SECURITY CONTROL SYSTEM

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WITH INTELLIGENT KEY SYSTEM

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< PRECAUTION > PRECAUTION PRECAUTIONS

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

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:000000007563202

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

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:000000007563204

INFOID:000000007563203

WARNING:

Always observe the following items for preventing accidental activation.

SEC-4

PRECAUTIONS

< PRECAUTION >

[WITH INTELLIGENT KEY SYSTEM]

- 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, A 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.

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< SYSTEM DESCRIPTION > SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000007563205



- 1. Inside key antenna (console) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u>.
- Remote keyless entry receiver (Front side) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u>.
- 7. ECM Refer to <u>EC-15, "ENGINE CON-</u> <u>TROL SYSTEM : Component Parts</u> <u>Location"</u>.
- 10. Security indicator lamp
- 13. Power window main switch (Door lock and unlock switch)
- 16. Front door switch (driver side)

- 2. Push-button ignition switch
- ABS actuator and electric unit (control unit) Refer to <u>BRC-8, "Component Parts</u> <u>Location"</u>.

3.

9.

Key slot

- 8. IPDM E/R Refer to <u>PCS-4, "Component Parts</u> Location".
- 11. Combination meter Refer to <u>MWI-6</u>, "<u>METER SYSTEM</u>: <u>Component Parts Location</u>".
- 14. Front outside handle LH (Outside key antenna)
- 17. Front outside handle LH (Request switch)

- TCM Refer to <u>TM-10, "CVT CONTROL</u> <u>SYSTEM : Component Parts Location"</u>.
- BCM Refer to <u>BCS-4, "BODY CONTROL</u> <u>SYSTEM : Component Parts Loca-</u> <u>tion"</u>.
- 12. Stop lamp switch Refer to <u>EC-15, "ENGINE CON-</u> <u>TROL SYSTEM : Component Parts</u> <u>Location"</u>.
- 15. Front door lock assembly (driver side) (Door key cylinder switch)
- Soft top control unit Refer to <u>RF-9, "Component Parts</u> <u>Location"</u>.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

| 19. | Inside key antenna (trunk room) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u> . | 20. | Remote keyless entry receiver (rear side) Refer to <u>DLK-10. "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u> . | 21. | Trunk lid opener request switch | A |
|-----|--|-----|---|-----|---|---|
| 22. | Trunk lid lock assembly (Trunk room lamp switch) | 23. | Outside key antenna (rear bumper) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u> . | 24. | Trunk key cylinder switch | В |
| 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 (passen- ger side) (Door lock and unlock switch) | | | | | D |
| Α. | Around instrument lower panel LH | В. | Instrument panel assembly | | | _ |
| Com | ponent Description | | | | INFOID:000000007563206 | E |

| Component | Reference | |
|---|--------------|-----|
| ABS actuator and electric unit (control unit) | <u>SEC-7</u> | |
| BCM | SEC-7 | G |
| CVT shift selector (detention switch) | <u>SEC-8</u> | |
| ECM | <u>SEC-8</u> | |
| IPDM E/R | <u>SEC-8</u> | Н |
| ТСМ | <u>SEC-8</u> | |
| Combination meter | <u>SEC-8</u> | |
| Door switch | <u>SEC-8</u> | |
| Inside key antenna | <u>SEC-8</u> | |
| Intelligent Key | <u>SEC-8</u> | J |
| Key slot | <u>SEC-9</u> | _ |
| Push-button ignition switch | <u>SEC-9</u> | SE |
| Remote keyless entry receiver | <u>SEC-9</u> | |
| Security indicator lamp | <u>SEC-9</u> | |
| Soft top control unit | <u>SEC-9</u> | L |
| Starter control relay | <u>SEC-9</u> | |
| Starter relay | <u>SEC-9</u> | NЛ |
| Stop lamp switch | <u>SEC-9</u> | IVI |
| Trunk key cylinder switch | <u>SEC-9</u> | |
| Trunk room lamp switch | <u>SEC-9</u> | Ν |

ABS Actuator and Electric Unit (Control Unit)

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:000000007563208

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INFOID:000000007563207

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.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

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)

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

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

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

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

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

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

Inside Key Antenna

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

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

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[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000007563209

INFOID:000000007563210

INFOID:000000007563211

INFOID:000000007563212

INFOID:000000007563213

INFOID:000000007563214

INFOID:000000007563215

INFOID:000000007563216

COMPONENT PARTS

Carrying the Intelligent Key whose ID is registered in BCM, the driver can performs door lock/unlock operation

[WITH INTELLIGENT KEY SYSTEM]

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:000000007563218 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:000000007563219 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:000000007563220 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

< SYSTEM DESCRIPTION >

Key Slot

and push-button ignition switch operation.

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

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

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

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

Trunk Key Cylinder Switch

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

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.

SEC-9

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INFOID:000000007563222

INFOID:000000007563225

INFOID:000000007563226

2012 Murano CrossCabriolet

INFOID:000000007563217

INFOID:000000007563224

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SYSTEM INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Diagram





INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:000000007563228

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 <u>DLK-15, "INTELLIGENT KEY SYSTEM : System Description"</u> for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

| • TI th be w | he 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 then Intelligent Key is inserted into key slot. If verification result is OK, engine can be started. | А | | |
|-----------------------|--|-----|--|--|
| OP | ERATION WHEN INTELLIGENT KEY IS CARRIED | В | | |
| 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. | С | | |
| 3. | BCM receives the Intelligent Key ID signal via remote keyless entry receiver, and verifies it with the regis- tered 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. | F | | |
| 9. | Battery power is supplied through starter relay and starter control relay to operate starter motor. | | | |
| | 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. | G | | |
| 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.) | Η | | |
| | 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. | I | | |
| *: F TOI | or the engine start condition, refer to "IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUT- N IGNITION SWITCH OPERATION". | J | | |
| OP | ERATION RANGE | | | |
| Eng whe | gine can be started when Intelligent Key is inside the vehicle. However, sometimes engine might not start en Intelligent Key is on instrument panel or in glove box. | SEC | | |
| OP | ERATION WHEN KEY SLOT IS USED | | | |
| Wh der For | en the Intelligent Key battery is discharged, the NVIS (NATS) ID verification between BCM and transpon- (integrated into Intelligent Key) is performed when Intelligent Key is inserted into key slot. details relating to starting the engine using key slot, refer to <u>SEC-13</u> , " <u>NISSAN VEHICLE IMMOBILIZER</u> | L | | |
| <u>513</u> | | M | | |
| IGN TIO | NITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERA- | | | |
| The NO | e ignition switch position can be changed by performing the following operations. | Ν | | |
| • W | /hen an Intelligent Key is within the detection area of inside key antenna, and when it is inserted to the key | | | |
| • W | ot, it is equivalent to the operations below. /hen starting engine. BCM checks the following conditions and then changes the ignition switch position. | 0 | | |
| - B | rake pedal operating condition | | | |
| - S | elector lever position | | | |
| • TI | his models do not have the steering lock system. However, the ignition switch position changes to the | Ρ | | |
| L(ar | OCK position and LOCK indicator illuminates without steering lock operation when the following conditions refulfilled. | | | |
| - ig - Se | elector lever position: P | | | |
| - Ai • O | ny of the following condition is met pening door | | | |

< SYSTEM DESCRIPTION >

- · 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)

| | Engine start/s | Puch button ignition switch | | |
|--|-----------------|---------------------------------|---------------------|--|
| Power supply position | Selector lever | Brake pedal operation condition | operation frequency | |
| $LOCK \rightarrow ACC$ | — | Not depressed | 1 | |
| $LOCK\toACC\toON$ | — | Not depressed | 2 | |
| $LOCK \to ACC \to ON \to OFF$ | — | Not depressed | 3 | |
| $\begin{array}{l} LOCK \to START \\ ACC \to START \\ ON \to START \end{array}$ | P or N position | Depressed | 1 | |
| Engine is running $\rightarrow \text{OFF}$ | — | — | 1 | |

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

| | Engine start/s | Push-button ignition switch | | |
|---|----------------|---------------------------------|--------------------------|--|
| Power supply position | Selector lever | Brake pedal operation condition | operation frequency | |
| Engine is running $\rightarrow ACC$ | _ | — | 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

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:000000007563230

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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 <u>SEC-36. "Work</u> <u>Flow"</u>.
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to <u>EC-116, "Work Procedure"</u>.

PRECAUTIONS FOR KEY REGISTRATION

SEC-13

< SYSTEM DESCRIPTION >

- 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-BUT-TON IGNITION SWITCH OPERATION".

IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERA-TION

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

NOTĚ:

- 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)

| | Engine start/s | Puch button ignition quitab | |
|---------------------------------------|----------------|---------------------------------|---------------------|
| Power supply position | Selector lever | Brake pedal operation condition | operation frequency |
| $LOCK \rightarrow ACC$ | — | Not depressed | 1 |
| $LOCK \rightarrow ACC \rightarrow ON$ | — | Not depressed | 2 |

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

| | Engine start/stop condition | | Ruch button ignition switch | |
|--|-----------------------------|---------------------------------|-----------------------------|---|
| Power supply position | Selector lever | Brake pedal operation condition | operation frequency | A |
| $LOCK\toACC\toON\toOFF$ | — | Not depressed | 3 | R |
| $\begin{array}{l} LOCK \rightarrow START \\ ACC \rightarrow START \\ ON \rightarrow START \end{array}$ | P or N position | Depressed | 1 | D |
| Engine is running $\rightarrow \text{OFF}$ | — | — | 1 | С |

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

| | | | | E |
|---|-----------------------------|---------------------------------|-----------------------------|---|
| | Engine start/stop condition | | Duch button ignition quitch | |
| Power supply position | Selector lever | Brake pedal operation condition | operation frequency | E |
| Engine is running \rightarrow ACC | — | — | Emergency stop operation | |
| Engine stall return operation while driving | N position | Not depressed | 1 | F |

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

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[WITH INTELLIGENT KEY SYSTEM]



VEHICLE SECURITY SYSTEM : System Description

INFOID:000000007563232

- 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.

< SYSTEM DESCRIPTION >

Operation Flow



| No. | System state | Switching condition | | | |
|-----|---------------------------|--|---|---|--|
| 1 | DISARMED to | When all conditions of A and | А | В | |
| _ | PRE-ARMED | fied. | Ignition switch: OFF/LOCK All doors: Closed Trunk lid: Closed | All doors are locked by: Door key cylinder LOCK switch LOCK button of Intelligent Key Door request switch 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 All doors: Closed Trunk lid: Closed | | |
| 3 | ARMED to | When the condition A and | А | В | |
| | ALARM | fied. | Intelligent Key function: Not used | Any door: OpenTrunk lid: Open | |
| 4 | DISARMED to | When all conditions of A and | А | В | |
| | PRE-RESET | fied. | Ignition switch: OFF/LOCK All doors: Closed Trunk lid: Open | All doors are locked by:Door key cylinder LOCK switchLOCK button of Intelligent KeyDoor request switch | |
| 5 | PRE-ARMED to PRE-RESET | When the following condition Trunk lid: Open is satisfied. | | | |
| 6 | ARMED to PRE-RESET | When one of the following conditions is satisfied. | Trunk key cylinder switch: ON Trunk lid opener request switch: Of TRUNK OPEN butter of lettilizer | N Kara ON | |
| 7 | ALARM to PRE-RESET | | IRUNK OPEN button of Intelligent | Key: ON | |
| 8 | PRE-RESET to DISARMED | When one of the following conditions is satisfied. | Ignition switch: ACC/ON/CRANKIN Door key cylinder UNLOCK switch: UNLOCK button of Intelligent Key: Door request switch: ON UNLOCK switch of door lock and u Any door: Open Soft top open permission signal from | G/RUN ON Nlock switch: ON m soft top control unit: ON | |
| 9 | PRE-RESET to | When all conditions of A and | А | В | |
| | PRE-ARMED | condition B are satisfied. | Ignition switch: OFF/LOCKAll doors: Closed | Trunk lid: Closed | |
| 10 | PRE-ARMED to DISARMED | When one of the following conditions is satisfied. | Ignition switch: ACC/ON/CRANKIN Door key cylinder UNLOCK switch: UNLOCK button of Intelligent Key: Door request switch: ON Any door: Open Soft top open permission signal from | G/RUN ON ON | |

[WITH INTELLIGENT KEY SYSTEM]

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< SYSTEM DESCRIPTION >

| No. | System state | | Switching condition |
|-----|----------------------|--|---|
| 11 | ARMED to DISARMED | When one of the following condition is satisfied. | Ignition switch: ACC/ON/CRANKING/RUN Door key cylinder UNLOCK switch: ON |
| 12 | ALARM to DISARMED | | UNLOCK button of Intelligent Key: ON Door request switch: ON |
| 13 | RE-ALARM | When one of the following conditions is satisfied after ALARM operation is finished. | Any door: OpenTrunk 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 <u>DLK-16</u>, "<u>DOOR LOCK FUNCTION</u>: <u>System</u> <u>Description</u>".

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 <u>SEC-97</u>, "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.

< SYSTEM DESCRIPTION >

| 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 | В |
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DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000007829021

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.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 |
|--|---------------------------|----------------|--------------|--------------------|
| Sustam | Sub overam coloction item | Diagnosis mode | | |
| System | Sub system selection item | 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 systemEngine 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.

