:**<br>This item is displayed, but cannot be monitored |
| KEY SW -SLOT | Indicates [ON/OFF] condition of key slot |
| TRNK/HAT MNTR | Indicates [ON/OFF] condition of trunk room lamp switch |

| Monitor Item | Condition |
|---|---|
| RKE-LOCK | Indicates [ON/OFF] condition of door lock signal from Intelligent Key |
| RKE-UNLOCK | Indicates [ON/OFF] condition of door unlock signal from Intelligent Key |
| RKE-TR/BD | Indicates [ON/OFF] condition of trunk open signal from Intelligent Key |
| RKE-PANIC | Indicates [ON/OFF] condition of panic alarm button of Intelligent Key |
| RKE-P/W OPEN | Indicates [ON/OFF] condition of P/W DOWN signal from Intelligent Key |
| RKE-MODE CHG | Indicates [ON/OFF] condition of MODE CHANGE signal from Intelligent Key |
| RKE OPE COUN1 | When remote keyless entry receiver (front side) receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| RKE OPE COUN2 | When remote keyless entry receiver (rear side) receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |

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

## ACTIVE TEST

| Test item | Description |
|---|---|
| BATTERY SAVER | This test is able to check interior room lamp operation.<br>The interior room lamp will be activated after “ON” on CONSULT screen is touched. |
| PW REMOTO DOWN SET | This test is able to check power window down operation.<br>The power window down will be activated after “ON” on CONSULT screen is touched. |
| INSIDE BUZZER | This test is able to check warning chime in combination meter operation.<br>• Take away warning chime sounds when “TAKE OUT” on CONSULT screen is touched.<br>• Key warning chime sounds when “KEY WARN” on CONSULT screen is touched.<br>• P position warning chime sounds when “P RNG WARN” on CONSULT screen is touched.<br>• ACC warning chime sounds when “ACC WARN” on CONSULT screen is touched. |
| OUTSIDE BUZZER | This test is able to check Intelligent Key warning buzzer operation.<br>The Intelligent Key warning buzzer will be activated after “ON” on CONSULT screen is touched. |
| INDICATOR | This test is able to check warning lamp operation.<br>• “KEY” Warning lamp illuminates when “KEY ON” on CONSULT screen is touched.<br>• “KEY” Warning lamp flashes when “KEY IND” on CONSULT screen is touched. |
| INT LAMP | This test is able to check interior room lamp operation.<br>The interior room lamp will be activated after “ON” on CONSULT screen is touched. |
| LCD | This test is able to check meter display information<br>• Engine start information displays when “BP N” on CONSULT screen is touched.<br>• Engine start information displays when “BP I” on CONSULT screen is touched.<br>• Key ID warning displays when “ID NG” on CONSULT screen is touched.<br>• ROTAT: This item is displayed, but cannot be tested.<br>• P position warning displays when SFT P on CONSULT screen is touched.<br>• Intelligent Key insert information displays when “INSRT” on CONSULT screen is touched.<br>• Intelligent Key low battery warning displays when “BATT” on CONSULT screen is touched.<br>• Take away through window warning displays when “NO KY” on CONSULT screen is touched.<br>• Take away warning display when “OUTKEY” on CONSULT screen is touched.<br>• OFF position warning display when “LK WN” on CONSULT screen is touched. |
| TRUNK/GLASS HATCH | **NOTE:**<br>This item is displayed, but cannot be tested. |
| FLASHER | This test is able to check hazard warning lamp operation.<br>The hazard warning lamps will be activated after “ON” on CONSULT screen is touched. |
| HORN | This test is able to check horn operation.<br>The horn will be activated after “ON” on CONSULT screen is touched. |
| P RANGE | This test is able to check CVT shift selector power supply<br>CVT shift selector power is supplied when “ON” on CONSULT screen is touched. |
| ENGINE SW ILLUMI | This test is able to check push-ignition switch illumination operation.<br>Push-ignition switch illumination illuminates when “ON” on CONSULT screen is touched. |
| LOCK INDICATOR | This test is able to check indicator in push-ignition switch operation.<br>Indicator in push-button ignition switch illuminates when “ON” on CONSULT screen is touched. |

| Test item | Description |
|---|---|
| ACC INDICATOR | This test is able to check indicator in push-ignition switch operation.<br>Indicator in push-button ignition switch illuminates when “ON” on CONSULT screen is touched. |
| IGNITION ON IND | This test is able to check indicator in push-ignition switch operation.<br>Indicator in push-button ignition switch illuminates when “ON” on CONSULT screen is touched. |
| KEY SLOT ILLUMI | This test is able to check key slot illumination operation.<br>Key slot illumination flash when “ON” on CONSULT screen is touched. |
| TRUNK/BACK DOOR | **NOTE:**<br>This item is displayed, but cannot be tested. |

# THEFT ALM

## THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:0000000008460493

### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

| Diagnosis mode | Function Description |
|---|---|
| WORK SUPPORT | Changes the setting for each system function. |
| DATA MONITOR | The BCM input/output signals are displayed. |
| ACTIVE TEST | The signals used to activate each device are forcibly supplied from BCM. |

### DATA MONITOR

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitored Item | Description |
|---|---|
| REQ SW -DR | Indicates [ON/OFF] condition of door request switch (driver side). |
| REQ SW -AS | Indicates [ON/OFF] condition of door request switch (passenger side). |
| REQ SW -RR | **NOTE:**<br>This is displayed even when it is not equipped. |
| REQ SW -RL | **NOTE:**<br>This is displayed even when it is not equipped. |
| REQ SW -BD/TR | Indicates [ON/OFF] condition of trunk lid opener request switch. |
| PUSH SW | Indicates [ON/OFF] condition of push-button ignition switch |
| UNLK SEN -DR | Indicates [ON/OFF] condition of driver door UNLOCK status. |
| KEY SW -SLOT | Indicates [ON/OFF] condition of key slot. |
| DOOR SW-DR | Indicates [ON/OFF] condition of front door switch LH. |
| DOOR SW-AS | Indicates [ON/OFF] condition of front door switch RH. |
| DOOR SW-RR | Indicates [ON/OFF] condition of rear door switch RH. |
| DOOR SW-RL | Indicates [ON/OFF] condition of rear door switch LH. |
| DOOR SW-BK | **NOTE:**<br>This is displayed even when it is not equipped. |
| CDL LOCK SW | Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH. |
| CDL UNLOCK SW | Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH. |
| KEY CYL LK-SW | Indicates [ON/OFF] condition of lock signal from front door key cylinder switch. |
| KEY CYL UN-SW | Indicates [ON/OFF] condition of unlock signal from front door key cylinder switch. |
| KEY CYL SW-TR | Indicates [ON/OFF] condition of trunk key cylinder switch. |
| TR/BD OPEN SW | Indicates [ON/OFF] condition of trunk lid opener switch. |
| TRNK/HAT MNTR | Indicates [ON/OFF] condition of trunk room lamp switch. |

| Monitored Item | Description |
|---|---|
| RKE-LOCK | Indicates [ON/OFF] condition of LOCK signal from Intelligent Key. |
| RKE-UNLOCK | Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key. |
| RKE-TR/BD | Indicates [ON/OFF] condition of TRUNK signal from Intelligent Key. |

### WORK SUPPORT

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

### ACTIVE TEST

| Test Item | Description |
|---|---|
| THEFT IND | This test is able to check security indicator lamp operation. The lamp will be turned on when “ON” on CONSULT screen is touched. |
| VEHICLE SECURITY HORN | This test is able to check vehicle security horn operation. The horns will be activated for 0.5 seconds after “ON” on CONSULT screen is touched. |
| HEADLAMP(HI) | This test is able to check vehicle security lamp operation. The headlamps will be activated for 0.5 seconds after “ON” on CONSULT screen is touched. |
| FLASHER | This test is able to check vehicle security hazard lamp operation. The hazard lamps will be activated after “ON” on CONSULT screen is touched. |

## IMMU

## IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000008460494

### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

| Diagnosis mode | Function Description |
|---|---|
| DATA MONITOR | The BCM input/output signals are displayed. |
| ACTIVE TEST | The signals used to activate each device are forcibly supplied from BCM. |

### DATA MONITOR

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor item | Content |
|---|---|
| CONFRM ID ALL | Indicates [YET] at all time.<br>Switch to [DONE] when a registered Intelligent Key is inserted into the key slot. |
| CONFIRM ID4 | |
| CONFIRM ID3 | |
| CONFIRM ID2 | |
| CONFIRM ID1 | |
| TP 4 | Indicates the number of ID which has been registered. |
| TP 3 | |
| TP 2 | |
| TP 1 | |
| PUSH SW | Indicates [ON/OFF] condition of push-button ignition switch. |
| KEY SW -SLOT | Indicates [ON/OFF] condition of key slot. |

ACTIVE TEST

| Test item | Description |
|---|---|
| THEFT IND | This test is able to check security indicator lamp operation.<br>The lamp will be turned on when “ON” on CONSULT screen touched. |

# DIAGNOSIS SYSTEM (IPDM E/R)

## CONSULT Function (IPDM E/R)

INFOID:0000000008973103

### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

| Diagnosis mode | Description |
|---|---|
| Ecu Identification | Allows confirmation of IPDM E/R part number. |
| Self Diagnostic Result | Displays the diagnosis results judged by IPDM E/R. |
| Data Monitor | Displays the real-time input/output data from IPDM E/R input/output data. |
| Active Test | IPDM E/R can provide a drive signal to electronic components to check their operations. |
| CAN Diag Support Monitor | The results of transmit/receive diagnosis of CAN communication can be read. |

### SELF DIAGNOSTIC RESULT

Refer to PCS-23, "DTC Index".

### DATA MONITOR

**NOTE:**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

| Monitor Item [Unit] | MAIN SIGNALS | Description |
|---|---|---|
| MOTOR FAN REQ [1/2/3/4] | × | Displays the value of the cooling fan speed request signal received from ECM via CAN communication. |
| AC COMP REQ [Off/On] | × | Displays the status of the A/C compressor request signal received from ECM via CAN communication. |
| TAIL&CLR REQ [Off/On] | × | Displays the status of the position light request signal received from BCM via CAN communication. |
| HL LO REQ [Off/On] | × | Displays the status of the low beam request signal received from BCM via CAN communication. |
| HL HI REQ [Off/On] | × | Displays the status of the high beam request signal received from BCM via CAN communication. |
| FR FOG REQ [Off/On] | × | Displays the status of the front fog light request signal received from BCM via CAN communication. |
| FR WIP REQ [Stop/1LOW/Low/Hi] | × | Displays the status of the front wiper request signal received from BCM via CAN communication. |
| WIP AUTO STOP [STOP P/ACT P] | × | Displays the status of the front wiper auto stop signal judged by IPDM E/R. |
| WIP PROT [Off/BLOCK] | × | Displays the status of the front wiper fail-safe operation judged by IPDM E/R. |
| IGN RLY1 -REQ [Off/On] | | Displays the status of the ignition switch ON signal received from BCM via CAN communication. |
| IGN RLY [Off/On] | × | Displays the status of the ignition relay judged by IPDM E/R. |
| PUSH SW [Off/On] | | Displays the status of the push-button ignition switch judged by IPDM E/R. |
| INTER/NP SW [Off/On] | | Displays the status of the shift position judged by IPDM E/R. |
| ST RLY CONT [Off/On] | | Displays the status of the starter relay status signal received from BCM via CAN communication. |
| IHBT RLY -REQ [Off/On] | | Displays the status of the starter control relay signal received from BCM via CAN communication. |

| Monitor Item [Unit] | MAIN SIGNALS | Description |
|---|---|---|
| ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN] | | Displays the status of the starter relay and starter control relay judged by IPDM E/R. |
| DETENT SW [Off/On] | | Displays the status of the CVT shift selector (detention switch) judged by IPDM E/R. |
| S/L RLY -REQ [Off/On] | | **NOTE:** The item is indicated, but not monitored. |
| S/L STATE [LOCK/UNLOCK/UNKWN] | | **NOTE:** The item is indicated, but not monitored. |
| DTRL REQ [Off/On] | | **NOTE:** The item is indicated, but not monitored. |
| OIL P SW [Open/Close] | | Displays the status of the oil pressure switch judged by IPDM E/R. |
| HOOD SW [Off/On] | | **NOTE:** The item is indicated, but not monitored. |
| HL WASHER REQ [Off/On] | | **NOTE:** The item is indicated, but not monitored. |
| THFT HRN REQ [Off/On] | | Displays the status of the theft warning horn request signal received from BCM via CAN communication. |
| HORN CHIRP [Off/On] | | Displays the status of the horn reminder signal received from BCM via CAN communication. |
| CRNRNG LMP REQ [Off/On] | | **NOTE:** The item is indicated, but not monitored. |

## ACTIVE TEST

| Test item | Operation | Description |
|---|---|---|
| CORNERING LAMP | Off | **NOTE:** The item is indicated, but cannot be tested. |
| | LH | |
| | RH | |
| HORN | On | Operates horn relay for 20 ms. |
| FRONT WIPER | Off | OFF |
| | Lo | Operates the front wiper relay. |
| | Hi | Operates the front wiper relay and front wiper high relay. |
| MOTOR FAN | 1 | OFF |
| | 2 | Operates the cooling fan relay-1. |
| | 3 | Operates the cooling fan relay-2. |
| | 4 | Operates the cooling fan relay-2 and cooling fan relay-3. |
| HEAD LAMP WASHER | On | **NOTE:** The item is indicated, but cannot be tested. |
| EXTERNAL LAMPS | Off | OFF |
| | TAIL | Operates the tail lamp relay. |
| | Lo | Operates the headlamp low relay. |
| | Hi | Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals. |
| | Fog | Operates the front fog lamp relay. |

# ECU DIAGNOSIS INFORMATION

## ECM, IPDM E/R, BCM

### List of ECU Reference

INFOID:0000000008460496

| ECU | | Reference |
|---|---|---|
| ECM | Reference Value | EC-74, "Reference Value" |
| | Fail-safe | EC-88, "Fail-safe" |
| | DTC Inspection Priority Chart | EC-90, "DTC Inspection Priority Chart" |
| | DTC Index | EC-91, "DTC Index" |
| BCM | Reference Value | BCS-32, "Reference Value" |
| | Fail-safe | BCS-54, "Fail-safe" |
| | DTC Inspection Priority Chart | BCS-54, "DTC Inspection Priority Chart" |
| | DTC Index | BCS-55, "DTC Index" |
| IPDM E/R | Reference Value | PCS-15, "Reference Value" |
| | Fail-safe | PCS-21, "Fail-safe" |
| | DTC Index | PCS-23, "DTC Index" |

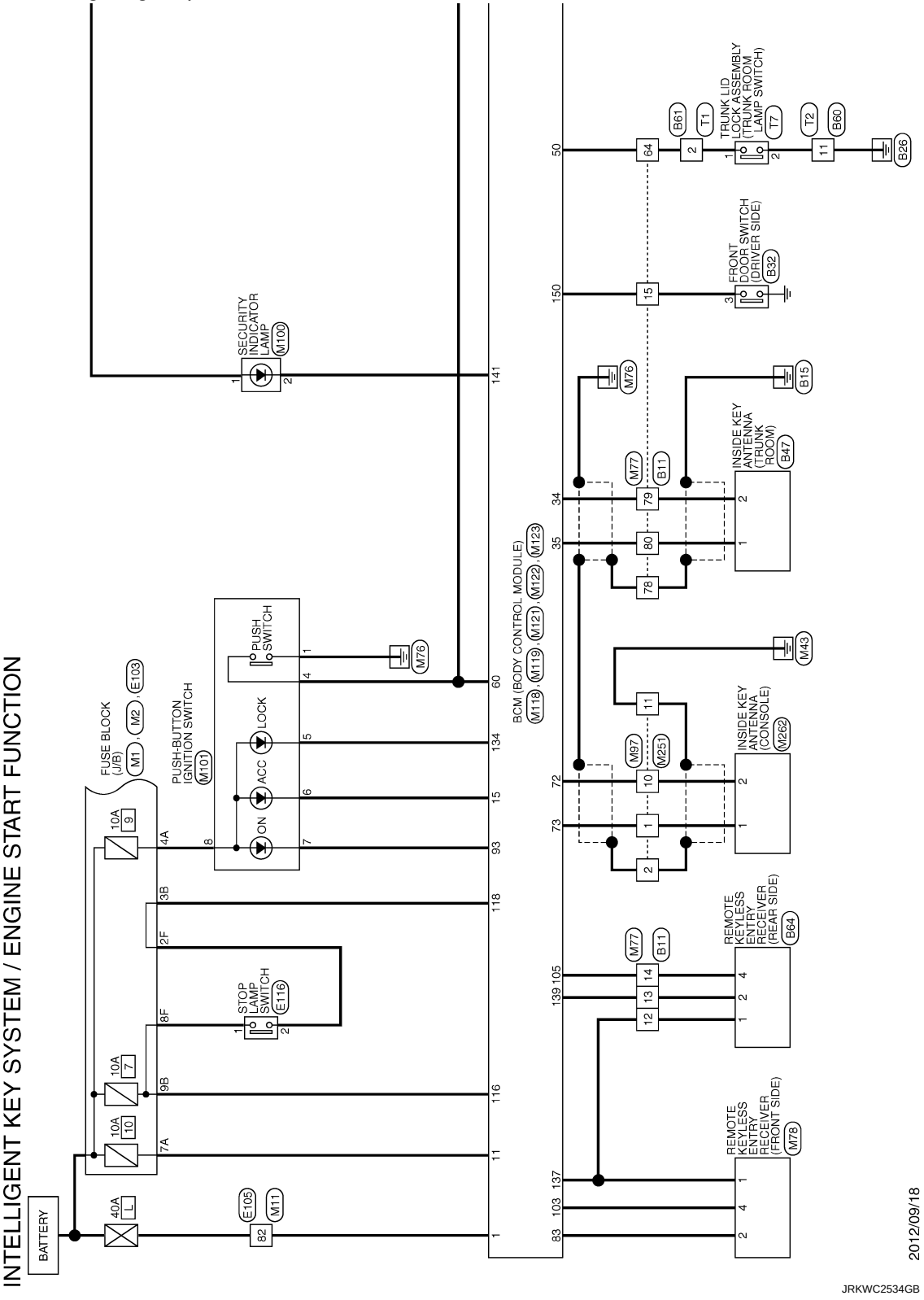
# WIRING DIAGRAM

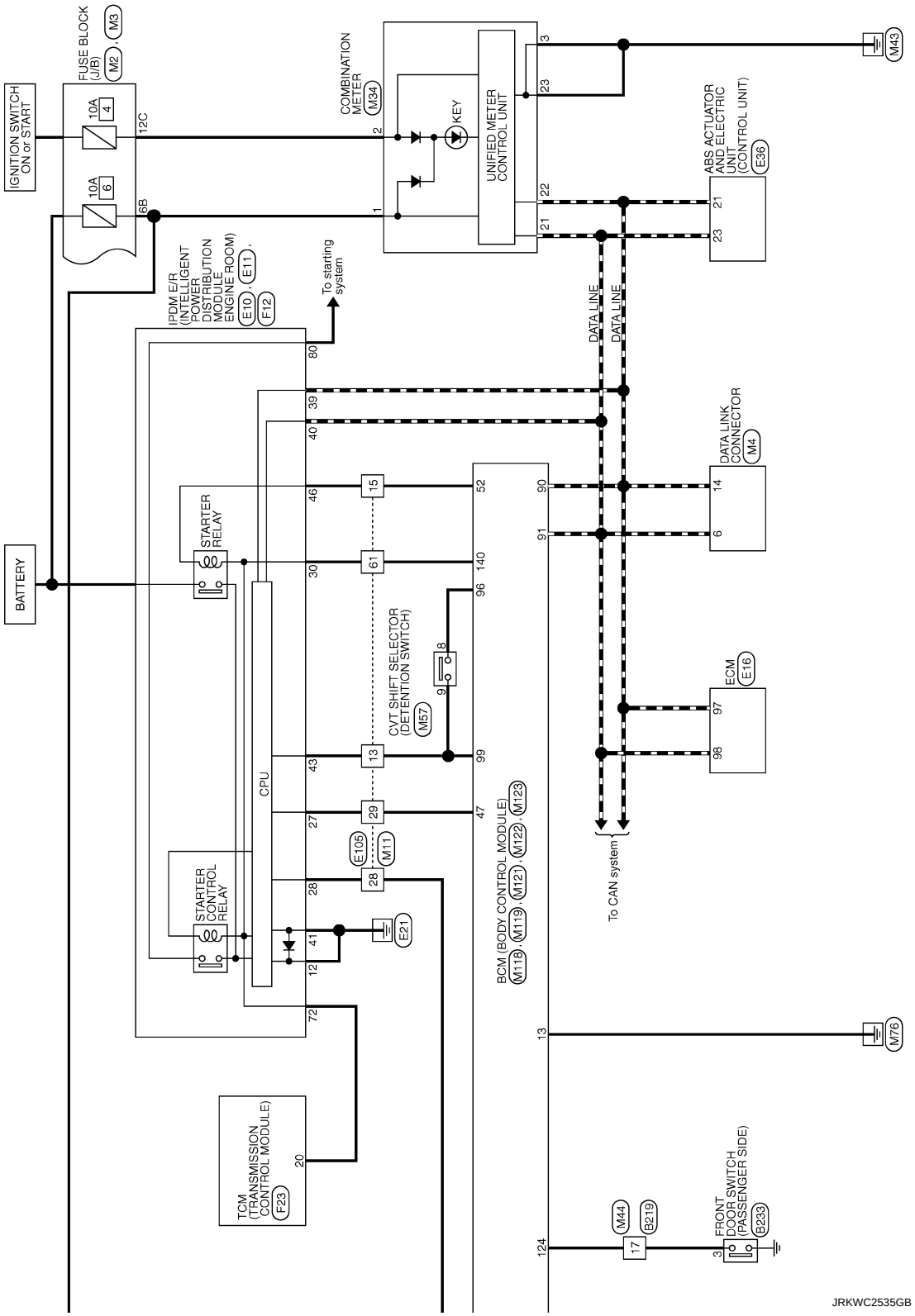
## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

### Wiring Diagram

INFOID:0000000008460497

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



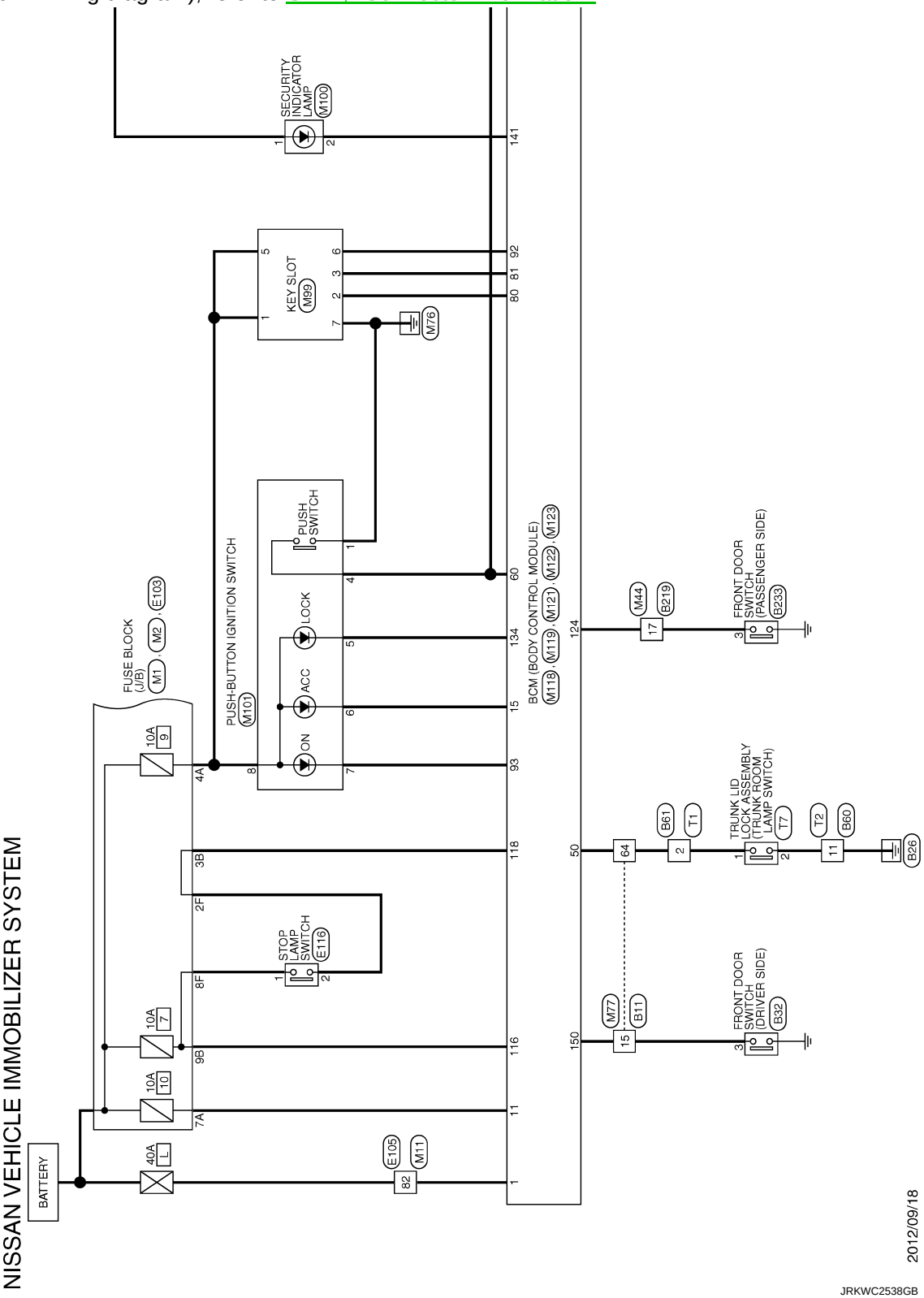

FUSE BLOCK (J/B) M3 M2
IGNITION SWITCH ON or START
10A 4
10A 6
12C
6B
COMBINATION METER M34
KEY
UNIFIED METER CONTROL UNIT
M43
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) E36
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E10, E11, E12
To starting system
DATA LINE
DATA LINE
DATA LINK CONNECTOR M4
STARTER RELAY
BATTERY
CVT SHIFT SELECTOR (DETENTION SWITCH) M57
CPU
ECM E16
STARTER CONTROL RELAY
E105 M11
E21
BCM (BODY CONTROL MODULE) M118, M119, M121, M122, M123
To CAN system
M76
TCM (TRANSMISSION CONTROL MODULE) F23
M44 B219
FRONT DOOR SWITCH (PASSENGER SIDE) B233
JRKWC2535GB