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

| CONSULT screen item | Indication/Unit | Description A | | |
|---------------------|-----------------|---|--|----|
| 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 | | |
| SLEEP | SLEEP>LOCK | | While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK"*) | В |
| | SLEEP>OFF | - | While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".) | С |
| | LOCK>ACC | | While turning power supply position from "LOCK" to "ACC" | |
| | ACC>ON | | While turning power supply position from "ACC" to "IGN" | D |
| | RUN>ACC | - | While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.) | D |
| | CRANK>RUN | - | While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it) | Е |
| | RUN>URGENT | - | While turning power supply position from "RUN" to "ACC" (Emer- gency stop operation) | _ |
| | ACC>OFF | Power position status of the moment a particular DTC is detected | While turning power supply position from "ACC" to "OFF" | F |
| - | OFF>LOCK | | While turning power supply position from "OFF" to "LOCK"* | |
| Vehicle Condition | OFF>ACC | | While turning power supply position from "OFF" to "ACC" | G |
| | 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 | Н |
| | LOCK>SLEEP | | While turning BCM status from normal mode (Power supply posi- tion 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) | 0 |
| | ENGINE RUN | - | Power supply position is "RUN" (Ignition switch ON with engine running) | SE |
| | 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 The number is 0 when a malfunction is detected now. The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The number is fixed to 39 until the self-diagnosis results are erased if it is over 39 | | L |
| NOTE | I. | | | |

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)

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WORK SUPPORT

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

| 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 • MODE 1: 1 minute • MODE 2: 5 minutes • MODE 3: 30 seconds • 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 MODE 1: 0.5 sec. MODE 2: Non-operation 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 MODE 1: 3 sec. MODE 2: Non-operation MODE 3: 5 sec. |
| TAKE OUT FROM WIN WARN | NOTE: 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 MODE 1: Press and hold MODE 2: Press twice 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 LOCK ONLY: Door lock operation only UNLOCK ONLY: Door unlock operation only LOCK/UNLOCK: Lock/unlock operation 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 Horn chirp: Sound horn Buzzer: Sound Intelligent Key warning buzzer OFF: Non-operation |
| ANS BACK I-KEY UNLOCK | Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode |
| SHORT CRANKING OUTPUT | Starter motor can operate during the times below • 70 msec • 100 msec • 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 <u>BCS-54, "DTC Index"</u>.

DATA MONITOR

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

| 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: This item is displayed, but cannot be monitored |
| REQ SW -RL | NOTE: 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: This item is displayed, but cannot be monitored. |
| CLUCH SW | NOTE: 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: This item is displayed, but cannot be monitored |
| S/L -UNLOCK | NOTE: This item is displayed, but cannot be monitored |
| S/L RELAY -F/B | NOTE: 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 SI |
| 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: This item is displayed, but cannot be monitored |
| S/L UNLK-IPDM | NOTE: This item is displayed, but cannot be monitored |
| S/L RELAY-REQ | NOTE: This item is displayed, but cannot be monitored |
| VEH SPEED 1 | Display the vehicle speed signal received from combination meter by numerical value [Km/h] |
| VEH SPEED 2 | Display the vehicle speed signal received from ABS 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: 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 |

Revision: 2013 February

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

| 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 Intelli- gent Key, the numerical value start changing. |
| RKE OPE COUN2 | When remote keyless entry receiver (rear side) receives the signal transmitted while operating on Intelli- gent 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. 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. 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. Take away warning chime sounds when "TAKE OUT" on CONSULT screen is touched. Key warning chime sounds when "KEY WARN" on CONSULT screen is touched. P position warning chime sounds when "P RNG WARN" on CONSULT screen is touched. 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. 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. "KEY" Warning lamp illuminates when "KEY ON" on CONSULT screen is touched. "KEY" Warning lamp flashes when "KEY IND" on CONSULT screen is touched. |
| INT LAMP | This test is able to check interior room lamp operation. The interior room lamp will be activated after "ON" on CONSULT screen is touched. |
| LCD | This test is able to check meter display information Engine start information displays when "BP N" on CONSULT screen is touched. Engine start information displays when "BP I" on CONSULT screen is touched. Key ID warning displays when "ID NG" on CONSULT screen is touched. ROTAT: This item is displayed, but cannot be tested. P position warning displays when SFT P on CONSULT screen is touched. Intelligent Key insert information displays when "INSRT" on CONSULT screen is touched. Intelligent Key low battery warning displays when "BATT" on CONSULT screen is touched. Take away through window warning displays when "NO KY" on CONSULT screen is touched. Take away warning display when "OUTKEY" on CONSULT screen is touched. OFF position warning display when "LK WN" on CONSULT screen is touched. |
| TRUNK/GLASS HATCH | NOTE: This item is displayed, but cannot be tested. |
| FLASHER | This test is able to check hazard warning lamp operation. The hazard warning lamps will be activated after "ON" on CONSULT screen is touched. |
| HORN | This test is able to check horn operation. 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 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. 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. Indicator in push-button ignition switch illuminates when "ON" on CONSULT screen is touched. |

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000007563235

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

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

| Diagnosis mode | Function Description | F |
|----------------|--|---|
| WORK SUPPORT | Changes the setting for each system function. | - |
| DATA MONITOR | The BCM input/output signals are displayed. | 0 |
| ACTIVE TEST | The signals used to activate each device are forcibly supplied from BCM. | G |

DATA MONITOR

| Monitored Item | Description | |
|----------------|---|------|
| REQ SW -DR | Indicates [ON/OFF] condition of door request switch (driver side). | |
| REQ SW -AS | Indicates [ON/OFF] condition of door request switch (passenger side). | |
| REQ SW -RR | NOTE: This is displayed even when it is not equipped. | |
| REQ SW -RL | NOTE: This is displayed even when it is not equipped. | 0 |
| REQ SW -BD/TR | Indicates [ON/OFF] condition of trunk lid opener request switch. | SEC |
| 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. | L |
| DOOR SW-DR | Indicates [ON/OFF] condition of front door switch LH. | |
| DOOR SW-AS | Indicates [ON/OFF] condition of front door switch RH. | Ь./I |
| DOOR SW-RR | Indicates [ON/OFF] condition of rear door switch RH. | IVI |
| DOOR SW-RL | Indicates [ON/OFF] condition of rear door switch LH. | |
| DOOR SW-BK | NOTE: This is displayed even when it is not equipped. | N |
| 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. | 0 |
| 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. | D |
| KEY CYL SW-TR | Indicates [ON/OFF] condition of trunk key cylinder switch. | — P |
| 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. | |
| 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. | |

Revision: 2013 February

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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:000000007563236

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

| Monitor item | Content |
|---------------|---|
| CONFRM ID ALL | |
| CONFIRM ID4 | |
| CONFIRM ID3 | Switch to [DONE] when a registered Intelligent Key is inserted into the key slot. |
| CONFIRM ID2 | |
| CONFIRM ID1 | |
| TP 4 | |
| TP 3 | Indicates the number of ID which has been registered |
| 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. The lamp will be turned on when "ON" on CONSULT screen touched. |

SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (IPDM E/R) [WITH I

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

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

Monitor item

| Monitor Item [Unit] | MAIN SIG- NALS | Description | G |
|---|-------------------|---|----|
| MOTOR FAN REQ [1/2/3/4] | × | Displays the value of the cooling fan speed request signal received from ECM via CAN communication. | Н |
| 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. | J |
| 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. | βE |
| FR WIP REQ [Stop/1LOW/Low/Hi] | × | Displays the status of the front wiper request signal received from BCM via CAN communication. | L |
| 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. | M |
| IGN RLY1 -REQ [Off/On] | | Displays the status of the ignition switch ON signal received from BCM via CAN communication. | Ν |
| 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. | 0 |
| INTER/NP SW [Off/On] | | Displays the status of the shift position judged by IPDM E/R. | Р |
| 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. | |
| 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. | |

[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000007829022

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

| Monitor Item [Unit] | MAIN SIG- NALS | Description |
|----------------------------------|-------------------|---|
| 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 com- munication. |
| CRNRNG LMP REQ [Off/On] | | NOTE: The item is indicated, but not monitored. |

ACTIVE TEST

Test item

| Test item | Operation | Description |
|------------------|-----------|--|
| CORNERING LAMP | Off | |
| | LH | NOTE: The item is indicated, but cannot be tested. |
| | 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 sec- ond intervals. |
| | Fog | Operates the front fog lamp relay. |

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION ECM, IPDM E/R, BCM

List of ECU Reference

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INFOID:000000007563238

| | ECU | Reference |
|----------|-------------------------------|---|
| ECM | Reference Value | EC-73, "Reference Value" |
| | Fail-safe | EC-87, "Fail-safe" |
| | DTC Inspection Priority Chart | EC-89. "DTC Inspection Priority Chart" |
| | DTC Index | EC-90, "DTC Index" |
| BCM | Reference Value | BCS-31, "Reference Value" |
| | Fail-safe | BCS-53. "Fail-safe" |
| | DTC Inspection Priority Chart | BCS-53, "DTC Inspection Priority Chart" |
| | DTC Index | BCS-54, "DTC Index" |
| IPDM E/R | Reference Value | PCS-15. "Reference Value" |
| | Fail-safe | PCS-21, "Fail-safe" |
| | DTC Index | PCS-23, "DTC Index" |

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

WIRING DIAGRAM INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram

INFOID:000000007563239

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



INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram

INFOID:000000007563240

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



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



< WIRING DIAGRAM >

VEHICLE SECURITY SYSTEM

Wiring Diagram

INFOID:000000007563241

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





Revision: 2013 February

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000007827558

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

Revision: 2013 February
DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

| 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). Check operation condition of the function that is malfunctioning |
| |
| >> GO TO 2. |
| 2. снеск дтс |
| 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 not described. DTC is detected>>GO TO 4. |
| 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. |
| |
| |
| |
| 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 <u>BCS-53, "DTC Inspection Priority Chart"</u> (BCM), and determine trouble diagnostic 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 CONFIR- |
| MATION PROCEDURE. |
| IS DIC detected? |
| NO >> Refer to GI-40 "Intermittent Incident" |
| 6 DETECT MALEUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS |
| Detect malfunctioning outer according to SYMPTOM DIACNOSIS based on the confirmed symptom in sten |
| 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 CON- |
| SULI. |

 $7. {\tt DETECT} {\tt MALFUNCTIONING} {\tt PART} {\tt BY} {\tt DIAGNOSIS} {\tt PROCEDURE}$

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to <u>GI-40, "Intermittent Incident"</u>.

 $\mathbf{8}$. Repair or Replace the Malfunctioning Part

- 1. Repair or replace the malfunctioning part.
- 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 BASIC INSPECTION > [WITH INTELLIGENT KEY SYSTEM]

| < BASIC INSPECTION > [WITH INTELEBENT RET STOTEIN] | |
|--|--------|
| ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT ECM | /- |
| ECM : Description | - |
| 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. | E |
| When the replaced ECM is not a brand new, the specified procedure (Initialization and registration) using CONSULT is necessary. | Γ |
| 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 | E |
| 1.PERFORM ECM RECOMMUNICATING FUNCTION | c |
| Install ECM. 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. Maintain ignition switch in the ON position for at least 5 seconds. | Г (|
| Turn power supply position to OFF. Check that the engine starts. | ŀ |
| >> GO TO 2. | 1 |
| 2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM | |
| renomination in procedule, <u>LC-110, Work Procedule</u> . | |
| >> END BCM | , |
| BCM : Description | SI |
| BEFORE REPLACEMENT When replacing BCM, save or print current vehicle specification with CONSULT configuration before replace- ment. | l |
| If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing BCM. | N |
| AFTER REPLACEMENT CAUTION: When replacing BCM, always perform "WRITE CONFIGURATION" with CONSULT. Or not doing so, | 1 |
| 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. | (|
| When replacing BCM, perform the system initialization (NATS) (if equipped). | |
| BCM : Work Procedure | |
| 1.SAVING VEHICLE SPECIFICATION | |

CONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to <u>BCS-62</u>, "<u>Description</u>".

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

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 <u>BCS-76, "Removal and Installation"</u>.

>> 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 <u>BCS-62, "Work Procedure"</u>.

>> GO TO 4.

4.INITIALIZE BCM (NATS) (IF EQUIPPED)

Perform BCM initialization. (NATS)

>> WORK END

[WITH INTELLIGENT KEY SYSTEM]

DTC/CIRCUIT DIAGNOSIS А P1610 LOCK MODE Description INFOID:000000007563247 В 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:000000007563248 D DTC DETECTION LOGIC NOTE: Ε If DTC P1610 is displayed with other DTC (for BCM or ENGINE), first perform the trouble diagnosis for other DTC. DTC No. F Trouble diagnosis name DTC detecting condition Possible cause When the starting operation is carried out 5 times or more consecutively under the following conditions. P1610 LOCK MODE Unregistered Intelligent Key · BCM or ECM is malfunctioning. DTC CONFIRMATION PROCEDURE Н **1.**PERFORM DTC CONFIRMATION PROCEDURE Turn ignition switch ON. 1. Check DTC in "Self Diagnostic Result" mode of "BCM" and "ENGINE" using CONSULT. 2. Is DTC detected? YES >> Go to SEC-41, "Diagnosis Procedure". NO >> INSPECTION END Diagnosis Procedure INFOID:000000007563249 1. CHECK ENGINE START FUNCTION SEC Check that DTC except for DTC P1610 is not detected. 1. If detected, erase DTC after fixing. L 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

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P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000007563250

INFOID:000000007563251

[WITH INTELLIGENT KEY SYSTEM]

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 • 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 <u>SEC-42, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

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-42, "DTC Logic".

Is DTC detected

YES >> GO TO 3.

NO >> INSPECTION END

3.REPLACE BCM

1. Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.

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-445, "Removal and Installation".

>> INSPECTION END

P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

P1612 CHAIN OF ECM-IMMU

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000 (BCM), first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010 (BCM), first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "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.) BCM ECM |
| TC CON | FIRMATION PROCED | URE | · |
| .PERFO | RM DTC CONFIRMATIC | N PROCEDURE | |
| . Turn ig | nition switch ON. | | |
| DTC det | ected? | Result mode of "ENGINE" using C | UNSULI. |
| YES >> | Go to <u>SEC-43. "Diagno</u> | sis Procedure". | |
| NO >> | NSPECTION END | | |
| nagnosi | s Procedure | | INFOID:00000007563253 |
| REPLAC | CE BCM | | |
| Replac Perforr | e BCM. Refer to <u>BCS-76</u> minitialization of BCM ar | 6. "Removal and Installation". Ind registration of all Intelligent Keys | susing CONSULT. |
| an the sys | stem be initialized and ca | an the engine be started with regist | ered Intelligent Key? |
| YES >> | NSPECTION END | | |
| .REPLAC | CE ECM | | |
| eplace EC | CM. Refer to <u>EC-445, "R</u> | emoval and Installation". | |
| | | | |
| >> | NSPECTION END | | |
| | | | |
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P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT DIAGNOSIS >

P1614 CHAIN OF IMMU-KEY

DTC Logic

INFOID:000000007563254

[WITH INTELLIGENT KEY SYSTEM]

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.) Key slot BCM |
| DTC CONF | IRMATION PROCEDU | RE | |
| 1.PERFOR | M DTC CONFIRMATION | PROCEDURE 1 | |
| 1. Insert Int 2. Check D | telligent Key into key slot. TC in "Self Diagnostic Re | esult" mode of "ENGINE" using | CONSULT. |
| Is DTC detec | cted? | - | |
| YES >> (| Go to <u>SEC-44, "Diagnosis</u> | <u>Procedure"</u> . | |
| 2 PERFOR | GO TO 2. M DTC CONFIRMATION | | |
| | | | |
| 2. Check D | TC in "Self Diagnostic Re | esult" mode of "ENGINE" using | CONSULT. |
| Is DTC detec | cted? | | |
| YES >> (| Go to <u>SEC-44, "Diagnosis</u> | <u>Procedure"</u> . | |
| | Droooduro | | |
| Diagnosis | FIOCEDUIE | | INFOID:00000007563255 |
| 1. INSPEC ⁻ | TION START | | |
| Perform insp | ection in accordance with | procedure that confirms DTC. | |
| Which proce | dure confirms DTC? | - / | |
| DTC CONF | IRMATION PROCEDURI | = 1>>GO TO 2. = 2>>GO TO 6 | |
| 2.CHECK F | PUSH-BUTTON IGNITION | N SWITCH OPERATION | |
| Press push-ł | outton ignition switch and | check if it turns ON | |
| Does ignition | switch turn ON? | | |
| YES >> (| GO TO 3. | | |
| NO >> (| GO TO 5. | | |
| 3. CHECK K | KEY SLOT COMMUNICA | TION SIGNAL | |
| Turn igni Disconne Check version | ition switch OFF. ect key slot connector. oltage between key slot h | arness connector and ground | |
| | | | |
| | (+) | | Voltage (V) |
| | Key slot | | (Approx.) |
| C | Moo | | nd Datter valtage |
| | IVIBB | 3 Grou | Battery voltage |

Is the inspection result normal?

YES >> Replace key slot. Refer to <u>SEC-108, "Removal and Installation"</u>.

NO >> GO TO 4.

4. CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

P1614 CHAIN OF IMMU-KEY [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

1. Disconnect BCM connector.

| | etween key slot hame | | Civi namess connec | |
|---|---|---------------------|--------------------|--------------------------|
| Key | v slot | E | BCM | Continuity |
| Connector | Terminal | Connector | Terminal | – 5.00 – |
| M99 Chook continuity h | 3 Stwaan kay alat barna | M122 | 81 | Existed |
| Check continuity be | etween key slot name | ss connector and gi | iouna. | |
| | Key slot | | | Continuity |
| Connector | Termina | Terminal Gro | | Continuity |
| M99 | 3 | | | Not existed |
| the inspection result (ES >> GO TO 8. NO >> Repair or re .CHECK KEY SLOT | <u>normal?</u> eplace harness or cor GROUND CIRCUIT | nector. | | |
| Turn ignition switch Disconnect key slo Check continuity be | i OFF. t connector. etween key slot harne | ss connector and g | round. | |
| | Key slot | | Orrest | Continuity |
| Connector | Iermina | | Ground | Eviated |
| 10199 | 1 | | | Existed |
| Disconnect key slo Check voltage betv | t connector. veen key slot harness | connector and grou | und. | |
| | (+) | | | |
| | Key slot | | () | Voltage (V) (Approx.) |
| Connector | Termina | I | | |
| M99 | 2 | | Ground | Battery voltage |
| the inspection result YES >> Replace ke NO >> GO TO 7. | normal? y slot. Refer to <u>SEC-1</u> | 108, "Removal and I | Installation". | |
| Disconnect BCM continuity be | onnector. etween key slot harne | ss connector and B | CM harness connec | tor. |
| Key | ' slot | E | BCM | Continuity |
| Connector | Terminal | Connector | Terminal | Continuity |
| M99 | 2 | M122 | 80 | Existed |
| Check continuity be | etween key slot harne | ss connector and g | round. | |
| | Key slot | | | Continuity |
| Connector | Termina | l | Ground | , |

M99 Is the inspection result normal? 2

Not existed

< DTC/CIRCUIT DIAGNOSIS >

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/CIRCUIT DIAGNOSIS >

P1615 DIFFRENCE OF KEY

DTC Logic

INFOID:000000007563256

DTC DETECTION LOGIC В DTC No. Trouble diagnosis name DTC detecting condition Possible cause The ID verification result between BCM and P1615 DIFFERENCE OF KEY Intelligent Key Intelligent Key is NG. DTC CONFIRMATION PROCEDURE D 1.PERFORM DTC CONFIRMATION PROCEDURE Press push-button ignition switch. 1. Е Check DTC in "Self Diagnostic Result" mode of "ENGINE" using CONSULT. 2. Is DTC detected? >> Go to SEC-47, "Diagnosis Procedure". YES F >> INSPECTION END NO **Diagnosis** Procedure INFOID:000000007563257 **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? Н YES >> INSPECTION END NO >> GO TO 2. 2.REPLACE INTELLIGENT KEY Replace Intelligent Key. 1. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. 2. Can the system be initialized and can the engine be started with registered Intelligent Key? >> INSPECTION END YES NO >> GO TO 3. SEC 3. CHECK INTERMITTENT INCIDENT Refer to GI-40, "Intermittent Incident". >> INSPECTION END Μ Ν

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[WITH INTELLIGENT KEY SYSTEM]

B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

B2190 NATS ANTENNA AMP.

DTC Logic

INFOID:000000007563258

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

| DTC No. | Trouble diagnos | is name | DTC detec | ting condition | Possible cause |
|---|---------------------------|-------------------------|-------------------------------|---------------------|---|
| B2190 | NATS ANTENNA A | MP | Inactive commun slot and BCM. | ication between key | Harness or connectors (The key slot circuit is open or shorted.) Key slot BCM |
| DTC CONF | IRMATION PRO | CEDUR | E | | |
| 1.PERFOR | | MATION F | ROCEDURE 1 | | |
| 1 Insert In | telligent Key into I | kev slot | | | |
| 2. Check D | TC in "Self Diagn | iostic Res | ult" mode of "B | CM" using CONS | ULT. |
| Is DTC detec | <u>sted?</u> | | | | |
| YES >> (| Go to <u>SEC-48, "D</u> | iagnosis I | Procedure". | | |
| | JU IU 2. M DTC CONEIDA | | | | |
| | | | ROCEDURE 2 | | |
| Press pt Check D | TC in "Self Diagn | i switch. Iostic Res | ult" mode of "B | CM" usina CONS | ULT. |
| Is DTC detec | <u>ted?</u> | | | 5 | |
| YES >> 0 | Go to <u>SEC-48, "D</u> | iagnosis I | Procedure". | | |
| NO >> I | NSPECTION EN | D | | | |
| Diagnosis | Procedure | | | | INFOID:00000000756325 |
| 1. INSPEC | TION START | | | | |
| Perform insp | ection in accorda | nce with p | procedure that o | onfirms DTC. | |
| Which proce | dure confirms DT | <u>C?</u> | | | |
| DTC CONF | IRMATION PROC | CEDURE | 1>>GO TO 2. | | |
| | | | 2>>GO 10 6. | | |
| | USH-BUTTON IC | JNITION | SWITCH OPER | | |
| Press push-t | outton ignition swi | itch and c | heck if it turns (| DN. | |
| | | | | | |
| NO >> (| GO TO 5. | | | | |
| 3. CHECK P | EY SLOT COMM | IUNICATI | ON SIGNAL | | |
| 1. Turn ian | tion switch OFF. | | | | |
| 2. Disconn | ect key slot conne | ector. | | | |
| 3. Check v | oltage between ke | ey slot ha | rness connecto | r and ground. | |
| | (+) | 1 | | | |
| | Key s | slot | | (–) | Voltage (V) |
| С | onnector | Т | erminal | | (//pp/0x.) |
| | M99 | | 3 | Ground | Battery voltage |
| | | | | | |

Is the inspection result normal?

YES >> Replace key slot. Refer to <u>SEC-108, "Removal and Installation"</u>.

NO >> GO TO 4.

4. CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

1. Disconnect BCM connector.

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

| | let | | PCM | |
|--|--|--|--|---|
| Connector | Torminal | Connector | BCM Terminal | Continuity |
| M99 | 3 | M122 | 81 | Existed |
| Check continuity bet | ween key slot harne | ess connector and g | pround. | Existed |
| | Key slot | | | Quatianity |
| Connector | Termina | al | Ground | Continuity |
| M99 | 3 | | | Not existed |
| the inspection result no (ES >> GO TO 8. NO >> Repair or rep .CHECK KEY SLOT G | <u>prmal?</u> place harness or con ROUND CIRCUIT | nnector. | | |
| Disconnect key slot Check continuity bet | orr. connector. ween key slot harne | ess connector and g | round. | |
| Connector | Key slot Termina | al | Ground | Continuity |
| M99 | 7 | | | Existed |
| Check voltage betwe | en key slot harness | s connector and gro | und | |
| | | I | | |
| | (+) | | | Voltage (V) |
| | (+) Key slot | | (-) | Voltage (V) (Approx.) |
| Connector | (+) Key slot Termina | al | (-) | Voltage (V) (Approx.) |
| Connector M99 the inspection result no YES >> Replace key NO >> GO TO 7. CHECK KEY SLOT C | (+) Key slot Termina 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | al 108, "Removal and | (-) Ground Installation". | Voltage (V) (Approx.) Battery voltage |
| Connector M99 the inspection result no YES >> Replace key NO >> GO TO 7. CHECK KEY SLOT C Disconnect BCM cor Check continuity bet | (+) Key slot Termina 2 2 2 2 2 2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 | al 108, "Removal and ess connector and E | (-) Ground Installation". 3CM harness connect | Voltage (V) (Approx.) Battery voltage |
| Connector M99 the inspection result no YES >> Replace key NO >> GO TO 7. CHECK KEY SLOT C Disconnect BCM cor Check continuity bet | (+) Key slot Termina 2 2 2 2 2 2 2 2 2 2 2 2 2 | al 108, "Removal and ess connector and E | (-) Ground Installation". 3CM harness connection | Voltage (V) (Approx.) Battery voltage |
| Connector M99 the inspection result no (ES >> Replace key NO >> GO TO 7. CHECK KEY SLOT C Disconnect BCM cor Check continuity bet Key s Connector | (+) Key slot Termina 2 2 2 2 2 2 2 2 2 2 2 2 2 | al 108, "Removal and ess connector and E Connector | (-) Ground Installation". BCM harness connect BCM | Voltage (V) (Approx.) Battery voltage |
| Connector M99 the inspection result new YES >> Replace key NO >> GO TO 7. CHECK KEY SLOT C Disconnect BCM cor Check continuity bet Key s Connector M99 Check continuity bet | (+) Key slot Termina 2 2 2 2 2 2 3 5 5 5 5 5 5 5 5 5 5 5 5 5 | al 108, "Removal and ess connector and E Connector M122 ess connector and g | (-) Ground Installation". BCM harness connect BCM Terminal 80 ground. | Voltage (V) (Approx.) Battery voltage |
| Connector M99 Sthe inspection result no YES >> Replace key NO >> GO TO 7. CHECK KEY SLOT C Disconnect BCM cor Check continuity bet Key s Connector M99 Check continuity bet | (+) Key slot Termina 2 2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 | al 108, "Removal and ess connector and E Connector M122 ess connector and g | (-) Ground Installation". BCM BCM Terminal 80 ground. | Voltage (V) (Approx.) Battery voltage |
| Connector M99 the inspection result new YES >> Replace key NO >> GO TO 7. CHECK KEY SLOT C Disconnect BCM cor Check continuity bet Key s Connector M99 Check continuity bet Connector M99 Check continuity bet | (+) Key slot Termina 2 Drmal? slot. Refer to SEC- IRCUIT Inector. ween key slot harne lot Terminal 2 ween key slot harne Key slot harne Key slot Terminal Terminal | al 108, "Removal and ess connector and E Connector M122 ess connector and g al | (-) Ground Installation". BCM harness connect BCM Terminal 80 ground. Ground | Voltage (V) (Approx.) Battery voltage |

Is the inspection result normal?