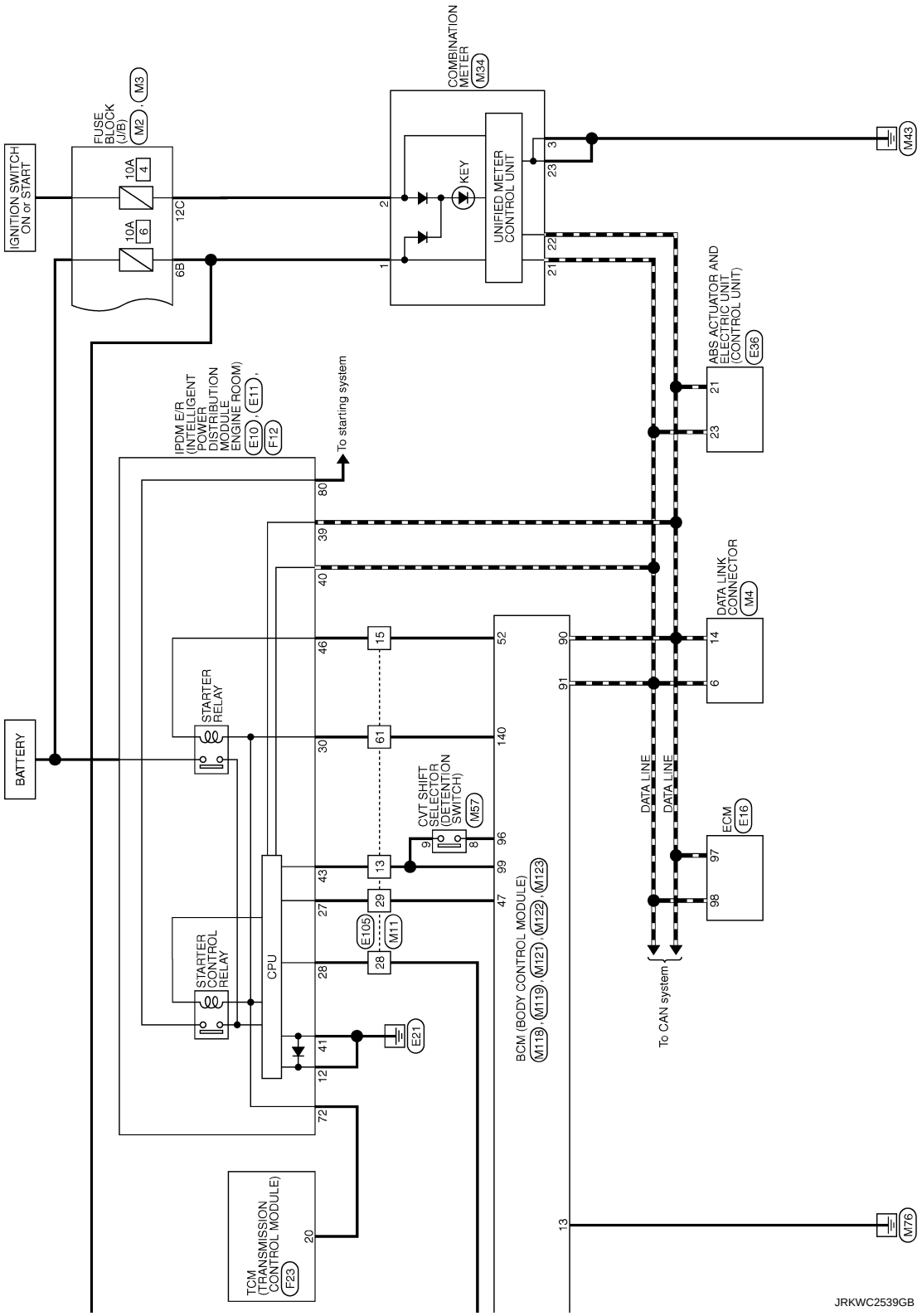
# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

## Wiring Diagram

INFOID:0000000008460498

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



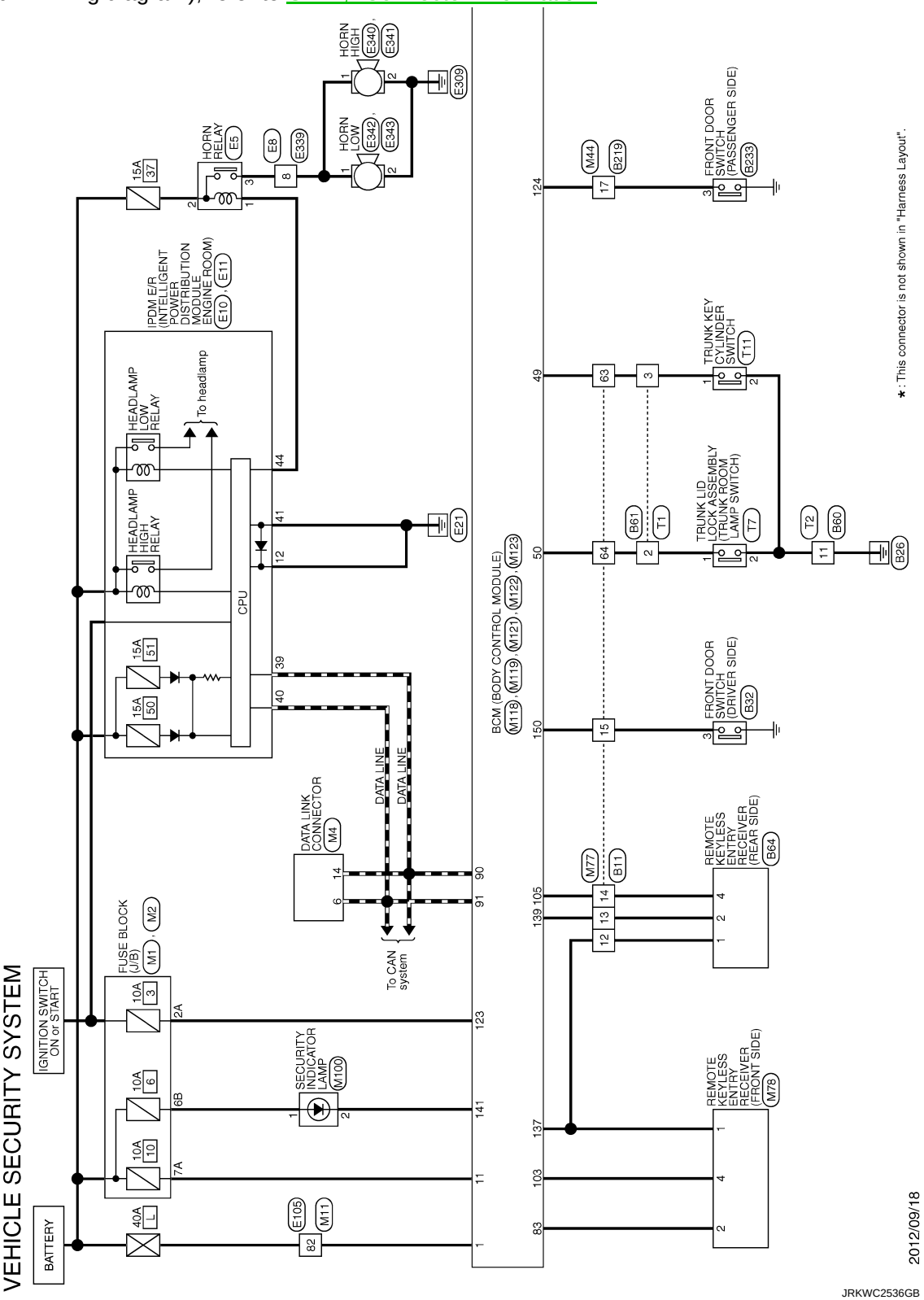

COMBINATION METER (M34)
FUSE BLOCK (J/B) (M2), (M3)
IGNITION SWITCH ON or START
10A 4
10A 6
12C
6B
2
1
KEY
UNIFIED METER CONTROL UNIT
3
23
22
21
M43
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (E36)
21
23
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E10), (E11), (E12)
To starting system
80
39
40
DATA LINK CONNECTOR (M4)
14
6
BATTERY
STARTER RELAY
46
30
15
61
52
140
90
91
DATA LINE
DATA LINE
CVT SHIFT SELECTOR (DETENTION SWITCH) (M57)
9
8
96
99
ECM (E16)
97
98
43
27
13
29
47
BCM (BODY CONTROL MODULE) (M118), (M119), (M121), (M122), (M123)
E105
M11
28
28
STARTER CONTROL RELAY
CPU
41
12
E21
72
To CAN system
TCM (TRANSMISSION CONTROL MODULE) (F23)
20
13
M76
JRKWC2539GB

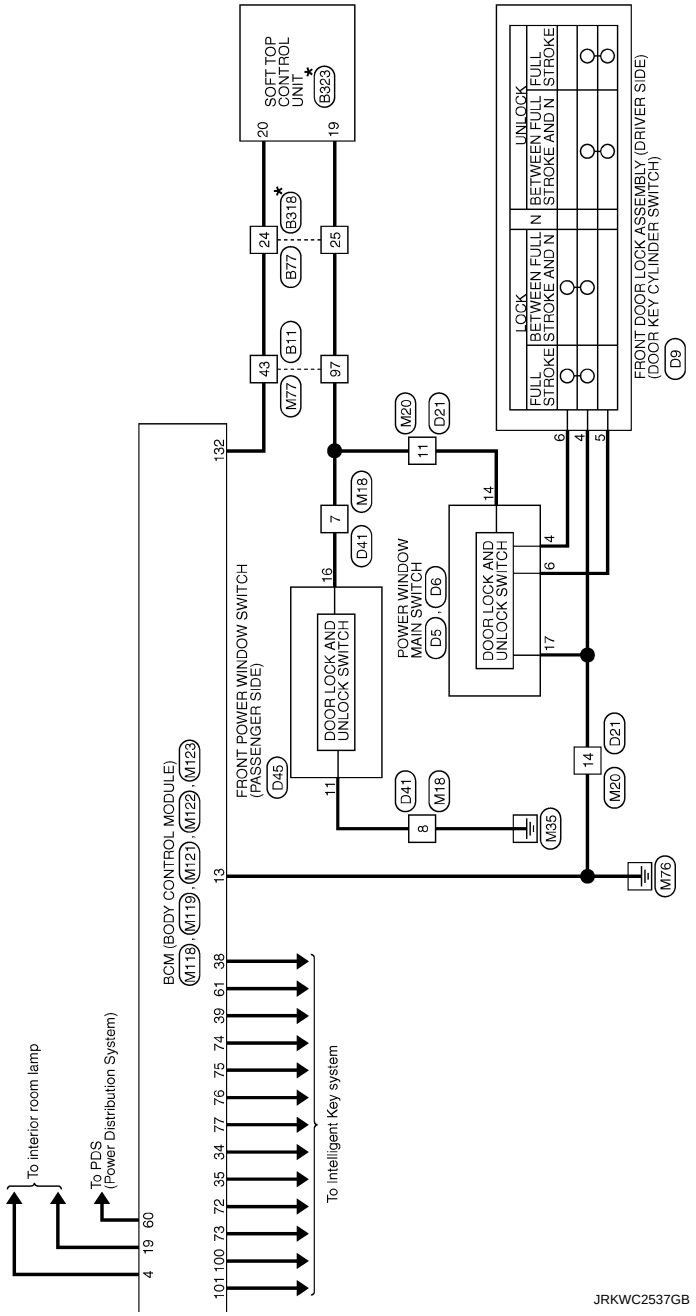
# VEHICLE SECURITY SYSTEM

## Wiring Diagram

INFOID:0000000008460499

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




SOFT TOP CONTROL UNIT
B323
20
19
24
25
B318
B77
43
97
B11
M77
FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE)
(DOOR KEY CYLINDER SWITCH)
D9
LOCK
UNLOCK
FULL STROKE
BETWEEN FULL N STROKE AND N
BETWEEN FULL N STROKE AND N
FULL STROKE
6
4
5
M20
D21
11
14
7
M18
D41
16
DOOR LOCK AND UNLOCK SWITCH
FRONT POWER WINDOW SWITCH (PASSENGER SIDE)
D45
POWER WINDOW MAIN SWITCH
D5
D6
DOOR LOCK AND UNLOCK SWITCH
4
6
17
11
8
M35
M76
BCM (BODY CONTROL MODULE)
M118
M119
M121
M122
M123
132
13
38
61
39
74
75
76
77
34
35
72
73
100
101
4
19
60
To interior room lamp
To PDS
(Power Distribution System)
To Intelligent Key system
JRKWC2537GB