< DTC/CIRCUIT DIAGNOSIS >

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/CIRCUIT DIAGNOSIS >

B2191 DIFFERENCE OF KEY

DTC Logic

INFOID:000000007563260

DTC DETECTION LOGIC В DTC No. Trouble diagnosis name DTC detecting condition Possible cause The ID verification result between BCM and DIFFERENCE OF KEY B2191 Intelligent Key Intelligent Key is NG. DTC CONFIRMATION PROCEDURE D 1.PERFORM DTC CONFIRMATION PROCEDURE Press push-button ignition switch. 1. Е 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT. Is DTC detected? >> Go to SEC-51, "Diagnosis Procedure". YES F >> INSPECTION END NO Diagnosis Procedure INFOID:000000007563261 **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? Н YES >> INSPECTION END NO >> GO TO 2. 2.REPLACE INTELLIGENT KEY Replace Intelligent Key. 1. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. 2. Can the system be initialized and can the engine be started with registered Intelligent Key? YES >> INSPECTION END NO >> GO TO 3. SEC 3. CHECK INTERMITTENT INCIDENT Refer to GI-40, "Intermittent Incident". >> INSPECTION END Μ Ν

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[WITH INTELLIGENT KEY SYSTEM]

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B2192 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000007563262

INFOID:000000007563263

[WITH INTELLIGENT KEY SYSTEM]

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 • 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 <u>SEC-52, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

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-76, "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-445, "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/CIRCUIT DIAGNOSIS >

B2193 CHAIN OF ECM-IMMU

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "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.) BCM ECM |
| DT | | RMATION PROCEDUR | RE | |
| 1. | PERFORM | DTC CONFIRMATION F | PROCEDURE | |
| 1. 2. <u>Is D</u> | Turn igniti Check DT TC detect | on switch ON. C in "Self Diagnostic Res ed? | sult" mode of "BCM" using CONSUL | _T. |
| YE NC | S >> G) >> IN | o to <u>SEC-53, "Diagnosis</u> ISPECTION END | Procedure". | |
| Dia | ignosis F | Procedure | | INF01D:00000007563265 |
| 1 .F | REPLACE | BCM | | |
| 1. 2. | Replace E Perform ir | BCM. Refer to <u>BCS-76, "F</u> nitialization of BCM and r | Removal and Installation". egistration of all Intelligent Keys usi | ng CONSULT. |
| <u>Car</u> | the system | m be initialized and can t | he engine be started with registered | d Intelligent Key? |
| YE | S >> IN) >> G | ISPECTION END | | |
| 2. F | REPLACE | ECM | | |
| Rep | lace ECM | . Refer to EC-445, "Remo | oval and Installation". | |
| | >> IN | ISPECTION END | | |

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[WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000007563264

B2195 ANTI-SCANNING

DTC Logic

INFOID:000000007563266

INFOID:000000007563267

[WITH INTELLIGENT KEY SYSTEM]

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 <u>SEC-54, "Diagnosis Procedure"</u>.

NO >> INSPECTION END.

Diagnosis Procedure

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-54, "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 <u>BCS-76, "Removal and Installation"</u>.

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-54, "DTC Logic".

Is DTC B2195 detected?

- YES >> Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.
- NO >> INSPECTION END

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

B2555 STOP LAMP

DTC Logic

INFOID:000000007563268

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[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

| | riouble diagnosis name | DIC detecting of | condition | Possible cause |
|---|--|---|---|--|
| B2555 | STOP LAMP | BCM makes a compariso upper voltage and lower lamp switch. It judges fro detect the malfunctioning | on between the voltage of stop on their values to g circuit. | Harness or connectors (Stop lamp switch circuit is open or shorted.) Stop lamp switch Fuse |
| TC CONFIR | MATION PROCEDU | RE | | |
| .PERFORM | DTC CONFIRMATION | PROCEDURE | | |
| Depress b Check DT DTC detecte YES >> Go | rake pedal and wait at le C in "Self Diagnostic Re ed? to <u>SEC-55, "Diagnosis</u> | east 1 second. esult" mode of "BCM" u <u>s Procedure"</u> . | using CONSUL | Τ. |
| NO >> IN | SPECTION END | | | |
| hagnosis F | rocedure | | | INFOID:000000007 |
| .CHECK ST | OP LAMP SWITCH INP | PUT SIGNAL 1 | | |
| Turn ignition Disconnect Check volt | on switch OFF. et BCM connector. age between BCM harr | ness connector and gr | ound. | |
| | (+) | | | Voltage (V) |
| | BCM | | (_) | voltage (v) |
| | BCIM | T | () | (Approx.) |
| Cor | | Terminal | Ground | (Approx.) |
| Cor N the inspectic | Inector I123 In normal? | Terminal 116 | Ground | (Approx.) Battery voltage |
| Cor S the inspection YES >> GO NO-1 >> Ch NO-2 >> Ch CHECK ST | Dominector 1123 D TO 2. D TO 2. Deck 10 A fuse [No. 7, lo Deck harness for open o OP LAMP SWITCH PO | Terminal 116 Decated in the fuse block r short between BCM WER SUPPLY CIRCU | Ground Sk (J/B)]. and fuse. JIT | (Approx.) |
| Cor M the inspectic YES >> G(NO-1 >> Cr NO-2 >> Cr CHECK ST Disconnec Check volt | Dominector 1123 D TO 2. D TO 2. Deck 10 A fuse [No. 7, lo Deck harness for open o OP LAMP SWITCH PO et stop lamp switch conn tage between stop lamp | Terminal 116 Decated in the fuse block r short between BCM WER SUPPLY CIRCU Dector. b harness connector an | Ground ck (J/B)]. and fuse. JIT nd ground. | (Approx.) |
| Cor M the inspectic YES >> G(NO-1 >> Cr NO-2 >> Cr CHECK ST Disconnec Check volt | DITECT | Terminal 116 Display the fuse block or short between BCM WER SUPPLY CIRCU Display to the fuse block the | Ground ck (J/B)]. and fuse. JIT nd ground. | (Approx.) Battery voltage |
| Cor M the inspection YES >> GO NO-1 >> Ch NO-2 >> Ch CHECK ST Disconnect Disconnect Check volt | DIRECTOR DIRECT | Terminal 116 Decated in the fuse block r short between BCM WER SUPPLY CIRCU Dector. harness connector and Terminal | Ground ck (J/B)]. and fuse. JIT nd ground. | (Approx.) Battery voltage |
| Cor S the inspection YES >> GO NO-1 >> Ch NO-2 >> Ch CHECK ST Disconnect Disconnect Check volt | Inector I123 on normal? D TO 2. neck 10 A fuse [No. 7, logen of the construction of the construct | Terminal 116 Decated in the fuse block r short between BCM WER SUPPLY CIRCU Dector. Dector. Dector. Terminal 1 | Ground ck (J/B)]. and fuse. JIT nd ground. (-) | (Approx.) Battery voltage |

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

| (| +) CM | (-) | Condition | | (–) Condition | | Voltage (V) (Approx.) |
|-----------|----------|--------|-------------|---------------|-----------------|--|--------------------------|
| Connector | Terminal | | | | | | |
| M122 | 118 | Cround | Brake pedal | Depressed | Battery voltage | | |
| 111123 | | Ground | | Not depressed | 0 | | |

Is the inspecting result normal?

YES >> GO TO 4.

NO >> GO TO 5.

4.REPLACE BCM

1. Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.

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

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

| Stop lan | np switch | | Continuity | |
|-----------|-----------|--------|-------------|--|
| Connector | Terminal | Ground | Continuity | |
| 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-56, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace stop lamp switch. Refer to <u>BR-18, "Removal and Installation"</u>.

7. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

1.CHECK STOP LAMP SWITCH

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

INFOID:000000007563270

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| | Stop larr | np switch | Condition | | Continuity |
|-----------|-------------------------|-------------------------------|-----------------------------|-------------------------|-------------|
| | Tern | ninal | | Condition | |
| | 1 | 2 | Broko podol | Not depressed | Not existed |
| | 1 | 2 | biake pedai | Depressed | Existed |
| ls the ir | spection resu | ult normal? | | | |
| YES NO | >> INSPEC >> Replace | TION END stop lamp switch. | Refer to <u>BR-18, "Rem</u> | oval and Installation". | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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B2556 PUSH-BUTTON IGNITION SWITCH DSIS S [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:000000007563271

INFOID:000000007563272

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.) Push-button ignition switch 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-58. "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

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.

| (| (+) Push-button ignition switch Connector Terminal | | | |
|-------------|--|--------|--------------------------|--|
| Push-button | | | Voltage (V) (Approx.) | |
| Connector | | | | |
| 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 | Push-button ignition switch | | СМ | Continuity |
|-------------|-----------------------------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal | Continuity |
| M101 | 4 | M121 | 60 | Existed |

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

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

Is the inspection normal?

YES >> Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.

NO >> Repair or replace harness or connector.

B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3.CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

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

| Push-buttor | ignition switch | | Continuity |
|--|------------------------------|---------------------------------|-----------------------|
| Connector | Terminal | Ground | Continuity |
| M101 | 1 | _ | Existed |
| Is the inspection normal? | | | |
| YES >> GO TO 4. | | | |
| NO >> Repair or replace | ce harness or connector. | | |
| 4.CHECK PUSH-BUTTON | I IGNITION SWITCH | | |
| Refer to SEC-59, "Component | ent Inspection". | | |
| Is the inspection normal? | | | |
| YES >> GO TO 5. | | | |
| NO >> Replace push-b | outton ignition switch. Refe | r to <u>SEC-109, "Removal a</u> | nd Installation". |
| 5. CHECK INTERMITTENT | INCIDENT | | |
| Refer to GI-40, "Intermittent | t Incident". | | |
| | | | |
| >> INSPECTION E | END | | |
| Component Inspectio | n | | INFOID:00000007563273 |
| 4 | | | |
| 1. CHECK PUSH-BUTTON | I IGNITION SWITCH | | |
| 1. Turn ignition switch OF | F. | | |
| Disconnect push-buttor | n ignition switch connector. | | |

3. Check continuity between push-button ignition switch terminals.

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace push-button ignition switch. Refer to <u>SEC-109, "Removal and Installation"</u>.

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< DTC/CIRCUIT DIAGNOSIS >

B2557 VEHICLE SPEED

DTC Logic

INFOID:000000007563274

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

| 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 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.) Combination meter 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 <u>SEC-60. "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007563275

1.CHECK DTC OF "ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)"

Check DTC in "Self Diagnostic Result" mode of "ABS" using CONSULT. Refer to <u>BRC-24, "DTC No. Index"</u>. 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 <u>MWI-31, "DTC Index"</u>.

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/CIRCUIT DIAGNOSIS >

B2560 STARTER CONTROL RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

| - | DTC No. | Trouble diagnosis name | DTC detecting condition | Possible causes | D |
|---------------------|------------------------|--|---|--|-----|
| _ | 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.) IPDM E/R | E |
| D ⁻ 1 | | | RE | | F |
| 1 | Turn ion | | | | |
| 1. 2. | Check D | DTC in "Self Diagnostic Re | 2 seconds of more. esult" mode of "BCM" using CONSL | JLT. | G |
| ls | DTC dete | cted? | | | |
|) | (ES >> | Go to <u>SEC-61, "Diagnosi</u> INSPECTION END | <u>s Procedure"</u> . | | Н |
| D | iagnosis | Procedure | | INEC/ID-00000007562277 | |
| 1 | .CHECK [| DTC OF IPDM E/R | | 114-012-000000007303277 | I |
| CI Is | heck DTC the inspec | in "Self Diagnostic Result <u>xtion result normal?</u> GO TO 2 | " mode of "IPDM E/R" using CONS | ULT. Refer to <u>PCS-23, "DTC_Index"</u> . | J |
| ١ | NO >> | Replace IPDM E/R. Refe | r to PCS-31, "Removal and Installat | <u>tion"</u> . | |
| 2 | .CHECK I | NTERMITTENT INCIDEN | ΙT | | SE |
| R | efer to <u>GI-</u> | 40, "Intermittent Incident" | | | |
| | | | | | L |
| | >> | | | | |
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INFOID:000000007563276

< DTC/CIRCUIT DIAGNOSIS >

B2601 SHIFT POSITION

DTC Logic

INFOID:000000007563278

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65. "DTC Logic".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|---|--|
| B2601 | SHIFT POSITION | BCM detects a difference between the P posi- tion 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.) Harness or connectors [CVT shift selector (detention switch) circuit is open or shorted.] 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 <u>SEC-62</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007563279

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.

| (CVT shift selector | +) · (detention switch) | (-) | Voltage (V) (Approx.) | |
|-------------------------|----------------------------|--------|--------------------------|--|
| 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.
- Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector.