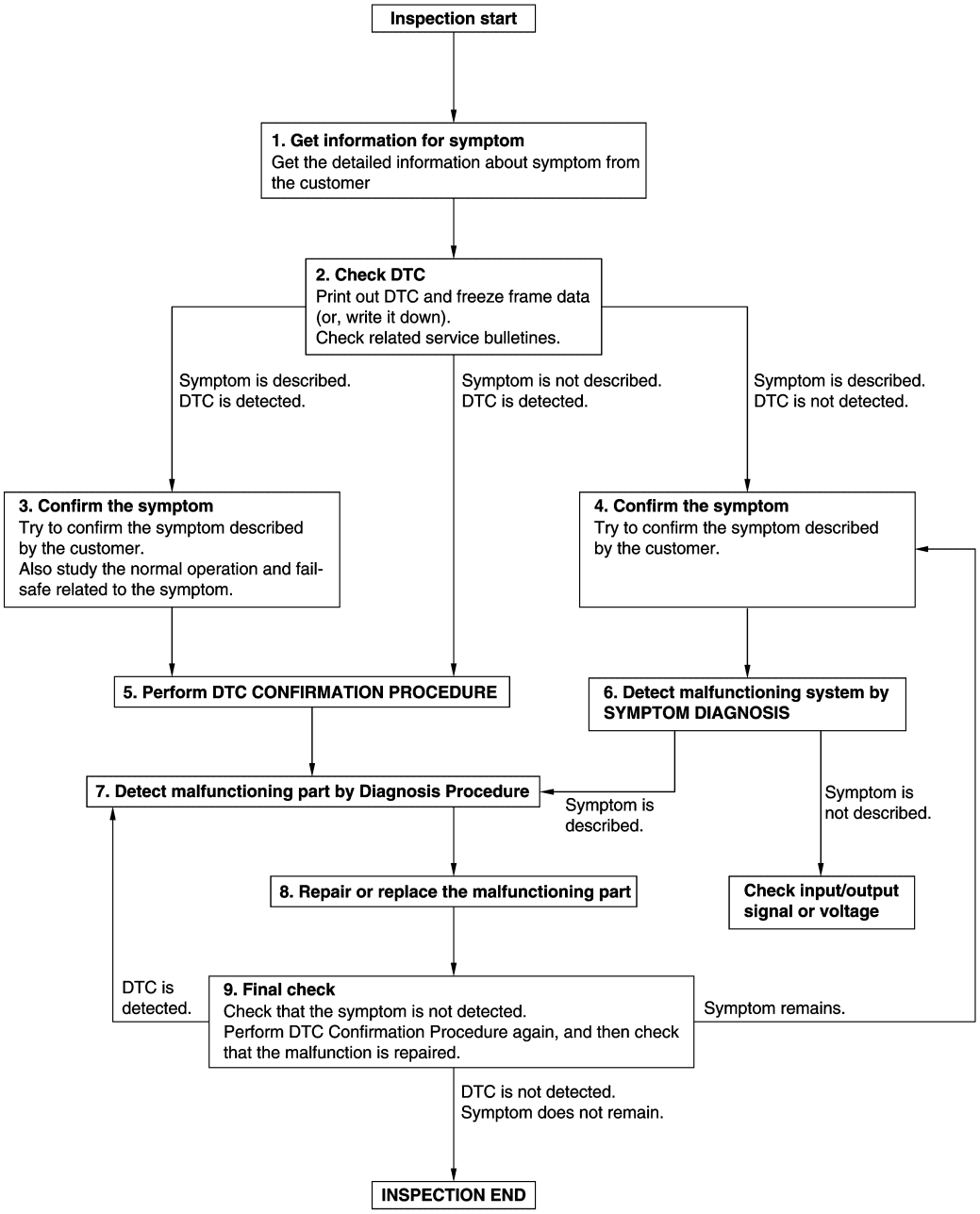
# BASIC INSPECTION

## DIAGNOSIS AND REPAIR WORK FLOW

### Work Flow

INFOID:0000000008460500

#### OVERALL SEQUENCE




JMKIA8652GB

#### DETAILED FLOW

## 1.GET INFORMATION ABOUT SYMPTOM

1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

## 2.CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is detected.

- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.
Symptom is described, DTC is not detected>>GO TO 4.
Symptom is not described, DTC is detected>>GO TO 5.

## 3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Also study the normal operation and fail-safe related to the symptom.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

## 4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

## 5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-54, "DTC Inspection Priority Chart" (BCM), and determine trouble diagnosis order.

**NOTE:**

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIRMATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.
NO >> Refer to GI-40, "Intermittent Incident".

## 6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

YES >> GO TO 7.
NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

## 7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-40, "Intermittent Incident".

## 8. REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.
3. Check DTC. If DTC is detected, erase it.

>> GO TO 9.

## 9. FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE, and then check that the malfunction is repaired securely.
When symptom is described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.
YES-2 >> Symptom remains: GO TO 4.
NO >> Before returning the vehicle to the customer, always erase DTC.

# ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

## ECM

### ECM : Description

INFOID:0000000008460501

Performing the following procedure can automatically activate recommunication of ECM and BCM, but only when the ECM is replaced with a new one*.
*: New one means a virgin ECM that has never been energized on-board.
(In this step, initialization procedure using CONSULT is not necessary)
**NOTE:**
- **When the replaced ECM is not a brand new, the specified procedure (Initialization and registration) using CONSULT is necessary.**
- **If multiple keys are attached to the key holder, separate them before beginning work.**
- **Distinguish keys with unregistered key IDs from those with registered IDs.**

### ECM : Work Procedure

INFOID:0000000008460502

#### 1.PERFORM ECM RECOMMUNICATING FUNCTION

1. Install ECM.
2. Insert the registered Intelligent key* into key slot, then turn ignition switch ON.
   *: To perform this step, use the key that is used before performing ECM replacement.
3. Maintain ignition switch in the ON position for at least 5 seconds.
4. Turn power supply position to OFF.
5. Check that the engine starts.

>> GO TO 2.

#### 2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform the following procedure, EC-118, "Work Procedure".

>> END

## BCM

### BCM : Description

INFOID:0000000008460503

BEFORE REPLACEMENT
When replacing BCM, save or print current vehicle specification with CONSULT configuration before replacement.
**NOTE:**
If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection” after replacing BCM.

AFTER REPLACEMENT
**CAUTION:**
**When replacing BCM, always perform “WRITE CONFIGURATION” with CONSULT. Or not doing so, BCM control function does not operate normally.**
- **Complete the procedure of “WRITE CONFIGURATION” in order.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **If you set incorrect “WRITE CONFIGURATION”, incidents might occur.**

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

### BCM : Work Procedure

INFOID:0000000008460504

#### 1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-63, "Description".

**NOTE:**
If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection” after replacing BCM.

>> GO TO 2.

## 2.REPLACE BCM

Replace BCM. Refer to BCS-77, "Removal and Installation".

>> GO TO 3.

## 3.WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to BCS-63, "Work Procedure".

>> GO TO 4.

## 4.INITIALIZE BCM (NATS) (IF EQUIPPED)

Perform BCM initialization. (NATS)

>> WORK END

# DTC/CIRCUIT DIAGNOSIS

## P1610 LOCK MODE

### Description

INFOID:0000000008460505

When the starting operation is carried more than five times consecutively under the following conditions, NATS will shift to the mode which prevents the engine from being started.
- Unregistered Intelligent Key is used.
- BCM or ECM is malfunctioning.

### DTC Logic

INFOID:0000000008460506

#### DTC DETECTION LOGIC

**NOTE:**
If DTC P1610 is displayed with other DTC (for BCM or ENGINE), first perform the trouble diagnosis for other DTC.

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| P1610 | LOCK MODE | When the starting operation is carried out 5 times or more consecutively under the following conditions.<br>• Unregistered Intelligent Key<br>• BCM or ECM is malfunctioning. | — |

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” and “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-42, "Diagnosis Procedure".
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:0000000008460507

#### 1. CHECK ENGINE START FUNCTION

1. Check that DTC except for DTC P1610 is not detected.
   If detected, erase DTC after fixing.
2. Turn ignition switch OFF.
3. Insert Intelligent Key into key slot.
4. Turn ignition switch ON and wait 5 seconds.
5. Turn ignition switch OFF and wait 5 seconds.
6. Repeat steps 4 and 5 twice (a total of 3 times).
7. Check that engine can start.

>> INSPECTION END

# P1611 ID DISCORD, IMMU-ECM

## DTC Logic

INFOID:0000000008460508

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| P1611 | ID DISCORD, IMMU-ECM | The ID verification result between BCM and ECM is NG. | • BCM<br>• ECM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-43, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460509

#### 1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 2.

#### 2.CHECK SELF DIAGNOSTIC RESULT

1. Select “Self Diagnostic Result” mode of “ENGINE” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-43, "DTC Logic".

Is DTC detected

YES >> GO TO 3.
NO >> INSPECTION END

#### 3.REPLACE BCM

1. Replace BCM. Refer to BCS-77, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 4.

#### 4.REPLACE ECM

Replace ECM. Refer to EC-433, "Removal and Installation".

>> INSPECTION END

# P1612 CHAIN OF ECM-IMMU

## DTC Logic

INFOID:0000000008460510

### DTC DETECTION LOGIC

**NOTE:**

- If DTC P1612 is displayed with DTC U1000 (BCM), first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010 (BCM), first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| P1612 | CHAIN OF ECM-IMMU | Inactive communication between ECM and BCM | • Harness or connectors (The CAN communication line is open or shorted.)<br>• BCM<br>• ECM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-44, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460511

#### 1.REPLACE BCM

1. Replace BCM. Refer to BCS-77, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 2.

#### 2.REPLACE ECM

Replace ECM. Refer to EC-433, "Removal and Installation".

>> INSPECTION END

# P1614 CHAIN OF IMMU-KEY

## DTC Logic

INFOID:0000000008460512

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| P1614 | CHAIN OF IMMU-KEY | Inactive communication between key slot and BCM. | • Harness or connectors (The key slot circuit is open or shorted.)<br>• Key slot<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Insert Intelligent Key into key slot.
2. Check DTC in “Self Diagnostic Result” mode of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-45, "Diagnosis Procedure".
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Press push-button ignition switch.
2. Check DTC in “Self Diagnostic Result” mode of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-45, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460513

#### 1. INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

Which procedure confirms DTC?

DTC CONFIRMATION PROCEDURE 1>>GO TO 2.
DTC CONFIRMATION PROCEDURE 2>>GO TO 6.

#### 2.CHECK PUSH-BUTTON IGNITION SWITCH OPERATION

Press push-button ignition switch and check if it turns ON.

Does ignition switch turn ON?

YES >> GO TO 3.
NO >> GO TO 5.

#### 3.CHECK KEY SLOT COMMUNICATION SIGNAL

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Key slot | | | |
| Connector | Terminal | | |
| M99 | 3 | Ground | Battery voltage |

Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-109, "Removal and Installation".
NO >> GO TO 4.

#### 4.CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between key slot harness connector and BCM harness connector.

| Key slot | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M99 | 3 | M122 | 81 | Existed |

3. Check continuity between key slot harness connector and ground.

| Key slot | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M99 | 3 | | Not existed |

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness or connector.

## 5.CHECK KEY SLOT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect key slot connector.
3. Check continuity between key slot harness connector and ground.

| Key slot | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M99 | 7 | | Existed |

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness or connector.

## 6.CHECK KEY SLOT INPUT SIGNAL

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Key slot | | | |
| Connector | Terminal | | |
| M99 | 2 | Ground | Battery voltage |

Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-109, "Removal and Installation".
NO >> GO TO 7.

## 7.CHECK KEY SLOT CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between key slot harness connector and BCM harness connector.

| Key slot | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M99 | 2 | M122 | 80 | Existed |

3. Check continuity between key slot harness connector and ground.

| Key slot | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M99 | 2 | | Not existed |

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness or connector.

## 8. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# P1615 DIFFRENCE OF KEY

## DTC Logic

INFOID:0000000008460514

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| P1615 | DIFFERENCE OF KEY | The ID verification result between BCM and Intelligent Key is NG. | Intelligent Key |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch.
2. Check DTC in “Self Diagnostic Result” mode of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-48, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460515

#### 1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 2.

#### 2.REPLACE INTELLIGENT KEY

1. Replace Intelligent Key.
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 3.

#### 3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2190 NATS ANTENNA AMP.

## DTC Logic

INFOID:0000000008460516

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2190 | NATS ANTENNA AMP | Inactive communication between key slot and BCM. | • Harness or connectors (The key slot circuit is open or shorted.)<br>• Key slot<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Insert Intelligent Key into key slot.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-49, "Diagnosis Procedure".
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Press push-button ignition switch.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-49, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460517

#### 1. INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

Which procedure confirms DTC?

DTC CONFIRMATION PROCEDURE 1>>GO TO 2.
DTC CONFIRMATION PROCEDURE 2>>GO TO 6.

#### 2.CHECK PUSH-BUTTON IGNITION SWITCH OPERATION

Press push-button ignition switch and check if it turns ON.

Does ignition switch turn ON?

YES >> GO TO 3.
NO >> GO TO 5.

#### 3.CHECK KEY SLOT COMMUNICATION SIGNAL

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Key slot | | | |
| Connector | Terminal | | |
| M99 | 3 | Ground | Battery voltage |

Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-109, "Removal and Installation".
NO >> GO TO 4.

#### 4.CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between key slot harness connector and BCM harness connector.

| Key slot | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M99 | 3 | M122 | 81 | Existed |

3. Check continuity between key slot harness connector and ground.

| Key slot | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M99 | 3 | | Not existed |

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness or connector.

## 5.CHECK KEY SLOT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect key slot connector.
3. Check continuity between key slot harness connector and ground.

| Key slot | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M99 | 7 | | Existed |

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness or connector.

## 6.CHECK KEY SLOT INPUT SIGNAL

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Key slot | | | |
| Connector | Terminal | | |
| M99 | 2 | Ground | Battery voltage |

Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-109, "Removal and Installation".
NO >> GO TO 7.

## 7.CHECK KEY SLOT CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between key slot harness connector and BCM harness connector.

| Key slot | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M99 | 2 | M122 | 80 | Existed |

3. Check continuity between key slot harness connector and ground.

| Key slot | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M99 | 2 | | Not existed |

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness or connector.