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

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

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| CVT shift select | or (detention switch) | | | | | |
|---|--|---|---|----------------|------------------------------|-----------------|
| Connector | Termin | al | Gro | ound | Continui | ity |
| M57 | 8 | | | | Not exist | ed |
| the inspection result nor YES >> Replace BCM. NO >> Repair or repla CHECK CVT SHIFT SE | <u>nal?</u> Refer to <u>BCS-76</u> ice harness or co LECTOR CIRCU | <u>, "Removal</u> nnector. IT (BCM) | l and Installat | ion". | | |
| Disconnect BCM conn Check continuity betwee nector. | ector and IPDM E ∋en CVT shift sele | E/R connec ector (deter | tor. ntion switch) ł | narness conn | ector and BCM I | harness co |
| CVT shift selector (de | ention switch) | | BCM | | Cont | iouity |
| Connector | Terminal | Conr | nector | Terminal | | inuity |
| M57 | 9 | M1 | 122 | 99 | Exis | sted |
| Check continuity betwo | en CVT shift sele | ector (deter | ntion switch) | narness conr | Continui | d. |
| Connector | Termina | al | Gro | ound | | , |
| M57 | 9 | | | | Not exist | ed |
| CVT shift selector (de | tention switch) | | IPDM E | /R | | |
| Connector | Terminal | Conr | nector | Terminal | Cont | inuity |
| M57 | 9 | E | 11 | 43 | Exis | interty |
| Check continuity betwe | en CVT shift sele | ector (deter | ntion switch) | narness conr | | sted |
| | or (dotoption out | | | | ector and groun | sted d. |
| Connector | tor (detention switch) | al | Gro | und | nector and groun Continui | d. |
| Connector M57 | tor (detention switch) Termina 9 | al | Grc | ound | Continui | d. ity |
| Connector M57 the inspection result nor YES >> GO TO 5. NO >> Repair or repla | tor (detention switch) Termin 9 mal? Ice harness or col LECTOR (DETEN | al nnector. NTION SW | Gro | und | Continui | d. ity ed |
| Connector M57 the inspection result nor YES >> GO TO 5. NO >> Repair or repla CHECK CVT SHIFT SE efer to <u>SEC-65. "Compor</u> the inspection result nor | tor (detention switch) Termin 9 mal? Ice harness or col LECTOR (DETEN <u>ent Inspection"</u> . <u>mal?</u> | ^{al} nnector. NTION SW | Gro | rund | Continui | ity ed |
| Connector M57 the inspection result nor YES >> GO TO 5. NO >> Repair or repla CHECK CVT SHIFT SE refer to <u>SEC-65. "Compor</u> the inspection result nor YES >> GO TO 6. NO >> Replace CVT SE CHECK INTERMETTED | tor (detention switch) Termin 9 mal? Ce harness or col LECTOR (DETEN Cent Inspection". mal? Shift selector. Refe | al nnector. NTION SW er to <u>TM-14</u> | Gro ITCH) 43. "Removal | and Installati | Continui Not exist | ity ed |
| Connector M57 the inspection result nor YES >> GO TO 5. NO >> Repair or repla CHECK CVT SHIFT SE refer to <u>SEC-65. "Compor</u> the inspection result nor YES >> GO TO 6. NO >> Replace CVT SE CHECK INTERMITTEN | tor (detention switch) Termin 9 mal? toce harness or co LECTOR (DETEN 10 10 10 10 10 10 10 10 10 10 | ^{al} nnector. NTION SW er to <u>TM-14</u> | Gro ITCH) 13. "Removal | and Installati | Continui Not exist | ity ed |

>> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

B2602 SHIFT POSITION

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|---|---|
| B2602 | SHIFT POSITION | BCM detects the following status for 10 seconds. Shift position is in the P position Vehicle speed is 4 km/h (2.5 MPH) or more Ignition switch is in the ON position | Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors [CVT shift selector (detention switch) circuit is open or shorted.] CVT shift selector (detention switch) ABS actuator and electric unit (control unit) Combination meter 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-64, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK DTC OF "ABS ACTUATOR AND ELECTRIC UNIT"

Check DTC in "Self Diagnostic Result" mode of "ABS" using CONSULT. Refer to <u>BRC-24, "DTC No. Index"</u>. 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 <u>MWI-31, "DTC Index"</u>.

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.

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

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B2602 SHIFT POSITION [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

| <u>Is th</u> | ne inspection result r | normal? | | | | | |
|--------------|---|------------------------------------|-------------------|------------------|---------------------|---------------------------|-----|
| YE | S >> GO TO 5. | | | | | | А |
| | | | | | | | |
| 4.0 | DHECK CVT SHIFT | SELECTOR POWER | SUPPLY | CIRCUIT | | | В |
| 1. 2. | Check continuity be nector. | onnector. otween CVT shift sele | ctor (deter | ntion switch | n) harness conne | ctor and BCM harness con- | С |
| - | CVT shift selector | (detention switch) | | В | СМ | | |
| _ | Connector | Terminal | Conr | ector | Terminal | Continuity | |
| _ | M57 | 8 | M1 | 22 | 96 | Existed | D |
| 3. | Check continuity be | etween CVT shift sele | ctor (deter | ntion switc | h) harness conne | ctor and ground. | |
| _ | CV/T shift as | blactor (dotantian awitch) | | | | | E |
| | Connector | | 1 | | Ground | Continuity | |
| — | M57 | 8 | | | | No existed | F |
| ls th | ne inspection result r | normal? | | | | | I |
| YE | S >> Replace BC | CM. Refer to <u>BCS-76,</u> | "Removal | and Insta | llation". | | |
| | >> Repair or re | eplace harness or cor | nector. | | | | G |
| 5.0 | CHECK CVT SHIFT | SELECTOR CIRCUI | Т | | | | |
| 1. | Disconnect BCM co | onnector and IPDM E | R connec | tor. | | ator and DCM harnoon con | Н |
| Ζ. | nector. | | cior (deler | | i) hamess conne | cior and bow hamess con- | |
| _ | CVT shift selector | (detention switch) | | B | СМ | Continuity | |
| | Connector | Terminal | Conr | ector | Terminal | Continuity | |
| | M57 | 9 | M1 | 22 | 99 | Existed | J |
| 3. | Check continuity be | etween CVT shift sele | ctor (deter | ntion switc | h) harness conne | ctor and ground. | |
| | CVT shift se | elector (detention switch) | | | | | SEC |
| | Connector | Termina | ıl | | Ground | Continuity | |
| | M57 | 9 | | | | No existed | |
| ls th | ne inspection result r | normal? | | | | | L |
| YE | S >> GO TO 6. | alaaa harnaaa ar aar | nantar | | | | |
| 6 | | | | | | | M |
| | CHECK CVT SHIFT | SELECTOR (DETER | | | | | |
| Is th | e inspection result r | normal? | | | | | N |
| YE | S >> GO TO 7. | lonnur. | | | | | |
| _NC | >> Replace C\ | /T shift selector. Refe | r to <u>TM-14</u> | <u>3, "Remov</u> | val and Installatio | <u>n"</u> . | |
| 1.0 | CHECK INTERMITT | ENT INCIDENT | | | | | 0 |
| Ref | er to <u>GI-40, "Intermit</u> | ttent Incident". | | | | | |
| | | | | | | | Ρ |
| _ | >> INSPECTIC | DN END | | | | | |
| Co | mponent Inspec | tion | | | | INFOID:000000007563282 | |
| 1.0 | CHECK CVT SHIFT | SELECTOR (DETEN | ITION SW | ITCH) | | | |
| 1. 2. | Turn ignition switch Disconnect CVT sh | OFF. ift selector connector. | | | | | |

B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

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

| CVT shift selector | (detention switch) | Con | Continuity | | |
|--------------------|--------------------|----------------|------------------|-------------|--|
| Terminal | | Condition | | Conunuity | |
| Q | 9 | Soloctor lovor | P position | Not existed | |
| o | | Selector level | Other than above | Existed | |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace CVT shift selector. Refer to <u>TM-143</u>, "Removal and Installation".

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

B2603 SHIFT POSITION

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2603 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2603 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

| - | DTC No. | Trouble diagnosis name | | DTC detecting condition | Po | ossible causes | D |
|----------------|---|---|--|---|--|-------------------------|-----|
| - | B2603SHIFT POSI STATUSBCM detects the followings status for 500 ms or more when ignition switch is in the ON position. • P/N position signal from TCM: Approx. 0 V (Other than P/N position) • CVT shift selector (detention switch) signal: Approx. 0 V (P position)• Harness or connectors (The CAN communication line is or or shorted.) • Harness or connector [CVT shift selector circuit (detenti switch) is open or shorted.] • Harness or connectors (TCM circuit is open or shorted.) • CVT shift selector (detention switch) signal: Approx. 0 V (P position) | | | | connectors ommunication line is open connector elector circuit (detention pen or shorted.] connectors t is open or shorted.) elector (detention switch) | E F G | |
| D. | TC CON | FIRMATION PROCE | DURE | | | | |
| 1 | .PERFO | RM DTC CONFIRMAT | ION PROC | EDURE 1 | | | Н |
| 1. 2. 3. | Shift th Turn ig Check | ne selector lever to the gnition switch ON and v DTC in "Self Diagnosti | P position. vait 1 seco ic Result" r | nd or more. node of "BCM" using CONSUI | LT. | | I |
| <u>ls</u> | DTC det | ected? | ancia Drago | adura" | | | |
| 1 | NO >: | > G0 t0 <u>SEC-67, Diagi</u> > G0 TO 2. | | <u>edure</u> . | | | J |
| 2 | .PERFO | RM DTC CONFIRMAT | ION PROC | CEDURE 2 | | | |
| 1. | Shift th | ne selector lever to any | position of | ther than P, and wait 1 second | or more. | | SEC |
| 2. Is | DTC det | ected? | | | | | |
| 1 | YES >: | So to <u>SEC-67, "Diagrams INSPECTION END</u> | nosis Proce | edure". | | | L |
| י ח | iaanosi | | | | | | |
| ט ג | lagnos | | | | | INFOID:000000007563284 | M |
| | .CHECK | DTC OF TCM | | | | | |
| Ci Is | the inspe | in "Self Diagnostic Re | esult" mode | e of "TCM" using CONSULT. R | tefer to <u>TM-4</u> | <u>5, "DTC Index"</u> . | Ν |
| <u>د.</u> | YES >: | > GO TO 2. | | | | | |
| ז ר | NO >: | > Repair or replace the | malfunctio | ning parts. | | | 0 |
| | .CHECK | | | | | | |
| 1. 2. 3. | Turn ig Discor Check | nition switch OFF. Inect TCM connector a continuity between TC | nd BCM co M harness | onnector. connector and BCM harness | connector. | | Ρ |
| | | ТСМ | | BCM | | Continuity | |
| | | · - | | | | Continuity | |

20 Check continuity between TCM harness connector and ground. 4.

Terminal

Connector

F23

SEC-67

Connector

M123

Terminal

140

2012 Murano CrossCabriolet

Existed

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B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

| Т | CM | | Continuity | |
|-----------|--------------------|--|-------------|--|
| Connector | Connector Terminal | | Continuity | |
| 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.

| CVT shift selector | +) · (detention switch) | (-) | Voltage (V) (Approx.) | |
|--------------------|----------------------------|--------|--------------------------|--|
| 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.

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

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

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

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

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.

NO >> Repair or replace harness or connector.

5.CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM connector and IPDM E/R connector.

 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 | Continuity |
| M57 | 9 | M122 | 99 | Existed |

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

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

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connector.

B2603 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

| < DTC/CIRCUIT DIAGNOSIS > | [WITH INTELLIGENT KEY SYSTEM] |
|--|-------------------------------|
| 6.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH) | Δ |
| Refer to SEC-65. "Component Inspection". | |
| Is the inspection result normal? | |
| YES >> GO TO 7. | В |
| NO >> Replace CVT shift selector. Refer to <u>TM-143</u> , "Removal a | and Installation". |
| 7.CHECK INTERMITTENT INCIDENT | |
| Refer to GI-40, "Intermittent Incident". | C |
| >> INSPECTION END | D |
| Component Inspection | INFOID:000000007563285 |
| 1. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH) | E |
| Turn ignition switch OFF. Disconnect CVT shift selector connector. Check continuity between CVT shift selector (detention switch) to | erminals. |

| | CVT shift selector (detention switch) | | Condition | | Continuity | |
|----------|---------------------------------------|---------|----------------|------------------|-------------|----|
| Terminal | | Conduon | | Continuity | G | |
| | 0 | 0 | Solostor lovor | P position | Not existed | |
| | 0 | 9 | Selector level | Other than above | Existed | L |
| s th | e inspection result | normal? | · | | | 11 |

YES >> INSPECTION END

>> Replace CVT shift selector. Refer to TM-143, "Removal and Installation". NO

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< DTC/CIRCUIT DIAGNOSIS >

B2604 SHIFT POSITION

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

| 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. P/N position input signal exists. Shift position signal from TCM does not exist. 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.) Harness or connectors (TCM circuit is open or shorted.) 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 <u>SEC-70. "Diagnosis Procedure"</u>. NO >> INSPECTION END

Diagnosis Procedure

1.CHECK DTC OF TCM

Check DTC in "Self Diagnostic Result" mode of "TCM" using CONSULT. Refer to <u>TM-45, "DTC Index"</u>. 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.

| T(| ТСМ | | BCM | |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal | Continuity |
| F23 | 20 | M123 | 140 | Existed |

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 3.

${f 3.}$ CHECK TCM CIRCUIT 2

1. Disconnect IPDM E/R connector.

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

INFOID:000000007563287

[WITH INTELLIGENT KEY SYSTEM]

B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| | IPEM E/R BCM | | Continuity | | |
|---------------------|--|--|-------------------------------|-------------------|--------------|
| | Connector | Terminal | Connector | Terminal | - Continuity |
| | E10 | 30 | M123 | 140 | Existed |
| . C | heck continuity betw | ween IPDM E/R hari | ness connector and | ground. | |
| | | IPDM E/R | | | |
| | Connector | Termina | l | Ground | Continuity |
| | E10 | 30 | | | Not existed |
| YES NO .CH | >> GO TO 4. >> Repair or rep IECK TCM CIRCUI heck continuity bet | place harness or con T 3 ween IPDM E/R harı | nector. ness connector and | TCM harness conne | ector. |
| — | IPEM [| E/R | Т | СМ | |
| | Connector | Terminal | Connector | Terminal | - Continuity |
| | E10 | 72 | F23 | 20 | Existed |
| 2. C | heck continuity betw | ween IPDM E/R har | ness connector and | ground. | |
| | [| IPDM E/R | | | Continuity |
| | Connector | Termina | | Ground | Continuity |
| | E10 | 72 | | | Not existed |
| NI/ N | SS DODOIR OF FOR | NAAA harnace ar aan | naatar | | |
| NO D.CH | >> Repair or rep IECK INTERMITTE to <u>GI-40, "Intermitte</u> >> INSPECTION | NACE NAMESS OF CON NT INCIDENT <u>ent Incident"</u> . N END | nector. | | |
| NO .CF Refer | >> Repair or rep IECK INTERMITTE to <u>GI-40, "Intermitte</u> >> INSPECTION | NACE NAMESS OF CON | nector. | | |
| NO 5.CH Refer | >> Repair or rep IECK INTERMITTE to <u>GI-40, "Intermitte</u> >> INSPECTION | NACE NAMESS OF CON | nector. | | |
| NO D.CH Refer | >> Repair or rep IECK INTERMITTE to <u>GI-40, "Intermitte</u> >> INSPECTION | NACE NAMESS OF CON | nector. | | |