## 8. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2191 DIFFERENCE OF KEY

## DTC Logic

INFOID:0000000008460518

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2191 | DIFFERENCE OF KEY | The ID verification result between BCM and Intelligent Key is NG. | Intelligent Key |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-52, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460519

#### 1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 2.

#### 2.REPLACE INTELLIGENT KEY

1. Replace Intelligent Key.
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 3.

#### 3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2192 ID DISCORD, IMMU-ECM

## DTC Logic

INFOID:0000000008460520

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2192 | ID DISCORD, BCM-ECM | The ID verification result between BCM and ECM is NG. | • BCM<br>• ECM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-53, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460521

#### 1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 2.

#### 2.REPLACE BCM

1. Replace BCM. Refer to BCS-77, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 3.

#### 3.REPLACE ECM

1. Replace ECM. Refer to EC-433, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 4.

#### 4.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2193 CHAIN OF ECM-IMMU

## DTC Logic

INFOID:0000000008460522

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2193 | CHAIN OF BCM-ECM | Inactive communication between ECM and BCM | • Harness or connectors (The CAN communication line is open or shorted.)<br>• BCM<br>• ECM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-54, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460523

#### 1.REPLACE BCM

1. Replace BCM. Refer to BCS-77, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END
NO >> GO TO 2.

#### 2.REPLACE ECM

Replace ECM. Refer to EC-433, "Removal and Installation".

>> INSPECTION END

# B2195 ANTI-SCANNING

## DTC Logic

INFOID:0000000008460524

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2195 | ANTI-SCANNING | ID verification between BCM and ECM that is out of the specified specification is detected | ID verification request out of the specified specification |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-55, "Diagnosis Procedure".
NO >> INSPECTION END.

## Diagnosis Procedure

INFOID:0000000008460525

#### 1.CHECK SELF DIAGNOSTIC RESULT 1

1. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-55, "DTC Logic".

Is DTC 2195 detected?

YES >> GO TO 2.
NO >> INSPECTION END

#### 2.CHECK EQUIPMENT OF THE VEHICLE

Check that unspecified accessory part related to engine start is not installed.

Is unspecified accessory part related to engine start installed?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-77, "Removal and Installation".

#### 3.CHECK SELF DIAGNOSTIC RESULT 2

1. Obtain the customers approval to remove unspecified accessory part related to engine start, and then remove it.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
3. Erase DTC.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-55, "DTC Logic".

Is DTC B2195 detected?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".
NO >> INSPECTION END

# B2555 STOP LAMP

## DTC Logic

INFOID:0000000008460526

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2555 | STOP LAMP | BCM makes a comparison between the upper voltage and lower voltage of stop lamp switch. It judges from their values to detect the malfunctioning circuit. | • Harness or connectors (Stop lamp switch circuit is open or shorted.)<br>• Stop lamp switch<br>• Fuse |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Depress brake pedal and wait at least 1 second.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-56, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460527

#### 1.CHECK STOP LAMP SWITCH INPUT SIGNAL 1

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| BCM | | | |
| Connector | Terminal | | |
| M123 | 116 | Ground | Battery voltage |

Is the inspection normal?

YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No. 7, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between BCM and fuse.

#### 2.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Disconnect stop lamp switch connector.
2. Check voltage between stop lamp harness connector and ground.

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Stop lamp switch | | | |
| Connector | Terminal | | |
| E116 | 1 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness for open or short between stop lamp switch and fuse.

#### 3.CHECK STOP LAMP SWITCH INPUT SIGNAL 2

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

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| BCM | | | | | |
| Connector | Terminal | | | | |
| M123 | 118 | Ground | Brake pedal | Depressed | Battery voltage |
| | | | | Not depressed | 0 |

Is the inspecting result normal?

YES >> GO TO 4.
NO >> GO TO 5.

## 4.REPLACE BCM

1. Replace BCM. Refer to BCS-77, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

## 5.CHECK STOP LAMP SWITCH CIRCUIT

1. Disconnect stop lamp switch connector.
2. Check continuity between stop lamp switch harness connector and BCM harness connector.

| Stop lamp switch | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E116 | 2 | M123 | 118 | Existed |

3. Check continuity between stop lamp switch harness connector and ground.

| Stop lamp switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E116 | 2 | | Not existed |

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness or connector.

## 6.CHECK STOP LAMP SWITCH

Refer to SEC-57, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace stop lamp switch. Refer to BR-18, "Removal and Installation".

## 7.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

## Component Inspection

INFOID:0000000008460528

## 1.CHECK STOP LAMP SWITCH

1. Turn ignition switch OFF.
2. Disconnect stop lamp switch connector.
3. Check continuity between stop lamp switch terminals.

| Stop lamp switch | | Condition | | Continuity |
|---|---|---|---|---|
| Terminal | | | | |
| 1 | 2 | Brake pedal | Not depressed | Not existed |
| | | | Depressed | Existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace stop lamp switch. Refer to BR-18, "Removal and Installation".

# B2556 PUSH-BUTTON IGNITION SWITCH

## DTC Logic

INFOID:0000000008460529

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2556 | PUSH-BTN IGN SW | BCM detects push-button ignition switch stuck to ON for 100 seconds or more | • Harness or connectors (Push-button ignition switch circuit is shorted.)<br>• Push-button ignition switch<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following condition.
- Brake pedal: Not depressed
2. Release push-button ignition switch and wait 100 seconds or more.
3. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-59, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460530

#### 1.CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Push-button ignition switch | | | |
| Connector | Terminal | | |
| M101 | 4 | Ground | Battery voltage |

Is the inspection normal?

YES >> GO TO 3.
NO >> GO TO 2.

#### 2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between push-button ignition switch harness connector and BCM harness connector.

| Push-button ignition switch | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M101 | 4 | M121 | 60 | Existed |

3. Check continuity between push-button ignition switch harness connector and ground.

| Push-button ignition switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M101 | 4 | | Not existed |

Is the inspection normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 3.CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

Check continuity between push-button ignition switch harness connector and ground.

| Push-button ignition switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M101 | 1 | | Existed |

Is the inspection normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connector.

## 4.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-60, "Component Inspection".

Is the inspection normal?

YES >> GO TO 5.
NO >> Replace push-button ignition switch. Refer to SEC-110, "Removal and Installation".

## 5.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# Component Inspection

INFOID:0000000008460531

## 1.CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector.
3. Check continuity between push-button ignition switch terminals.

| Push-button ignition switch | | Condition | Continuity |
|---|---|---|---|
| Terminals | | | |
| 1 | 4 | Pressed | Existed |
| | | Not pressed | Not existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace push-button ignition switch. Refer to SEC-110, "Removal and Installation".

# B2557 VEHICLE SPEED

## DTC Logic

INFOID:0000000008460532

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible causes |
|---|---|---|---|
| B2557 | VEHICLE SPEED | BCM detects the following difference between the vehicle speed from combination meter and the one from “ABS actuator and electric unit (control unit)” for 10 seconds continuously<br>• One is 10 km/h (6.2 MPH) or more and the other is 4 km/h (2.5 MPH) or less. | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Combination meter<br>• ABS actuator and electric unit (control unit) |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine and wait 10 seconds or more.
2. Drive the vehicle at a vehicle speed of 10 km/h (6.2 MPH) or more for 10 seconds or more.
3. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-61, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460533

#### 1.CHECK DTC OF “ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)”

Check DTC in “Self Diagnostic Result” mode of “ABS” using CONSULT. Refer to BRC-24, "DTC No. Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK DTC OF COMBINATION METER

Check DTC in “Self Diagnostic Result” mode of “METER/M&A” using CONSULT. Refer to MWI-31, "DTC Index".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

#### 3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2560 STARTER CONTROL RELAY

## DTC Logic

INFOID:0000000008460534

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible causes |
|---|---|---|---|
| B2560 | STARTER CONT RELAY | BCM detects a mismatch between the OFF request of starter control relay to IPDM E/R and the feedback. (The feedback is ON instead of OFF.) | • Harness or connectors (The CAN communication line is open or shorted.)<br>• IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 2 seconds or more.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-62, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460535

#### 1.CHECK DTC OF IPDM E/R

Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT. Refer to PCS-23, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".

#### 2.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident"

>> INSPECTION END

# B2601 SHIFT POSITION

## DTC Logic

INFOID:0000000008460536

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2601 | SHIFT POSITION | BCM detects a difference between the P position signal from CVT sift selector (detention switch) and the P position signal from IPDM E/R (CAN) for 2 seconds or more | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connectors [CVT shift selector (detention switch) circuit is open or shorted.]<br>• CVT shift selector (detention switch) |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 2 seconds or more.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-63, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460537

#### 1.CHECK CVT SHIFT SELECTOR POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect CVT shift selector (detention switch) connector.
3. Check voltage between CVT shift selector (detention switch) harness connector and ground.

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| CVT shift selector (detention switch) | | | |
| Connector | Terminal | | |
| M57 | 8 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

#### 2.CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector.

| CVT shift selector (detention switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M57 | 8 | M122 | 96 | Existed |

3. Check continuity between CVT shift selector (detention switch) harness connector and ground.

| CVT shift selector (detention switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M57 | 8 | | Not existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 3.CHECK CVT SHIFT SELECTOR CIRCUIT (BCM)

1. Disconnect BCM connector and IPDM E/R connector.
2. Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector.

| CVT shift selector (detention switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M57 | 9 | M122 | 99 | Existed |

3. Check continuity between CVT shift selector (detention switch) harness connector and ground.

| CVT shift selector (detention switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M57 | 9 | | Not existed |

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connector.

## 4.CHECK CVT SHIFT SELECTOR CIRCUIT (IPDM E/R)

1. Check continuity between CVT shift selector (detention switch) harness connector and IPDM E/R harness connector.

| CVT shift selector (detention switch) | | IPDM E/R | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M57 | 9 | E11 | 43 | Existed |

2. Check continuity between CVT shift selector (detention switch) harness connector and ground.

| CVT shift selector (detention switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M57 | 9 | | Not existed |

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness or connector.

## 5.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-66, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CVT shift selector. Refer to TM-145, "Removal and Installation".

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2602 SHIFT POSITION

## DTC Logic

INFOID:0000000008460538

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2602 | SHIFT POSITION | BCM detects the following status for 10 seconds.<br>• Shift position is in the P position<br>• Vehicle speed is 4 km/h (2.5 MPH) or more<br>• Ignition switch is in the ON position | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connectors [CVT shift selector (detention switch) circuit is open or shorted.]<br>• CVT shift selector (detention switch)<br>• ABS actuator and electric unit (control unit)<br>• Combination meter<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.
2. Drive vehicle at a speed of 4 km/h (2.5 MPH) or more for 10 seconds or more.
3. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-65, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460539

#### 1.CHECK DTC OF “ABS ACTUATOR AND ELECTRIC UNIT”

Check DTC in “Self Diagnostic Result” mode of “ABS” using CONSULT. Refer to BRC-24, "DTC No. Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK DTC OF COMBINATION METER

Check DTC in “Self Diagnostic Result” mode of “METER/M&A” using CONSULT. Refer to MWI-31, "DTC Index".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning parts.

#### 3.CHECK CVT SHIFT SELECTOR POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect CVT shift selector (detention switch) connector.
3. Check voltage between CVT shift selector (detention switch) harness connector and ground.

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| CVT shift selector (detention switch) | | | |
| Connector | Terminal | | |
| M57 | 8 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 4.

## 4. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector.

| CVT shift selector (detention switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M57 | 8 | M122 | 96 | Existed |

3. Check continuity between CVT shift selector (detention switch) harness connector and ground.

| CVT shift selector (detention switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M57 | 8 | | No existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 5. CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM connector and IPDM E/R connector.
2. Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector.

| CVT shift selector (detention switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M57 | 9 | M122 | 99 | Existed |

3. Check continuity between CVT shift selector (detention switch) harness connector and ground.

| CVT shift selector (detention switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M57 | 9 | | No existed |

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness or connector.

## 6. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-66, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace CVT shift selector. Refer to TM-145, "Removal and Installation".

## 7. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# Component Inspection

INFOID:0000000008460540

## 1. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

1. Turn ignition switch OFF.
2. Disconnect CVT shift selector connector.

3. Check continuity between CVT shift selector (detention switch) terminals.

| CVT shift selector (detention switch) | | Condition | | Continuity |
|---|---|---|---|---|
| Terminal | | | | |
| 8 | 9 | Selector lever | P position | Not existed |
| | | | Other than above | Existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace CVT shift selector. Refer to TM-145, "Removal and Installation".

# B2603 SHIFT POSITION

## DTC Logic

INFOID:0000000008460541

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2603 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2603 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible causes |
|---|---|---|---|
| B2603 | SHIFT POSI STATUS | BCM detects the followings status for 500 ms or more when ignition switch is in the ON position.<br>• P/N position signal from TCM: Approx. 0 V (Other than P/N position)<br>• CVT shift selector (detention switch) signal: Approx. 0 V (P position) | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connector [CVT shift selector circuit (detention switch) is open or shorted.]<br>• Harness or connectors (TCM circuit is open or shorted.)<br>• CVT shift selector (detention switch)<br>• TCM<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Shift the selector lever to the P position.
2. Turn ignition switch ON and wait 1 second or more.
3. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-68, "Diagnosis Procedure".
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Shift the selector lever to any position other than P, and wait 1 second or more.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-68, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460542

#### 1.CHECK DTC OF TCM

Check DTC in “Self Diagnostic Result” mode of “TCM” using CONSULT. Refer to TM-45, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK TCM CIRCUIT

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

| TCM | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| F23 | 20 | M123 | 140 | Existed |

4. Check continuity between TCM harness connector and ground.

| TCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F23 | 20 | | Not existed |

Is the inspection result normal?

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

## 3. CHECK CVT SHIFT SELECTOR POWER SUPPLY

1. Disconnect CVT shift selector (detention switch) connector.
2. Check voltage between CVT shift selector (detention switch) harness connector and ground.

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| CVT shift selector (detention switch) | | | |
| Connector | Terminal | | |
| M57 | 8 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 4.

## 4. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector.

| CVT shift selector (detention switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M57 | 8 | M122 | 96 | Existed |

3. Check continuity between CVT shift selector (detention switch) harness connector and ground.

| CVT shift selector (detention switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M57 | 8 | | Not existed |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 5. CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM connector and IPDM E/R connector.
2. Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector.

| CVT shift selector (detention switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M57 | 9 | M122 | 99 | Existed |

3. Check continuity between CVT shift selector (detention switch) harness connector and ground.

| CVT shift selector (detention switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M57 | 9 | | Not existed |

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness or connector.

## 6.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-66, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace CVT shift selector. Refer to TM-145, "Removal and Installation".

## 7.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# Component Inspection

INFOID:0000000008460543

## 1.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

1. Turn ignition switch OFF.
2. Disconnect CVT shift selector connector.
3. Check continuity between CVT shift selector (detention switch) terminals.

| CVT shift selector (detention switch) Terminal | | Condition | | Continuity |
|---|---|---|---|---|
| 8 | 9 | Selector lever | P position | Not existed |
| | | | Other than above | Existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace CVT shift selector. Refer to TM-145, "Removal and Installation".

# B2604 SHIFT POSITION

## DTC Logic

INFOID:0000000008460544

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2604 | PNP/CLUTCH SW | BCM detects the following status for 500 ms or more when ignition switch is in the ON position.<br>• P/N position input signal exists. Shift position signal from TCM does not exist.<br>• P/N position input signal does not exist. Shift position signal from TCM exists. | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connectors (TCM circuit is open or shorted.)<br>• TCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Shift the selector lever to the P position.
2. Turn ignition switch ON and wait 5 seconds or more.
3. Shift the selector lever to the N position and wait 5 seconds or more.
4. Shift the selector lever to any position other than P and N, and wait 5 seconds or more.
5. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-71, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460545

#### 1.CHECK DTC OF TCM

Check DTC in “Self Diagnostic Result” mode of “TCM” using CONSULT. Refer to TM-45, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK TCM CIRCUIT 1

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

| TCM | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| F23 | 20 | M123 | 140 | Existed |

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 3.

#### 3.CHECK TCM CIRCUIT 2

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and BCM harness connector.

| IPEM E/R | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E10 | 30 | M123 | 140 | Existed |

3. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E10 | 30 | | Not existed |

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connector.

## 4. CHECK TCM CIRCUIT 3

1. Check continuity between IPDM E/R harness connector and TCM harness connector.

| IPEM E/R | | TCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E10 | 72 | F23 | 20 | Existed |

2. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E10 | 72 | | Not existed |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2605 SHIFT POSITION

## DTC Logic

INFOID:0000000008460546

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2605 | PNP/CLUTCH SW | BCM detects the following status for 500 ms or more when ignition switch is in the ON position<br>• P/N position input signal exists. Shift position signal from IPDM E/R does not exist.<br>• P/N position input signal does not exist. Shift position signal from IPDM E/R exists. | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connectors (TCM circuit is open or shorted.)<br>• TCM<br>• IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Shift the selector lever to the P position.
2. Turn ignition switch ON and wait 1 second or more.
3. Shift the selector lever to the N position and wait 1 second or more.
4. Shift the selector lever to any position other than P and N, and wait 1 second or more.
5. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-73, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460547

#### 1.CHECK DTC OF IPDM E/R

Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT. Refer to PCS-23, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK TCM CIRCUIT

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

| TCM | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| F23 | 20 | M123 | 140 | Existed |

4. Check continuity between TCM harness connector and ground.

| TCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F23 | 20 | | Not existed |

Is the inspection result normal?

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2608 STARTER RELAY

## DTC Logic

INFOID:0000000008460548

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".
- If DTC B2608 is displayed with DTC B210D (IPDM E/R), first perform the trouble diagnosis for DTC B210D. Refer to SEC-86, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2608 | STARTER RELAY | BCM receives starter relay ON signal (CAN) from IPDM E/R even if BCM turns the starter relay OFF. | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connectors (starter relay circuit is open or shorted.)<br>• IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-75, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460549

#### 1.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| BCM | | | | | |
| Connector | Terminal | | | | |
| M121 | 52 | Ground | Selector lever | N or P position | Battery voltage |
| | | | | Other than above | 0 |

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

#### 2.CHECK STARTER RELAY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector and BCM harness connector.

| IPDM E/R | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E11 | 46 | M121 | 52 | Existed |

4. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E11 | 46 | | Not existed |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness or connector.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B260F ENGINE STATUS

## Description

INFOID:0000000008460550

BCM receives the engine status signal from ECM via CAN communication.

## DTC Logic

INFOID:0000000008460551

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B260F | ENG STATE SIG LOST | BCM is not yet received the engine status signal from ECM when ignition switch is in ON position | • Harness or connectors (The CAN communication line is open or shorted.)<br>• ECM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 2 seconds or more.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-77, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460552

#### 1.INSPECTION START

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to SEC-77, "DTC Logic".

Is the DTC B260F displayed again?

YES >> GO TO 2.
NO >> GO TO 3.

#### 2.REPLACE ECM

Replace ECM. Refer to EC-433, "Removal and Installation".

>> INSPECTION END

#### 3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B2617 STARTER RELAY CIRCUIT

## DTC Logic

INFOID:0000000008460553

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2617 | BCM | A malfunction of starter relay output signal circuit is detected inside of BCM | BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions, and wait 1 second or more.
- Shift position: P or N
- Brake pedal: Depressed
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-78, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460554

#### 1.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2617. Refer to SEC-78, "DTC Logic".

Is DTC detected?

YES >> GO TO 2.
NO >> INSPECTION END

#### 2.REPLACE BCM

1. Replace BCM. Refer to BCS-77, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

# B261A PUSH-BUTTON IGNITION SWITCH

## DTC Logic

INFOID:0000000008460555

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B261A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B261A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B261A | PUSH-BTN IGN SW | BCM detects the mismatch between the following for 1 second or more<br>• Power supply position with push-button ignition switch<br>• Power supply position from IPDM E/R (CAN) | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connectors (Push-button ignition switch circuit is open or shorted.)<br>- Between BCM and push-button ignition switch<br>- Between IPDM E/R and push-button ignition switch |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Press push-button ignition switch for 1 second under the following condition.
- Selector lever: In the P or N position.
- Brake pedal: Not depressed
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-79, "Diagnosis Procedure"
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Insert Intelligent Key into the key slot.
2. Press the push-button ignition switch under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position.
- Do not depress brake pedal.
3. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-79, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460556

#### 1.INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

Which procedure confirms DTC?

DTC CONFIRMATION PROCEDURE 1>>GO TO 2.
DTC CONFIRMATION PROCEDURE 2>>GO TO 4.

#### 2.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 1

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector and IPDM E/R connector.
3. Check voltage between push-button ignition switch harness connector and ground.

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Push-button ignition switch | | | |
| Connector | Terminal | | |
| M101 | 4 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 3.

## 3.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 1

1. Disconnect BCM connector.
2. Check continuity between push-button ignition switch harness connector and BCM harness connector.

| Push-button ignition switch | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M101 | 4 | M121 | 60 | Existed |

3. Check continuity between push-button ignition switch harness connector and ground.

| Push-button ignition switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M101 | 4 | | Not existed |

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness or connector.

## 4.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 2

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Push-button ignition switch | | | |
| Connector | Terminal | | |
| M101 | 4 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 5.

## 5.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 2

1. Disconnect IPDM E/R connector.
2. Check continuity between push-button ignition switch harness connector and IPDM E/R harness connector.

| Push-button ignition switch | | IPDM E/R | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M101 | 4 | E10 | 28 | Existed |

3. Check continuity between push-button ignition switch harness connector and ground.

| Push-button ignition switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M101 | 4 | | Not existed |

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness or connector.

## 6. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# B261E VEHICLE TYPE

## Description

INFOID:0000000008460557

There are two types of vehicle.
- HEV
- Conventional

## DTC Logic

INFOID:0000000008460558

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B261E | VEHICLE TYPE | Difference of BCM configuration | BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-82, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460559

#### 1.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B261E. Refer to SEC-82, "DTC Logic".

Is the DTC displayed?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".
NO >> INSPECTION END

# B26EA KEY REGISTRATION

## DTC Logic

INFOID:0000000008460560

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B26EA | KEY REGISTRATION | Intelligent Key is not registered successfully. | • Improper registration operation<br>• Intelligent Key<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-83, "Diagnosis Procedure"
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460561

#### 1.PERFORM INITIALIZATION

1. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO 2.
NO >> INSPECTION END

#### 2.REPLACE INTELLIGENT KEY

1. Replace Intelligent Key.
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".
NO >> INSPECTION END

# B210B STARTER CONTROL RELAY

## DTC Logic

INFOID:0000000008460562

### DTC DETECTION LOGIC

**NOTE:**
If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B210B | START CONT RLY ON | IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second.<br>• Starter control relay ON/OFF signal from BCM<br>• P/N position signal from TCM | • Harness or connectors (The CAN communication line is open or shorted.)<br>• IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine, and wait 1 second or more.
- Selector lever: In the P or N position.
- Brake pedal: Depressed
2. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Go to SEC-84, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460563

#### 1.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to SEC-84, "DTC Logic".

Is the DTC B210B displayed again?

YES >> Replace IPDM E/R. Refer PCS-31, "Removal and Installation".
NO >> INSPECTION END

# B210C STARTER CONTROL RELAY

## DTC Logic

INFOID:0000000008460564

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".
- When IPDM E/R power supply voltage is low (Approx. 7 - 8 V for about 1 second), the DTC B210C may be detected.

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B210C | START CONT RLY OFF | IPDM E/R detects that the relay is stuck at OFF position even if the followings condition are met for about 1 second.<br>• Starter control relay ON/OFF signal from BCM<br>• P/N position signal from TCM | • Harness or connectors (The CAN communication line is open or shorted.)<br>• IPDM E/R<br>• Battery |

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine, and wait 1 second or more.

- Selector lever: In the P or N position.
- Brake pedal: Depressed

2. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Go to SEC-85, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460565

#### 1. INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B210C. Refer to SEC-85, "DTC Logic".

Is the DTC B210C displayed again?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> INSPECTION END

# B210D STARTER RELAY

## DTC Logic

INFOID:0000000008460566

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".
- If DTC B210D is displayed with DTC B2617, first perform the trouble diagnosis for DTC B2617. Refer to SEC-78, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B210D | STARTER RELAY ON | IPDM E/R detects that the relay is stuck at ON position even if the followings condition are met for about 1 second.<br>• Starter control relay ON/OFF signal from BCM<br>• P/N position signal from TCM | • Harness or connectors (The CAN communication line is open or shorted.)<br>• IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Ignition switch ON and wait 1 second or more.
2. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Go to SEC-86, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460567

#### 1.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B210D. Refer to SEC-86, "DTC Logic".

Is the DTC B210D displayed again?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> INSPECTION END

# B210E STARTER RELAY

## DTC Logic

INFOID:0000000008460568

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".
- If DTC B210E is displayed with DTC B2110 for IPDM E/R, first perform the trouble diagnosis for DTC B2110. Refer to SEC-91, "DTC Logic".
- If DTC B210E is displayed with DTC B2617 for BCM, first perform the trouble diagnosis for DTC B2617. Refer to SEC-78, "DTC Logic".
- When IPDM E/R power supply voltage is low (Approx. 7 - 8 V for about 1 second), the DTC B210F may be detected.

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B210E | STARTER RELAY OFF | IPDM E/R detects that the relay is stuck at OFF position even if the followings condition are met for about 1 second.<br>• Starter control relay ON/OFF signal from BCM<br>• P/N position signal from TCM | • Harness or connectors (The CAN communication line is open or shorted.)<br>• IPDM E/R<br>• Battery |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 1 second or more.
2. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Go to SEC-87, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460569

#### 1.CHECK STARTER RELAY OUTPUT SIGNAL

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

| (+) | | (–) | Condition | | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|---|
| BCM connector | | | | | | |
| Connector | Terminal | | Ignition switch | Brake pedal | Selector lever | |
| M121 | 52 | Ground | ON | Depressed | P or N | Battery voltage |
| | | | | | Other than above | 0 |

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

#### 2.CHECK STARTER RELAY OUTPUT SIGNAL CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between BCM harness connector and IPDM E/R harness connector.

| BCM | | IPDM E/R | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M121 | 52 | E11 | 46 | Existed |

3. Check continuity between BCM harness connector and ground.

| BCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M121 | 52 | | Not existed |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness or connector.

## 3.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check voltage between IPDM E/R harness connector and ground.

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| IPDM E/R | | | |
| Connector | Terminal | | |
| E10 | 36 | Ground | Battery voltage |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Check harness for open or short between IPDM E/R and battery. Refer to PCS-24, "Wiring Diagram".

# B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

## DTC Logic

INFOID:0000000008460570

### DTC DETECTION LOGIC

**NOTE:**
If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic"

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B210F | INTRLCK/PNP SW ON | IPDM E/R detects a mismatch between the signals below for 1 second or more.<br>• P/N position signal from TCM<br>• Shift position signal from BCM (CAN) | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connectors (TCM circuit is open or shorted.)<br>• TCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 1 second or more.
2. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Go to SEC-89, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460571

#### 1.CHECK DTC OF BCM

Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT. Refer to BCS-55, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK P/N POSITION SIGNAL

1. Turn ignition switch ON.
2. Check voltage between IPDM E/R harness connector and ground.

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| IPDM E/R | | | | | |
| Connector | Terminal | | | | |
| E10 | 30 | Ground | Selector lever | P or N | Battery voltage |
| | | | | Other than above | 0 |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> GO TO 3.