< DTC/CIRCUIT DIAGNOSIS >

B2605 SHIFT POSITION

DTC Logic

INFOID:000000007563288

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65. "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

| 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 P/N position input signal exists. Shift position signal from IPDM E/R does not exist. 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.) Harness or connectors (TCM circuit is open or shorted.) TCM 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-72, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007563289

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.

| T | СМ | BCM | | Continuity |
|-----------|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal | Continuity |
| F23 | 20 | M123 | 140 | Existed |

4. Check continuity between TCM harness connector and ground.

| TC | CM | | Continuity | |
|--------------------|----|--------|-------------|--|
| Connector Terminal | | Ground | Continuity | |
| F23 | 20 | | Not existed | |

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.
| < DTC/CIRCUIT DIAGNOSIS > | [WITH INTELLIGENT KEY SYSTEM] |
|--|-------------------------------|
| 3. CHECK INTERMITTENT INCIDENT | |
| Refer to GI-40, "Intermittent Incident". | |
| >> INSPECTION END | |
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< DTC/CIRCUIT DIAGNOSIS >

B2608 STARTER RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.
- If DTC B2608 is displayed with DTC B210D (IPDM E/R), first perform the trouble diagnosis for DTC B210D. Refer to <u>SEC-85, "DTC Logic"</u>.

| 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.) Harness or connectors (starter relay circuit is open or shorted.) 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 <u>SEC-74, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007563291

1. CHECK STARTER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.

2. Check voltage between BCM harness connector and ground.

| (| +) CM | (-) | Condition | | Voltage (V) (Approx.) |
|-----------|----------|--------|----------------|------------------|--------------------------|
| Connector | Terminal | | | | () |
| M121 | 52 | Ground | Soloctor lovor | N or P position | Battery voltage |
| IVI I Z I | 52 | Ground | Selector level | 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 | Continuity |
| E11 | 46 | M121 | 52 | Existed |

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

[WITH INTELLIGENT KEY SYSTEM]

B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| IPDN | 1 E/R | | Continuity |
|--|---|--------------------------|-------------|
| Connector | Terminal | Ground | Continuity |
| E11 | 46 | | Not existed |
| Is the inspection result norma | al? | | |
| YES >> Replace IPDM E NO >> Repair or replace | /R. Refer to <u>PCS-31, "Rer</u> e harness or connector. | moval and Installation". | |
| 3.CHECK INTERMITTENT | INCIDENT | | |
| Refer to GI-40, "Intermittent | Incident". | | |
| | | | |
| >> INSPECTION EI | ND | | |
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< DTC/CIRCUIT DIAGNOSIS >

B260F ENGINE STATUS

Description

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

DTC Logic

INFOID:000000007563293

INFOID:000000007563294

INFOID:000000007563292

DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

| 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.) 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 <u>SEC-76, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.
- 3. Touch "ERASE".
- Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to <u>SEC-76, "DTC Logic"</u>.

Is the DTC B260F displayed again?

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

2.REPLACE ECM

Replace ECM. Refer to EC-445, "Removal and Installation".

>> INSPECTION END

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2617 STARTER RELAY CIRCUIT [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B2617 STARTER RELAY CIRCUIT

DTC Logic

INFOID:000000007563295

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| DTC DETE | CTION LOGIC | | |
|--|--|--|--------------------------------|
| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
| B2617 | ВСМ | A malfunction of starter relay output signal circuit is detected inside of BCM | ВСМ |
| DTC CONF | FIRMATION PROCE | DURE | |
| 1. PERFOR | M DTC CONFIRMATION | ON PROCEDURE | |
| 1. Press p - Shift po - Brake p 2. Check I Is DTC dete YES >> | ush-button ignition swi sition: P or N edal: Depressed DTC in "Self Diagnostic <u>cted?</u> Go to <u>SEC-77, "Diagn</u> | tch under the following conditions, and w Result" mode of "BCM" using CONSUL ⁻ | ait 1 second or more. T. |
| NO >> Diagnosia | | | |
| | s Procedure | | INFOID:0000000756325 |
| 1.INSPEC | TION START | | |
| Turn Igr Select " Touch " Perform <u>Is DTC dete</u> | Self Diagnostic Result' ERASE". DTC CONFIRMATION | ' mode of "BCM" using CONSULT. N PROCEDURE for DTC B2617. Refer to | D <u>SEC-77, "DTC Logic"</u> . |
| YES >> NO >> | GO TO 2. INSPECTION END | | |
| 2.REPLAC | EBCM | | |
| 1. Replace 2. Perform | BCM. Refer to <u>BCS-7</u> initialization of BCM a | 6. "Removal and Installation". nd registration of all Intelligent Keys usin | g CONSULT. |
| >> | INSPECTION END | | |
| | | | |
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B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

B261A PUSH-BUTTON IGNITION SWITCH

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B261A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B261A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

| 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 Power supply position with push-button ignition switch Power supply position from IPDM E/R (CAN) | Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors (Push-button ignition switch circuit is open or shorted.) Between BCM and push-button igni- tion switch 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 <u>SEC-78, "Diagnosis Procedure"</u>
- 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 <u>SEC-78, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

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.

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B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| | (+) | | | | |
|---|---|---|---|---|---|
| Push-b | utton ignition switch | gnition switch | | () | Voltage (V) (Approx.) |
| Connector | Termina | al | | | (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| M101 | 4 | | (| Ground | Battery voltage |
| the inspection result r YES >> GO TO 6. NO >> GO TO 3. | <u>ıormal?</u> | | | | |
| CHECK PUSH-BUTT | ON IGNITION SWIT | CH CIRCI | JIT 1 | | |
| Disconnect BCM co Check continuity be | nnector. tween push-button iç | gnition swit | ch harness | connector and | BCM harness connector |
| Push-button i | gnition switch | | BC | M | Continuity |
| Connector | Terminal | Conr | nector | Terminal | Continuity |
| M101 | 4 | M | 121 | 60 | Existed |
| . Check continuity be | tween push-button iç | gnition swit | ch harness | connector and | ground. |
| Push-b | utton ignition switch | | | | Continuity |
| Connector | Termina | al | (| Ground | Continuity |
| M101 | 4 | | | | Not existed |
| . Check voltage betw | een push-button igni | tion switch | harness c | onnector and gr | ound. |
| Duch-h | (+) | | | (-) | Voltage (V) |
| Connector | | | | (-) | (Approx.) |
| M101 | | | | Fround | Battery voltage |
| the inspection result r YES >> GO TO 6. NO >> GO TO 5. CHECK PUSH-BUTT | iormal? | | | | Lano, ionago |
| | ON IGNITION SWIT | CH CIRCI | JIT 2 | | |
| Disconnect IPDM E Check continuity be tor. | ON IGNITION SWIT /R connector. tween push-button ig | CH CIRCI | UIT 2 tch harnes | s connector and | IPDM E/R harness conr |
| Disconnect IPDM E Check continuity be tor. Push-button ig | ON IGNITION SWIT /R connector. tween push-button ig | CH CIRCI | UIT 2 tch harness | s connector and | IPDM E/R harness conr |
| Disconnect IPDM E Check continuity be tor. Push-button ig Connector | TON IGNITION SWIT /R connector. tween push-button iç gnition switch | CH CIRCI gnition swi | JIT 2 tch harnes IPDM nector | s connector and I E/R Terminal | IPDM E/R harness conr |
| Disconnect IPDM E Check continuity be tor. Push-button ig Connector M101 | TON IGNITION SWIT /R connector. tween push-button ic gnition switch Terminal 4 | CH CIRCI gnition swi Conr | UIT 2 tch harness IPDM nector | s connector and I E/R Terminal 28 | IPDM E/R harness conr Continuity Existed |
| Disconnect IPDM E Check continuity be tor. Push-button ig Connector M101 Check continuity be | TON IGNITION SWIT /R connector. tween push-button ig inition switch Terminal 4 tween push-button ig | CH CIRCI gnition swi Conr E gnition swit | JIT 2 tch harness IPDM nector 10 tch harness | s connector and I E/R Terminal 28 5 connector and | IPDM E/R harness conr Continuity Existed ground. |
| Disconnect IPDM E Check continuity be tor. Push-button ig Connector M101 Check continuity be Push-b | TON IGNITION SWIT /R connector. tween push-button ig gnition switch Terminal 4 tween push-button ig utton ignition switch | CH CIRCI gnition swir Conr E gnition swit | JIT 2 tch harnes IPDM nector 10 tch harness | s connector and I E/R Terminal 28 s connector and | IPDM E/R harness conr Continuity Existed ground. |
| Disconnect IPDM E Check continuity be tor. Push-button ig Connector M101 Check continuity be Push-b Connector | TON IGNITION SWIT /R connector. tween push-button ig gnition switch Terminal 4 tween push-button ig utton ignition switch Termina | CH CIRCI gnition swi Conr E gnition swit | JIT 2 tch harnes: IPDM nector 10 tch harness | s connector and I E/R Terminal 28 5 connector and Ground | IPDM E/R harness conr Continuity Existed ground. Continuity |

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

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 | | | Λ |
|---|--|------------------------------------|------------------------|-----|
| Description | | | INFCID:00000007563299 | A |
| There are two types of ve • HEV • Conventional | hicle. | | | В |
| DTC Logic | | | INFOID:000000007563300 | С |
| DTC DETECTION LOG | IC | | | D |
| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause | |
| B261E | VEHICLE TYPE | Difference of BCM configuration | BCM | |
| DTC CONFIRMATION | PROCEDURE | = | | E |
| Turn ignition switch C Check DTC in "Self D Is DTC detected? YES >> Go to SEC-87 NO >> INSPECTION | DN. Diagnostic Result" mode of 1. "Diagnosis Procedure". | - "BCM" using CONSULT. | | F |
| Diagnosis Procedure | e | | INFOID:000000007563301 | Н |
| 1. INSPECTION START | | | | |
| Turn ignition switch C Select "Self Diagnost Touch "ERASE". | N. ic Result" mode of "BCM" u | using CONSULT. | | Ι |
| 4. Perform DTC CONFI | RMATION PROCEDURE f | or DTC B261E. Refer to <u>SEC-</u> | 81, "DTC Logic". | J |
| YES >> Replace BCM NO >> INSPECTION | Ⅰ. Refer to <u>BCS-76, "Remo</u> I END | oval and Installation". | | SEC |
| | | | | L |

< DTC/CIRCUIT DIAGNOSIS >

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B26EA KEY REGISTRATION

< DTC/CIRCUIT DIAGNOSIS >

B26EA KEY REGISTRATION

DTC Logic

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[WITH INTELLIGENT KEY SYSTEM]

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 Intelligent Key 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 <u>SEC-82</u>, "Diagnosis Procedure"
- NO >> INSPECTION END

Diagnosis Procedure

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 <u>BCS-76. "Removal and Installation"</u>.
- NO >> INSPECTION END

B210B STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B210B STARTER CONTROL RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>PCS-</u> <u>27. "DTC Logic"</u>.