#### 3.CHECK P/N POSITION SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TCM connector and IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector and TCM harness connector.

| IPDM E/R | | TCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| F12 | 72 | F23 | 20 | Existed |

4. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F12 | 72 | | Not existed |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness or connector.

# B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

## DTC Logic

INFOID:0000000008460572

### DTC DETECTION LOGIC

**NOTE:**
If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2110 | INTRLCK/PNP SW OFF | IPDM E/R detects mismatch between the following signals for 1 second or more.<br>• P/N position signal from TCM<br>• Shift position signal from BCM (CAN) | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Harness or connectors (TCM circuit is open or shorted.)<br>• TCM<br>• IPDM E/R<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch ON and wait 1 second or more.
2. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Go to SEC-91, "Diagnosis Procedure".
NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000008460573

#### 1.CHECK DTC OF TCM

Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT. Refer to TM-45, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

#### 2.CHECK P/N POSITION SIGNAL

1. Turn ignition switch ON.
2. Check voltage between IPDM E/R harness connector and ground.

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| IPDM E/R | | | | | |
| Connector | Terminal | | | | |
| E10 | 30 | Ground | Selector lever | P or N | Battery voltage |
| | | | | Other than above | 0 |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> GO TO 3.

#### 3.CHECK P/N POSITION SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TCM connector and IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector and TCM harness connector.

| IPDM E/R | | TCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| F12 | 72 | F23 | 20 | Existed |

4. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F12 | 72 | | Not existed |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness or connector.

# HEADLAMP FUNCTION

## Component Function Check

INFOID:0000000008460574

### 1.CHECK FUNCTION

1. Perform “HEAD LAMP(HI)” in “ACTIVE TEST” mode of “THEFT ALM” of “BCM” using CONSULT.
2. Check headlamps operation.

| Test item | | Description | |
|---|---|---|---|
| HEAD LAMP (HI) | ON | Headlamps (Hi) | Light |
| | OFF | | Do not light |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Refer to SEC-93, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008460575

### 1.CHECK HEADLAMP FUNCTION

Refer to EXL-37, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

### 2.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# HORN FUNCTION

## Component Function Check

INFOID:0000000008460576

### 1.CHECK FUNCTION

1. Perform “VEHICLE SECURITY HORN” in “ACTIVE TEST” mode of “THEFT ALM” of “BCM” using CONSULT.
2. Check the horn operation.

| Test item | | Description | |
|---|---|---|---|
| VEHICLE SECURITY HORN | ON | Horn | Sounds (for 0.5 sec) |

Is the operation normal?

YES >> INSPECTION END
NO >> Go to SEC-94, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008460577

### 1.CHECK HORN FUNCTION

Check that horns function properly using horn switch.

Does horn sound?

YES >> GO TO 2.
NO >> Check horn circuit. Refer to HRN-3, "Wiring Diagram".

### 2.CHECK HORN CONTROL CIRCUIT

1. Disconnect horn relay.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector and horn relay harness connector.

| IPDM E/R | | Horn relay | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E11 | 44 | E5 | 1 | Existed |

4. Check continuity between IPDM E/R harness connector and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E11 | 44 | | Not existed |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness.

# KEY WARNING LAMP

## Component Function Check

INFOID:0000000008460578

### 1.CHECK FUNCTION

Check the operation with “INDICATOR” in “Active Test” mode with CONSULT.

| Test item | Condition | |
|---|---|---|
| INDICATOR | KEY ON | Key warning lamp illuminates |
| | KEY IND | Key warning lamp flashes |

Is the inspection result normal?

YES >> Key warning lamp in combination meter is OK.
NO >> Refer to SEC-95, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008460579

### 1.CHECK KEY WARNING LAMP

Refer to SEC-95, "Component Function Check".

Is the inspection result normal?

Yes >> GO TO 2.
No >> Repair or replace key warning lamp circuit.

### 2.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# SECURITY INDICATOR LAMP

## Component Function Check

INFOID:0000000008460580

### 1.CHECK FUNCTION

1. Perform “THEFT IND” in the “ACTIVE TEST” mode with CONSULT.
2. Check security indicator lamp operation.

| Test item | | Description | |
|---|---|---|---|
| THEFT IND | ON | Security indicator lamp | Illuminate |
| | OFF | | Not illuminate |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Go to SEC-96, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008460581

### 1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Security indicator lamp | | | |
| Connector | Terminal | | |
| M100 | 1 | Ground | Battery voltage |

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No. 6, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between security indicator lamp and fuse.

### 2.CHECK SECURITY INDICATOR LAMP SIGNAL

1. Connect security indicator lamp connector.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| BCM | | | |
| Connector | Terminal | | |
| M123 | 141 | Ground | Battery voltage |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".
NO >> GO TO 3.

### 3.CHECK SECURITY INDICATOR LAMP SIGNAL CIRCUIT

1. Disconnect security indicator lamp connector.
2. Check continuity between security indicator lamp harness connector and BCM harness connector.

| Security indicator lamp | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M100 | 2 | M123 | 141 | Existed |

3. Check continuity between security indicator lamp harness connector and ground.

| Security indicator lamp | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M100 | 2 | | Not existed |

Is the inspection result normal?

YES >> Replace security indicator lamp. Refer to SEC-111, "Removal and Installation".
NO >> Repair or replace harness.

# TRUNK KEY CYLINDER SWITCH

## Component Function Check

INFOID:0000000008460582

### 1.CHECK FUNCTION

1. Select “KEY CYL SW-TR” in “Data Monitor” mode of “THEFT ALM” of “BCM” using CONSULT.
2. Check the indication under the following conditions.

| Monitor item | Condition | | Indication |
|---|---|---|---|
| KEY CYL SW-TR | Trunk key cylinder switch | Off position | Off |
| | | On (Trunk lid open) position | On |

Is the inspection result normal?

YES >> Trunk key cylinder switch is OK.
NO >> Refer to SEC-98, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008460583

### 1.CHECK TRUNK KEY CYLINDER SWITCH INPUT SIGNAL

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

| (+) | | (–) | Voltage (Approx.) |
|---|---|---|---|
| Trunk key cylinder switch | | | |
| Connector | Terminal | | |
| T11 | 1 | Ground | 12 V |

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 2.

### 2.CHECK TRUNK KEY CYLINDER SWITCH SIGNAL CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and trunk key cylinder switch harness connector.

| BCM | | Trunk key cylinder switch | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M121 | 49 | T11 | 1 | Existed |

3. Check continuity between BCM harness connector and ground.

| BCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M121 | 49 | | Not existed |

Is the inspection result normal?

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

### 3.REPLACE BCM

1. Replace BCM. Refer to BCS-77, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

## 4. CHECK TRUNK KEY CYLINDER SWITCH GROUND CIRCUIT

Check continuity between trunk key cylinder switch harness connector and ground.

| Trunk key cylinder switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| T11 | 2 | | Existed |

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

## 5. CHECK TRUNK KEY CYLINDER SWITCH

Refer to SEC-99, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace trunk key cylinder switch.

## 6. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

## Component Inspection

INFOID:0000000008460584

## 1. CHECK TRUNK KEY CYLINDER SWITCH

1. Turn ignition switch OFF.
2. Disconnect trunk key cylinder switch connector.
3. Check continuity between trunk key cylinder switch terminals.

| Trunk key cylinder switch | | Condition | | Continuity |
|---|---|---|---|---|
| Terminal | | | | |
| 1 | 2 | Trunk lid key cylinder | Off position | Not existed |
| | | | On (trunk lid open) position | Existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace trunk key cylinder switch.

# SYMPTOM DIAGNOSIS

## ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

### Description

INFOID:0000000008460585

Engine does not start when push-button ignition switch is pressed while carrying Intelligent Key.

**NOTE:**

- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- The engine start function, door lock function, power distribution system, and NATS-IVIS/NVIS in the Intelligent Key system are closely related to each other regarding control. The vehicle security function can operate only when the door lock and power distribution system are operating normally.

### Conditions of Vehicle (Operating Conditions)

- “ENGINE START BY I-KEY” setting: ON
  Check the setting of “ENGINE START BY I-KEY” in “Work Support” mode of “INTELLIGENT KEY” of “BCM” using CONSULT.
- Intelligent Key is not inserted into key slot.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

### Diagnosis Procedure

INFOID:0000000008460586

#### 1.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” in “Work Support” mode of “INTELLIGENT KEY” of “BCM” using CONSULT.
Refer to SEC-21, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)".

>> GO TO 2.

#### 2.PERFORM SELF-DIAGNOSTIC RESULT

Select “Self Diagnostic Result” mode of “BCM”, and check whether or not DTC of inside key antenna is detected.

Is DTC detected?

YES >> Refer to DLK-51, "DTC Logic" (console) or DLK-53, "DTC Logic" (trunk room).
NO >> GO TO 3.

#### 3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.
Refer to PCS-65, "Component Function Check".

Is the operation normal?

YES >> GO TO 4.
NO >> Repair or replace malfunctioning parts.

#### 4.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

# SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

## Description

INFOID:0000000008460587

Security indicator lamp does not blink when ignition switch is in a position other than ON.

**NOTE:**

- Before performing the diagnosis in the following table, check “Work Flow”. Refer to SEC-37, "Work Flow".
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

### Conditions of Vehicle (Operating Conditions)

- Intelligent Key is not inserted in key slot.
- Ignition switch position is not in the ON position.

## Diagnosis Procedure

INFOID:0000000008460588

### 1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.
Refer to SEC-96, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

### 2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

# VEHICLE SECURITY SYSTEM CANNOT BE SET

## INTELLIGENT KEY

### INTELLIGENT KEY : Description

INFOID:0000000008460589

ARMED phase is not activated when all doors are locked using Intelligent Key.

**NOTE:**

Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

#### CONDITION OF VEHICLE (OPERATING CONDITION)

- “ENGINE START BY I-KEY” setting: ON
  Check the setting of “ENGINE START BY I-KEY” in “Work Support” mode of “INTELLIGENT KEY” of “BCM” using CONSULT.

### INTELLIGENT KEY : Diagnosis Procedure

INFOID:0000000008460590

#### 1.CHECK INTELLIGENT KEY SYSTEM (REMOTE KEYLESS ENTRY FUNCTION)

Lock/unlock door with Intelligent Key.
Refer to DLK-20, "REMOTE KEYLESS ENTRY FUNCTION : System Description".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check Intelligent Key system (remote keyless entry function). Refer to DLK-104, "Diagnosis Procedure".

#### 2.CHECK DOOR SWITCH

Check door switch circuit.
Refer to DLK-55, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning parts. Refer to DLK-55, "Diagnosis Procedure".

#### 3.CHECK TRUNK ROOM LAMP SWITCH

Check trunk room lamp switch circuit.
Refer to DLK-69, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace malfunctioning parts. Refer to DLK-69, "Diagnosis Procedure".

#### 4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

## DOOR REQUEST SWITCH

### DOOR REQUEST SWITCH : Description

INFOID:0000000008460591

ARMED phase is not activated when all doors are locked using door request switch.

**NOTE:**

Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

#### CONDITION OF VEHICLE (OPERATING CONDITION)

- “ENGINE START BY I-KEY” setting: ON
  Check the setting of “ENGINE START BY I-KEY” in “Work Support” mode of “INTELLIGENT KEY” of “BCM” using CONSULT.

## DOOR REQUEST SWITCH : Diagnosis Procedure

INFOID:0000000008460592

### 1.CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)

Lock/unlock door with door request switch.
Refer to DLK-16, "DOOR LOCK FUNCTION : System Description".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check Intelligent Key system (door lock function). Refer to DLK-102, "ALL DOOR : Diagnosis Procedure".

### 2.CHECK DOOR SWITCH

Check door switch circuit.
Refer to DLK-55, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning parts.

### 3.CHECK TRUNK ROOM LAMP SWITCH

Check trunk room lamp switch circuit.
Refer to DLK-69, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace malfunctioning parts.

### 4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

# DOOR KEY CYLINDER

## DOOR KEY CYLINDER : Description

INFOID:0000000008460593

ARMED phase is not activated when all doors are locked using mechanical key.

## DOOR KEY CYLINDER : Diagnosis Procedure

INFOID:0000000008460594

### 1.CHECK POWER DOOR LOCK SYSTEM

Lock/unlock door with mechanical key.
Refer to DLK-13, "System Description".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check power door lock system. Refer to DLK-101, "Diagnosis Procedure".

### 2.CHECK DOOR SWITCH

Check door switch circuit.
Refer to DLK-55, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning parts.

### 3.CHECK TRUNK ROOM LAMP SWITCH

Check trunk room lamp switch circuit.
Refer to DLK-69, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

### 4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

## DOOR LOCK AND UNLOCK SWITCH

## DOOR LOCK AND UNLOCK SWITCH : Description

INFOID:0000000008460595

Armed phase is not activated when all doors are locked by door lock and unlock switch.

**NOTE:**

Check that vehicle is under the condition shown in “CONDITIONS OF VEHICLE (OPERATING CONDITIONS)” before starting diagnosis, and check each symptom.

### CONDITION OF VEHICLE (OPERATING CONDITIONS)

“SECURITY ALARM SET”: ON

Check the setting of “SECURITY ALARM SET” in “Work Support” mode of “THEFT ALM” of “BCM” using CONSULT.

## DOOR LOCK AND UNLOCK SWITCH : Diagnosis Procedure

INFOID:0000000008460596

### 1.CHECK DTC OF SOFT TOP CONTROL UNIT

Check DTC in “Self Diagnostic Result” mode of “CONVERTIBLE ROOF” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis regarding to the detected DTC. Refer to RF-57, "DTC Index".
NO >> GO TO 2.