| 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. • Harness or connectors (The CAN communication line is open or shorted.) • Starter control relay ON/OFF signal from BCM • P/N position signal from TCM • IPDM E/R detects that the relay is stuck at ON position • DTC CONFIRMATION PROCEDURE • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • P/N position signal from TCM • IPDM E/R • Selector lever: In the P or N position. • Brake pedal: Depressed • Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. • Selector ION END Diagnossis Procedure • Proceocccccccccccccccccccccccccccccccccc | DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|--|---|---|--|--|
| 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. s DTC detected? YES >> Go to SEC-83. "Diagnostis Procedure". NO >> INSPECTION END Diagnosis Procedure | 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. Starter control relay ON/OFF signal from BCM P/N position signal from TCM | Harness or connectors (The CAN communication line is open or shorted.) IPDM E/R |
| 1.PERFORM DTC CONFIRMATION PROCEDURE 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 Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. SDTC detected? YES >> Go to SEC-83. "Diagnosis Procedure". NO >> INSPECTION END Diagnosis Procedure INSPECTION START Turn ignition switch ON. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. Touch "ERASE". Perform DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to SEC-83. "DTC Logic". S the DTC B210B displayed again? YES >> Replace IPDM E/R. Refer PCS-31. "Removal and Installation". NO >> INSPECTION END | DTC CONF | FIRMATION PROCE | DURE | |
| 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 Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. <u>ISDTC detected?</u> YES >> Go to <u>SEC-83. "Diagnosis Procedure"</u>. NO >> INSPECTION END Diagnosis Procedure INSPECTION START Turn ignition switch ON. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. Touch "ERASE". Perform DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to <u>SEC-83. "DTC Logic"</u>. s the DTC B210B displayed again? YES >> Replace IPDM E/R. Refer <u>PCS-31. "Removal and Installation"</u>. NO >> INSPECTION END | 1.PERFOF | RM DTC CONFIRMATIO | ON PROCEDURE | |
| more. Selector lever: In the P or N position. Brake pedal: Depressed Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. <u>Is DTC detected?</u> YES >> Go to <u>SEC-83. "Diagnosis Procedure"</u>. NO >> INSPECTION END Diagnosis Procedure 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 <u>SEC-83. "DTC Logic"</u>. <u>s the DTC B210B displayed again?</u> YES >> Replace IPDM E/R. Refer <u>PCS-31. "Removal and Installation"</u>. NO >> INSPECTION END | 1. Press p | oush-button ignition sw | itch under the following conditions to start e | engine, and wait 1 second or |
| Brake pedal: Depressed Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. Is DTC detected? YES >> Go to SEC-83. "Diagnosis Procedure". NO >> INSPECTION END Diagnosis Procedure 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-83. "DTC Logic". is the DTC B210B displayed again? YES >> Replace IPDM E/R. Refer PCS-31. "Removal and Installation". NO >> INSPECTION END | more. Selecto | r lever: In the P or N po | osition. | |
| Proceeding YES >> Go to SEC-83, "Diagnosis Procedure". NO >> INSPECTION END Diagnosis Procedure | Brake p Check I | edal: Depressed | Result" mode of "IPDM F/R" using CONSUL | т |
| YES >> Go to <u>SEC-83, "Diagnosis Procedure"</u> . NO >> INSPECTION END Diagnosis Procedure 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 <u>SEC-83, "DTC Logic"</u> . Is the DTC B210B displayed again? YES >> Replace IPDM E/R. Refer <u>PCS-31, "Removal and Installation"</u> . NO >> INSPECTION END | s DTC dete | ected? | | |
| Diagnosis Procedure INSPECTION START 1. INSPECTION START Intrinsition switch ON. 2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. Intrinsition switch ON. 3. Touch "ERASE". Intrinsition DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to SEC-83. "DTC Logic". 3. the DTC B210B displayed again? YES >> Replace IPDM E/R. Refer PCS-31. "Removal and Installation". NO >> INSPECTION END | YES >> | Go to <u>SEC-83, "Diagne</u> | osis Procedure". | |
| 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-83, "DTC Logic". Is the DTC B210B displayed again? YES >> Replace IPDM E/R. Refer PCS-31, "Removal and Installation". NO >> INSPECTION END | >> UN Diagnocia | | | |
| INSPECTION START Turn ignition switch ON. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. Touch "ERASE". Perform DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to <u>SEC-83. "DTC Logic"</u>. <u>Is the DTC B210B displayed again?</u> YES >> Replace IPDM E/R. Refer <u>PCS-31. "Removal and Installation"</u>. NO >> INSPECTION END | Jiagnosis | s Procedure | | INFOID:000000007563305 |
| Turn ignition switch ON. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. Touch "ERASE". Perform DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to <u>SEC-83. "DTC Logic"</u>. <u>Is the DTC B210B displayed again?</u> YES >> Replace IPDM E/R. Refer <u>PCS-31. "Removal and Installation"</u>. NO >> INSPECTION END | | TION START | | |
| 3. Touch "ERASE". 4. Perform DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to <u>SEC-83. "DTC Logic"</u>. <u>Is the DTC B210B displayed again?</u> YES >> Replace IPDM E/R. Refer <u>PCS-31. "Removal and Installation"</u>. NO >> INSPECTION END | 1. Turn igr 2 Select " | hition switch ON. 'Self Diagnostic Result" | ' mode of "IPDM E/R" using CONSULT | |
| Perform DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to <u>SEC-83, "DTC Logic"</u>. <u>Is the DTC B210B displayed again?</u> YES >> Replace IPDM E/R. Refer <u>PCS-31, "Removal and Installation"</u>. NO >> INSPECTION END | 3. Touch " | ERASE". | | |
| YES >> Replace IPDM E/R. Refer <u>PCS-31, "Removal and Installation"</u> . NO >> INSPECTION END | Perform s the DTC I | B210B displayed again | PROCEDURE for DTC B210B. Refer to <u>SE</u> 2 | <u>C-83, "DTC Logic"</u> . |
| NO >> INSPECTION END | YES >> | Replace IPDM E/R. Re | - efer <u>PCS-31, "Removal and Installation"</u> . | |
| | NO >> | INSPECTION END | | |
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B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B210C STARTER CONTROL RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>PCS-27, "DTC Logic"</u>.
- 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. Starter control relay ON/OFF signal from BCM P/N position signal from TCM | Harness or connectors (The CAN communication line is open or shorted.) IPDM E/R 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 <u>SEC-84, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
- 3. Touch "ERASE".
- Perform DTC CONFIRMATION PROCEDURE for DTC B210C. Refer to <u>SEC-84, "DTC Logic"</u>.

Is the DTC B210C displayed again?

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

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B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

B210D STARTER RELAY

DTC Logic

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-77, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause | L |
|---------|------------------------|--|--|---|
| 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. Starter control relay ON/OFF signal from BCM P/N position signal from TCM | Harness or connectors (The CAN communication line is open or shorted.) IPDM E/R | E |
| | | | | |

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-85, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.INSPECTION START

| 1. Turn ignition switch ON. | |
|---|-------------------|
| 2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. | J |
| 3. Touch "ERASE". | |
| Perform DTC CONFIRMATION PROCEDURE for DTC B210D. Refer to <u>SEC</u> | -85, "DTC Logic". |
| Is the DTC B210D displayed again? | SE |
| YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation". | |
| NO >> INSPECTION END | |
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< DTC/CIRCUIT DIAGNOSIS >

B210E STARTER RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>PCS-27, "DTC Logic"</u>.
- If DTC B210E is displayed with DTC B2110 for IPDM E/R, first perform the trouble diagnosis for DTC B2110. Refer to <u>SEC-90, "DTC Logic"</u>.
- If DTC B210E is displayed with DTC B2617 for BCM, first perform the trouble diagnosis for DTC B2617. Refer to <u>SEC-77, "DTC Logic"</u>.
- 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. Starter control relay ON/OFF signal from BCM P/N position signal from TCM | Harness or connectors (The CAN communication line is open or shorted.) IPDM E/R 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 <u>SEC-86. "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK STARTER RELAY OUTPUT SIGNAL

1. Turn ignition switch OFF.

2. Check voltage between BCM harness connector and ground.

| (BCM co | +) onnector | () | Condition | | | Voltage (V) (Approx.) |
|-------------|----------------|--------|-----------------|-------------|------------------|--------------------------|
| Connector | Terminal | | Ignition switch | Brake pedal | Selector lever | |
| | | | | | P or N | Battery voltage |
| M121 | 52 | Ground | ON | Depressed | 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.

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

3. Check continuity between BCM harness connector and ground.

[WITH INTELLIGENT KEY SYSTEM]

B210E STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| BC | M | | Continuity |
|--|--|---|--------------------------------------|
| Connector | Terminal | Ground | Continuity |
| M121 | 52 | 52 | |
| <u>the inspection result norma</u> YES >> Replace IPDM E, NO >> Repair or replace CHECK STARTER RELAN | <u>al?</u> /R. Refer to <u>PCS-31, "Rei</u> e harness or connector. / POWER SUPPLY CIRC | moval and Installation". | |
| Turn ignition switch OFF. Disconnect IPDM E/R co Check voltage between I | nnector. PDM E/R harness connec | ctor and ground. | |
| (+ | ·) E/D | | Voltage (V) |
| Connector | Terminal | (-) | (Approx.) |
| E10 | 36 | Ground | Battery voltage |
| YES >> Replace IPDM E, NO >> Check harness fo <u>gram"</u> . | /R. Refer to <u>PCS-31, "Re</u> or open or short between | moval and Installation". IPDM E/R and battery. R | Refer to <u>PCS-24, "Wiring Dia-</u> |
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B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

DTC DETECTION LOGIC

NOTE:

If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>PCS-</u> <u>27. "DTC Logic"</u>

| 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.P/N position signal from TCMShift position signal from BCM (CAN) | Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors (TCM circuit is open or shorted.) 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-88. "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK DTC OF BCM

Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT. Refer to <u>BCS-54. "DTC Index"</u>. 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.

| (IPDN | +) /1 E/R (-) Condition | | Condition | | Voltage (V) (Approx.) |
|-----------|----------------------------|--------|----------------|------------------|---|
| Connector | Terminal | - | | | (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| | 30 | Ground | Selector lever | P or N | Battery voltage |
| LIU | 50 | Ground | Celector level | Other than above | 0 |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-31, "Removal and Installation"</u>.

NO >> GO TO 3.

 ${f 3.}$ 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 | | T | Continuity | |
|---|-----------|----------|-----------|------------|------------|
| - | Connector | Terminal | Connector | Terminal | Continuity |
| - | F12 | 72 | F23 | 20 | Existed |

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

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B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| IPDM E/R | | Continuity | |
|----------|----------------|--------------------|--|
| Terminal | Ground | Continuity | |
| 72 | | Not existed | - |
| | Ferminal 72 | Ferminal Ground 72 | Ferminal Ground 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.

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B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH < DTC/CIRCUIT DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

DTC DETECTION LOGIC

NOTE:

If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>PCS-</u> <u>27, "DTC Logic"</u>.

| 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.P/N position signal from TCMShift position signal from BCM (CAN) | Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors (TCM circuit is open or shorted.) TCM IPDM E/R 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-90. "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1. CHECK DTC OF TCM

Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT. Refer to <u>TM-45, "DTC Index"</u>. 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.

| _ | (IPDN | +) // E/R | (-) | Condition | | Voltage (V) (Approx.) | |
|---|-----------|--------------|--------|----------------|------------------|--------------------------|--|
| _ | Connector | Terminal | | | | | |
| | E10 | 20 | Ground | Selector lever | P or N | Battery voltage | |
| | EIU | 30 | | | Other than above | 0 | |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-31, "Removal and Installation"</u>.

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.

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B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| IPDM E/R TCM Continuity F12 72 F23 20 Existed Check continuity between IPDM E/R harness connector and ground. IPDM E/R Continuity IPDM E/R Ground Continuity F12 72 Yes Continuity F12 72 Yes Not existed sthe inspection result normal? Yes Not existed Not existed Sthe inspection result normal? Yes > Replace IPDM E/R. Refer to PCS-31, "Removal and Installation". NO NO >> Repair or replace harness or connector. Installation". Installation". | | 0000 > | | L | |
|---|------------------------|---|---|---|---|
| Connector Terminal Connector Terminal Continuity F12 72 F23 20 Existed Check continuity between IPDM E/R harness connector and ground. IPDM E/R Continuity IPDM E/R Ground Continuity F12 72 Ground Continuity F12 72 Order terminal Continuity F12 72 Order terminal Continuity Sthe inspection result normal? YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation". Not existed YES >> Repair or replace harness or connector. >> Repair or replace harness or connector. State | IPDM | E/R | тс | CM | 0 |
| F12 72 F23 20 Existed Check continuity between IPDM E/R harness connector and ground. IPDM E/R Ground Continuity F12 72 Ground Continuity F12 72 Value Not existed s the inspection result normal? YES >> Replace IPDM E/R. Refer to PCS-31. "Removal and Installation". NO NO >> Repair or replace harness or connector. State State | Connector | Terminal | Connector | Terminal | |
| IPDM E/R IPDM E/R Continuity Connector Terminal Ground Continuity F12 72 Not existed Not existed st the inspection result normal? YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation". NO NO >> Repair or replace harness or connector. State inspection result normal? Not existed | F12 | 72 | F23 | 20 | Existed |
| IPDM E/R Ground Continuity F12 72 Not existed s the inspection result normal? YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation". Not existed YES >> Repair or replace harness or connector. >> Repair or replace harness or connector. >> Repair or replace harness or connector. | Check continuity be | tween IPDM E/R hai | mess connector and | ground. | |
| Connector Terminal Ground Continuity F12 72 Not existed Not existed as the inspection result normal? YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation". NO >> Repair or replace harness or connector. | | IPDM E/R | | | |
| F12 72 Not existed s the inspection result normal? YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation". NO >> Repair or replace harness or connector. | Connector | Termina | al (| Ground | Continuity |
| s the inspection result normal? YES >> Replace IPDM E/R. Refer to <u>PCS-31, "Removal and Installation"</u> . NO >> Repair or replace harness or connector. | F12 | 72 | | | Not existed |
| YES >> Replace IPDM E/R. Refer to <u>PCS-31, "Removal and Installation"</u> . NO >> Repair or replace harness or connector. | he inspection result n | ormal? | | | |
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| | | IPDM Connector F12 Check continuity bet Connector F12 the inspection result n ES >> Replace IPE O >> Repair or re | IPDM E/R Connector Terminal F12 72 Check continuity between IPDM E/R har IPDM E/R Connector Termina F12 72 72 the inspection result normal? ES >> Replace IPDM E/R. Refer to PCO O >> Repair or replace harness or colspan="2">Colspan="2"Colspan="2">Colspan="2"Colspa | IPDM E/R TO Connector Terminal Connector F12 72 F23 Check continuity between IPDM E/R harness connector and good to the inspection result normal? IPDM E/R Connector Terminal IPDM E/R Connector Terminal IPDM E/R Connector Terminal IPDM E/R Es >> Replace IPDM E/R. Refer to PCS-31, "Removal and O >> Repair or replace harness or connector. | IPDM E/R TCM Connector Terminal F12 72 F23 20 Check continuity between IPDM E/R harness connector and ground. IPDM E/R Ground IPDM E/R Importance IPDM E/R Terminal Ground Ground IPDM E/R Importance IPDM E/R Terminal Ground Ground IPDM E/R IPDM E/R Ground IPDM E/R IPD |

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HEADLAMP FUNCTION

Component Function Check

INFOID:000000007563316

[WITH INTELLIGENT KEY SYSTEM]

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 | |
|------|------|----------------|--------------|
| | ON | Headlamps (Hi) | Light |
| | OFF | | Do not light |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to <u>SEC-92, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:000000007563317

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

WITH INTELLIGENT KEY SYSTEM1

| < DTC/CIRCUIT DIAGNOS | SIS > | | [V | | LIGENT KEY SYSTEM] |
|---|---------------------------------------|---------------------|------------------|--------------|-------------------------|
| HORN FUNCTION | | | | | |
| Component Function | Check | | | | INFOID:000000007563318 |
| 1.CHECK FUNCTION | | | | | |
| 1. Perform "VEHICLE SEC | CURITY HORN" | in "ACTIVE T | EST" mode c | of "THEFT AI | LM" of "BCM" using CON- |
| SULT. Check the horn operation | on. | | | | |
| | est item | | | Descrit | ation |
| VEHICLE SECURITY HORN | ON | | Horn | Desen | Sounds (for 0.5 sec) |
| s the operation normal? | | | | | |
| YES >> INSPECTION E NO >> Go to <u>SEC-93.</u> | ND 'Diagnosis Proc | edure". | | | |
| Diagnosis Procedure | | | | | INFOID:00000007563319 |
| CHECK HORN FUNCTION | N | | | | |
| Check that horns function p | operly using ho | rn switch. | | | |
| Does horn sound? | | | | | |
| YES >> GO TO 2. | | | | | |
| NO >> Check horn circ | uit. Refer to <u>HRI</u> | N-3, "Wiring D | <u>iagram"</u> . | | |
| | | | | | |
| Disconnect horn relay. Disconnect IPDM E/R c | onnector. | | | | |
| B. Check continuity betwee | en IPDM E/R ha | rness connect | or and horn r | elay harness | s connector. |
| IPDM E/R | | | Horn relay | | |
| Connector | Terminal | Connect | or | Terminal | Continuity |
| E11 | 44 | E5 | | 1 | Existed |
| . Check continuity betwee | en IPDM E/R ha | rness connect | or and groun | d. | |
| IPD | M E/R | | | | 0 // // |
| Connector | Termin | al | Ground | 1 | Continuity |
| E11 | 44 | | | | Not existed |
| s the inspection result norm | al? | | | | |
| YES >> Replace IPDM I | E/R. Refer to <u>PC</u> re harness | <u>S-31, "Remov</u> | al and Install | ation". | |
| | | | | | |
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< DTC/CIRCUIT DIAGNOSIS >

KEY WARNING LAMP

Component Function Check

INFOID:000000007563320

INFOID:000000007563321

[WITH INTELLIGENT KEY SYSTEM]

1.CHECK FUNCTION

Check the operation with "INDICATOR" in "Active Test" mode with CONSULT.