### 2.CHECK DOOR LOCK FUNCTION

Lock/unlock door using door lock and unlock switches (Driver side and passenger side).
Refer to DLK-13, "System Description".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check power door lock system. Refer to DLK-99, "ALL DOOR : Diagnosis Procedure".

### 3.CHECK DOOR SWITCH

Check door switch circuit.
Refer to DLK-55, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace malfunctioning parts.

### 4.CHECK TRUNK ROOM LAMP SWITCH

Check trunk room lamp switch circuit.
Refer to DLK-69, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace malfunctioning parts.

### 5.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

# VEHICLE SECURITY ALARM DOES NOT ACTIVATE

## Description

INFOID:0000000008460597

Alarm does not operate when alarm operating condition is satisfied.

**NOTE:**

Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

### CONDITION OF VEHICLE (OPERATING CONDITION)

- “ENGINE START BY I-KEY” setting: ON
  Check the setting of “ENGINE START BY I-KEY” in “Work Support” mode of “INTELLIGENT KEY” of “BCM” using CONSULT.

## Diagnosis Procedure

INFOID:0000000008460598

### 1.CHECK DOOR SWITCH

Check door switch.
Refer to DLK-55, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace the malfunctioning door switch. Refer to DLK-55, "Diagnosis Procedure".

### 2.CHECK TRUNK ROOM LAMP SWITCH

Check trunk room lamp switch circuit.
Refer to DLK-69, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning parts.

### 3.CHECK HEADLAMP FUNCTION

Check headlamp function.
Refer to SEC-93, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the malfunctioning parts.

### 4.CHECK HORN FUNCTION

Check horn function. Refer to SEC-94, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the malfunctioning parts.

### 5.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

# INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE

## Description

INFOID:0000000008460599

Intelligent Key insert information does not operate when push-button ignition switch is operated while Intelligent Key is not inside vehicle.

**NOTE:**

Operating conditions of warning function are extremely complicated. Refer to DLK-23, "WARNING FUNCTION : System Description".

## Diagnosis Procedure

INFOID:0000000008460600

### 1.CHECK POWER POSITION

Check if ignition switch position is changing or not.

Does ignition switch position change?

YES >> GO TO 3.
NO >> GO TO 2.

### 2.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.
Refer to PCS-65, "Component Function Check".

Is the inspection result normal?

YES >> Check BCM for DTC. Refer to BCS-55, "DTC Index".
NO >> Repair or replace the malfunctioning parts.

### 3.CHECK DOOR SWITCH

Check door switch.
Refer to DLK-55, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the malfunctioning parts.

### 4.CHECK KEY SLOT

Check key slot.
Refer to DLK-91, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the malfunctioning parts.

### 5.CHECK INFORMATION DISPLAY

Check information display.
Refer to DLK-88, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace the malfunctioning parts.

### 6.CHECK KEY SLOT INDICATOR

Check key slot indicator.
Refer to DLK-93, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace the malfunctioning parts.

### 7.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".

NO >> GO TO 1.

# PANIC ALARM FUNCTION DOES NOT OPERATE

## Description

INFOID:0000000008460601

**NOTE:**
- Before performing the following procedure, check “Work Flow”. Refer to SEC-37, "Work Flow".
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

### CONDITIONS OF VEHICLE (OPERATION CONDITIONS)

- Power supply position: OFF or LOCK
- PANIC ALARM SET: MODE 1
  Check the setting of “PANIC ALARM SET” in “Work Support” mode of “INTELLIGENT KEY” of “BCM” using CONSULT.

## Diagnosis Procedure

INFOID:0000000008460602

### 1.CHECK REMOTE KEYLESS ENTRY FUNCTION

Check remote keyless entry function. Refer to DLK-20, "REMOTE KEYLESS ENTRY FUNCTION : System Description".

Does door lock or unlock when operating Intelligent key button?

YES >> GO TO 2.
NO >> Go to DLK-104, "Diagnosis Procedure".

### 2.CHECK VEHICLE SECURITY ALARM OPERATION

Check vehicle security alarm operation. Refer to SEC-16, "VEHICLE SECURITY SYSTEM : System Description".

Is alarm (headlamps and horns) activated?

YES >> GO TO 3.
NO >> Go to SEC-105, "Diagnosis Procedure".

### 3.CHECK “PANIC ALARM” BUTTON OPERATION

1. Turn ignition switch ON.
2. Select “RKE-PANIC” and “RKE OPE COUN1” in “Data Monitor” mode of “INTELLIGENT KEY” of “BCM” using CONSULT.
3. Check “RKE-PANIC” and “RKE OPE COUN1” indications when pressing (for approximately 0.5 seconds) “PANIC ALARM” button of Intelligent Key.

| Indication | Specification |
|---|---|
| RKE-PANIC | OFF → ON |
| RKE OPE COUN1 | Increases |

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace Intelligent Key.

### 4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

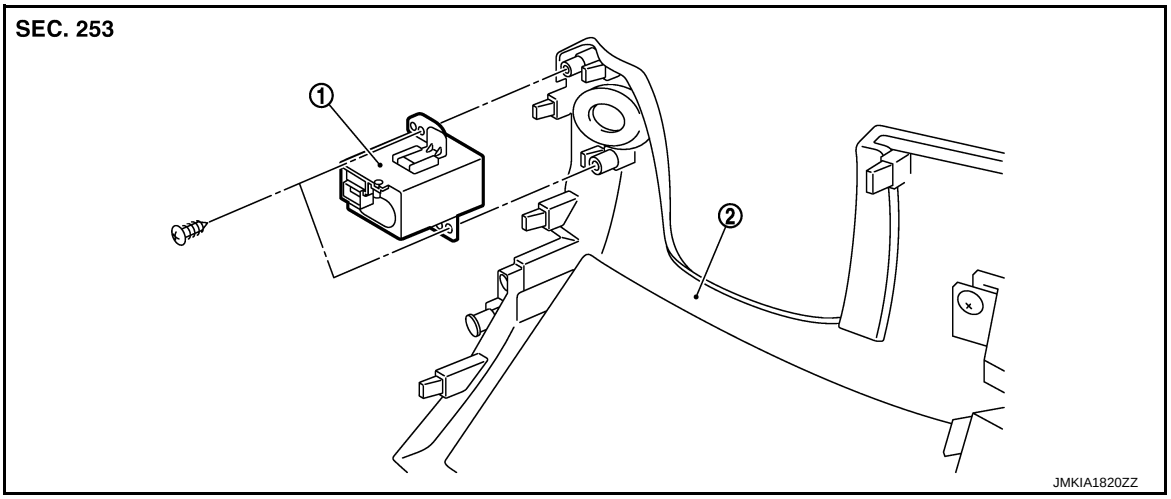
YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

# REMOVAL AND INSTALLATION

## KEY SLOT

### Exploded View

INFOID:0000000008460603



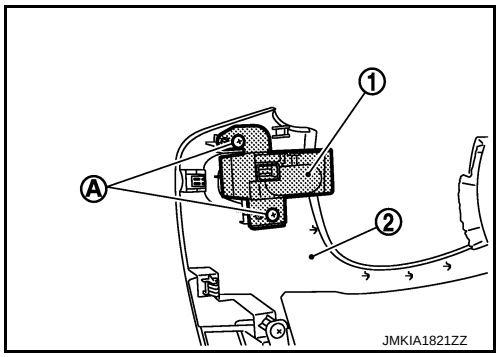

1. Key slot
2. Instrument lower panel LH

### Removal and Installation

INFOID:0000000008460604

REMOVAL

1. Remove the instrument lower panel LH (2). Refer to IP-13, "Removal and Installation".
2. Disconnect key slot connector.
3. Remove the key slot mounting screw (A), and then remove key slot (1) from instrument lower panel LH (2).



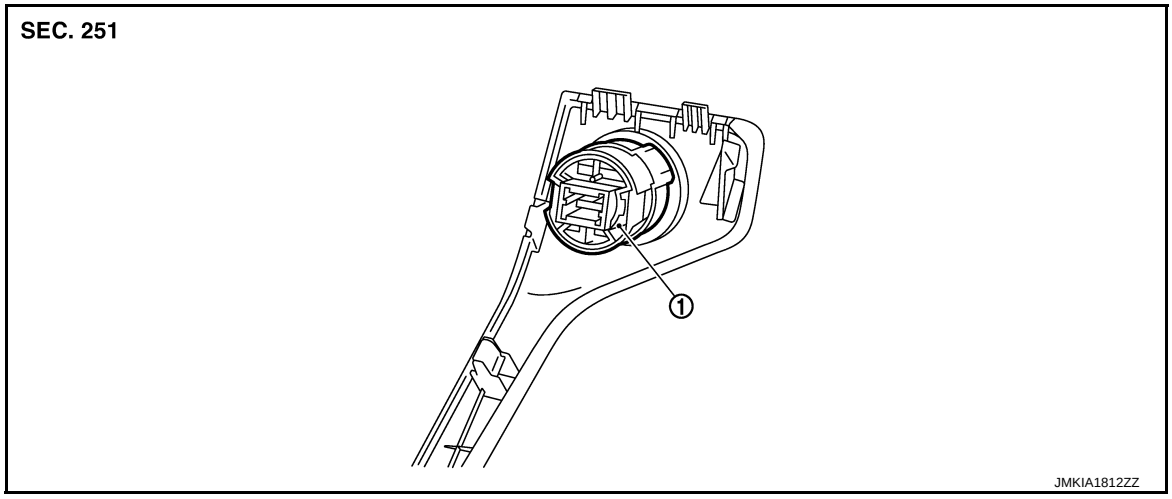

INSTALLATION

Install in the reverse order of removal.

# PUSH-BUTTON IGNITION SWITCH

## Exploded View

INFOID:0000000008460605



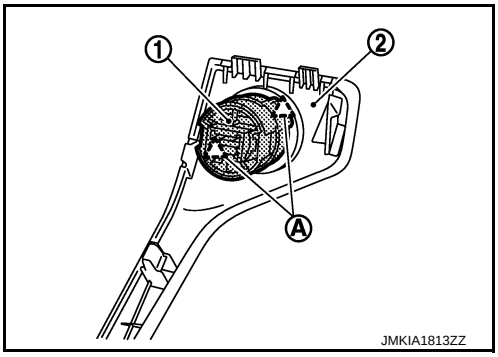

1. Push-button ignition switch

## Removal and Installation

INFOID:0000000008460606

### REMOVAL

1. Remove the instrument stay cover LH. Refer to IP-13, "Removal and Installation".
2. Remove the push-button ignition switch (1) from instrument stay cover LH, after removing pawl (A). Press push-button ignition switch (1) back to disengage from instrument stay cover LH (2).



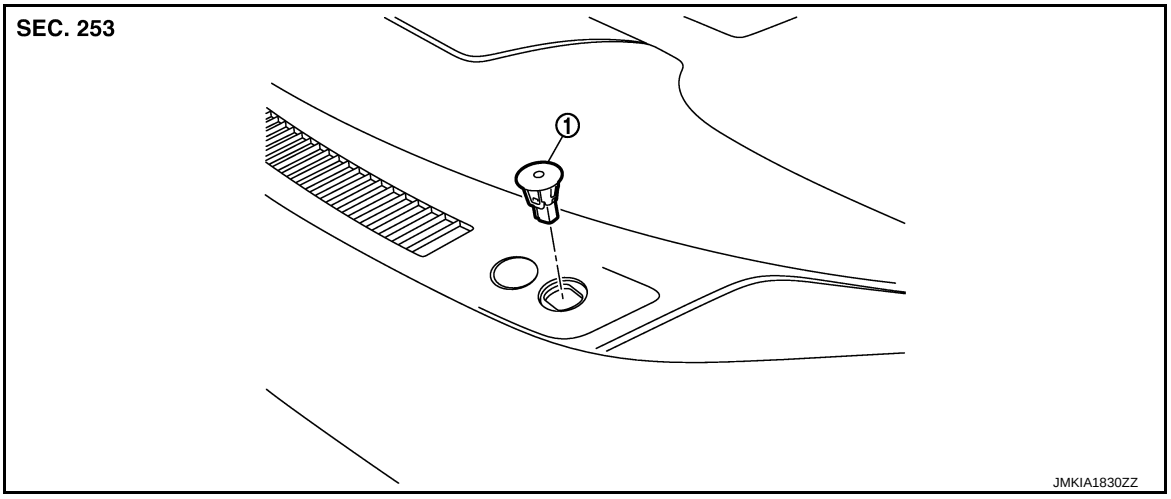

### INSTALLATION

Install in the reverse order of removal.

# SECURITY INDICATOR LAMP

## Exploded View

INFOID:0000000008460607




1. Security indicator lamp

## Removal and Installation

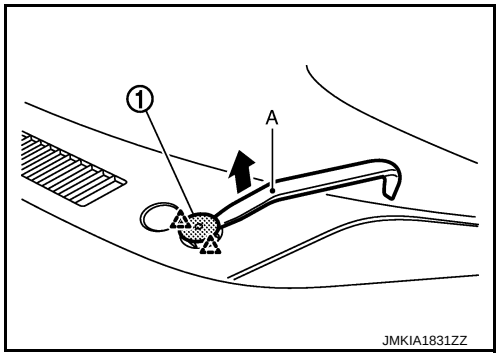
INFOID:0000000008460608

### REMOVAL

Remove the security indicator lamp (1).

- Disengage pawls with remover tool (A) and pull up the security indicator lamp.

: **Pawl**




### INSTALLATION

Install in the reverse order of removal.