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

Is the inspection result normal?

YES >> Key warning lamp in combination meter is OK.

NO >> Refer to <u>SEC-94</u>, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK KEY WARNING LAMP

Refer to SEC-94, "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

< DTC/CIRCUIT DIAGNOSIS >

SECURITY INDICATOR LAMP

Component Function Check INFOID:000000007563322 **1**.CHECK FUNCTION 1. Perform "THEFT IND" in the "ACTIVE TEST" mode with CONSULT. 2. Check security indicator lamp operation. Test item Description ON Illuminate THEFT IND Security indicator lamp OFF Not illuminate Is the inspection result normal? >> INSPECTION END YES NO >> Go to SEC-95, "Diagnosis Procedure". Diagnosis Procedure INFOID:000000007563323 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) Security indicator lamp (-) (Approx.) Connector Terminal M100 1 Ground Battery voltage Is the inspection result normal? >> GO TO 2. YES NO-1 >> Check 10A fuse [No. 9, 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.

| (+ |) | | | - |
|---------------|----------|--------|--------------------------|-----|
| BCM | | () | Voltage (V) (Approx.) | Μ |
| Connector | Terminal | | | |
| M123 | 141 | Ground | Battery voltage | - |
| | 10 | | | - N |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-76, "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 | Continuity | |
| M100 | 2 | M123 | 141 | Existed | |

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

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SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

Is the inspection result normal?

YES >> Replace security indicator lamp. Refer to <u>SEC-110, "Removal and Installation"</u>.

NO >> Repair or replace harness.

TRUNK KEY CYLINDER SWITCH

Component Function Check

1.CHECK FUNCTION

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

| Monitor item | (| Condition | | |
|--------------------------|----------------------------|------------------------------|-----|---|
| | | Off position | Off | _ |
| KEY CYL SW-IR | I runk key cylinder switch | On (Trunk lid open) position | On | |
| the inspection result no | ormal? | | | |

>> Trunk key cylinder switch is OK. YES >> Refer to SEC-97, "Diagnosis Procedure". NO

Diagnosis Procedure

1. CHECK TRUNK KEY CYLINDER SWITCH INPUT SIGNAL

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

| | (+) | | | |
|---------------------------|----------|--------|-----------|--|
| Trunk key cylinder switch | | () | (Approx.) | |
| 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.

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

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

Check continuity between BCM harness connector and ground. 3.

| B | CM | | Continuity | |
|-----------|----------|--------|-------------|---|
| Connector | Terminal | Ground | Continuity | |
| M121 | 49 | | Not existed | (|

Is the inspection result normal?

YES >> GO TO 3.

>> Repair or replace harness. NO

3.REPLACE BCM

Replace BCM. Refer to BCS-76, "Removal and Installation". 1.

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

>> INSPECTION END

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TRUNK KEY CYLINDER SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

4. CHECK TRUNK KEY CYLINDER SWITCH GROUND CIRCUIT

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

| Trunk key cylinder switch | | | Continuity |
|---------------------------|----------|--------|------------|
| Connector | Terminal | Ground | Continuity |
| 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-98, "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

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 Terminal | | Condition | | Continuity | |
|---------------------------------------|---|-----------|------------------------------|------------|--|
| | | | | | |
| I | 2 | | On (trunk lid open) position | Existed | |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace trunk key cylinder switch.

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE < SYMPTOM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:000000007563327

INFOID:000000007563328

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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 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

1.PERFORM WORK SUPPORT

Perform "INSIDE ANT DIAGNOSIS" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CON-SULT. 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.

| ls | D | TC | detected? | |
|----|---|----|-----------|--|
| | | | | |

YES >> Refer to <u>DLK-51, "DTC Logic"</u> (console) or <u>DLK-53, "DTC Logic"</u> (trunk room).

NO >> GO TO 3.

 ${\it 3.}$ 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 <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK IM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:000000007563329

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 <u>SEC-36, "Work Flow"</u>.
- 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:000000007563330

1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp. Refer to <u>SEC-95. "Component Function Check"</u>.

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 <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

| VEHICLE SECURITY SYSTEM CANNOT BE SET | |
|---|-----|
| < SYMPTOM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM] | |
| VEHICLE SECURITY SYSTEM CANNOT BE SET | |
| INTELLIGENT KEY | А |
| INTELLIGENT KEY : Description | В |
| ARMED phase is not activated when all doors are locked using Intelligent Key. | |
| Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom. | С |
| 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. | D |
| INTELLIGENT KEY : Diagnosis Procedure | Ε |
| 1.CHECK INTELLIGENT KEY SYSTEM (REMOTE KEYLESS ENTRY FUNCTION) | _ |
| Lock/unlock door with Intelligent Key. Refer to <u>DLK-20, "REMOTE KEYLESS ENTRY FUNCTION : System Description"</u> . | F |
| Is the inspection result normal? | G |
| YES >> GO TO 2. NO >> Check Intelligent Key system (remote keyless entry function). Refer to <u>DLK-104, "Diagnosis Pro-</u> <u>cedure"</u>. | |
| 2.CHECK DOOR SWITCH | Н |
| Check door switch circuit. Refer to DLK-55, "Component Function Check". | I |
| Is the inspection result normal? | 1 |
| YES >> GO TO 3. NO >> Repair or replace malfunctioning parts. Refer to <u>DLK-55, "Diagnosis Procedure"</u> . | J |
| 3.CHECK TRUNK ROOM LAMP SWITCH | |
| Check trunk room lamp switch circuit. Refer to <u>DLK-69, "Component Function Check"</u> . | SEC |
| Is the inspection result normal? | |
| YES >> GO TO 4. NO >> Repair or replace malfunctioning parts. Refer to <u>DLK-69, "Diagnosis Procedure"</u> . | L |
| 4. CONFIRM THE OPERATION | |
| Confirm the operation again. | M |
| Is the result normal? | |
| NO $>>$ GO TO 1. | Ν |
| DOOR REQUEST SWITCH | |
| DOOR REQUEST SWITCH : Description | 0 |
| 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. | Ρ |
| 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. | |

VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >

| DOOR REQUEST SWITCH : Diagnosis Procedure | INFOID:000000007563334 |
|---|------------------------|
| 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 <u>DLK-102, "ALL DOOR : E</u> cedure". | <u>Diagnosis Pro-</u> |
| 2.check door switch | |
| Check door switch circuit. Refer to <u>DLK-55, "Component Function Check"</u> . | |
| 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 <u>DLK-69, "Component Function Check"</u> . | |
| Is the inspection result normal? | |
| YES >> GO TO 4. | |
| NO >> Repair or replace main functioning parts. | |
| | |
| Confirm the operation again. | |
| Is the result normal? | |
| NO >> GO TO 1 | |
| DOOR KEY CYLINDER | |
| DOOR KEY CYLINDER : Description | INFOID:000000007563335 |
| ARMED phase is not activated when all doors are locked using mechanical key. | |
| | |
| | INFOID:000000007563336 |
| 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 <u>DLK-101, "Diagnosis Procedure"</u> . | |
| 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. | |

Revision: 2013 February

VEHICLE SECURITY SYSTEM CANNOT BE SET

| < SYMPTOM DIAGNOSIS > | [WITH INTELLIGENT KEY SYSTEM] |
|---|---|
| NO >> Repair or replace malfunctioning parts. | |
| 4. CONFIRM THE OPERATION | |
| Confirm the operation again. | |
| Is the result normal? | |
| YES >> Check intermittent incident. Refer to <u>GI-40, "Intermitter</u> | nt Incident". |
| | |
| DOOR LOCK AND UNLOCK SWITCH | |
| DOOR LOCK AND UNLOCK SWITCH : Description | INFOID:00000007563337 |
| Armed phase is not activated when all doors are locked by door loo | ck and unlock switch. |
| NOTE: Check that vehicle is under the condition shown in "CONDITIC TIONS)" before starting diagnosis, and check each symptom. | ONS OF VEHICLE (OPERATING CONDI- |
| CONDITION OF VEHICLE (OPERATING CONDITIONS) | |
| "SECURITY ALARM SET": ON Check the setting of "SECURITY ALARM SET" in "Work Suppor CONSULT. | rt" mode of "THEFT ALM" of "BCM" using |
| DOOR LOCK AND UNLOCK SWITCH : Diagnosis F | Procedure INFOID:00000007563338 |
| 1. CHECK DTC OF SOFT TOP CONTROL UNIT | |
| Check DTC in "Self Diagnostic Result" mode of "CONVERTIBLE R | COOF" using CONSULT. |
| Is DTC detected? | |
| YES >> Perform the trouble diagnosis regarding to the detecte NO >> GO TO 2 | d DTC. Refer to <u>RF-63, "DTC Index"</u> . |
| 2. CHECK DOOR LOCK FUNCTION | |
| Lock/unlock door using door lock and unlock switches (Driver side | and passenger side). |
| Refer to <u>DLK-13, "System Description"</u> . | |
| Is the inspection result normal? | |
| NO >> Check power door lock system Refer to DLK-99 "ALL | DOOR · Diagnosis Procedure" |
| $3_{\rm CHECK DOOR SWITCH}$ | - De ent. Diagnosie i recourse. |
| Check door switch circuit | |
| Refer to <u>DLK-55, "Component Function Check"</u> . | |
| 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 <u>DLK-69, "Component Function Check"</u> . | |
| $\frac{15 \text{ me} \text{ mspection result normal?}}{\text{VES}} > 60 \text{ TO } 5$ | |
| 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 "Intermitter | nt Incident". |

NO >> GO TO 1.

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

< SYMPTOM DIAGNOSIS >

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description

INFOID:000000007563339

[WITH INTELLIGENT KEY SYSTEM]

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:000000007563340

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 <u>DLK-55, "Diagnosis Procedure"</u>.

2. CHECK TRUNK ROOM LAMP SWITCH

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning parts.

3.CHECK HEADLAMP FUNCTION

Check headlamp function. Refer to <u>SEC-92, "Component Function Check"</u>.

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-93, "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 <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE

| Description | A |
|--|--------|
| Intelligent Key insert information does not operate when push-button ignition switch is operated while Intelli- gent Key is not inside vehicle. | В |
| Operating conditions of warning function are extremely complicated. Refer to <u>DLK-23</u> , "WARNING FUNC- <u>TION : System Description"</u> . | С |
| Diagnosis Procedure | |
| 1.CHECK POWER POSITION | D |
| Check if ignition switch position is changing or not. | |
| Does ignition switch position change? | E |
| YES >> GO TO 3. NO >> GO TO 2. | |
| 2.CHECK PUSH-BUTTON IGNITION SWITCH | F |
| Check push-button ignition switch. Refer to PCS-65, "Component Function Check". | |
| Is the inspection result normal? | G |
| YES >> Check BCM for DTC. Refer to <u>BCS-54, "DTC_Index"</u> . NO >> Repair or replace the malfunctioning parts. | ш |
| 3. CHECK DOOR SWITCH | П |
| Check door switch. Refer to DLK-55, "Component Function Check". | I |
| Is the inspection result normal? | |
| YES >> GO TO 4. NO >> Repair or replace the malfunctioning parts. | J |
| 4.CHECK KEY SLOT | |
| Check key slot. Refer to <u>DLK-91, "Component Function Check"</u> . | SEC |
| Is the inspection result normal? | |
| YES >> GO TO 5. | L |
| 5 CHECK INFORMATION DISPLAY | |
| Check information display. | M |
| Relef to <u>DER-88. Component Function Check</u> . Is the inspection result normal? | |
| YES >> GO TO 6. | Ν |
| NO >> Repair or replace the malfunctioning parts. | |
| O.CHECK KEY SLOT INDICATOR | \cap |
| Check key slot indicator. Refer to <u>DLK-93, "Component Function Check"</u> . | 0 |
| Is the inspection result normal? | Ρ |
| 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 <u>GI-40, "Intermittent Incident"</u>.

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INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE < SYMPTOM DIAGNOSIS >

NO >> GO TO 1. [WITH INTELLIGENT KEY SYSTEM]

PANIC ALARM FUNCTION DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

PANIC ALARM FUNCTION DOES NOT OPERATE

Description

NOTE:

- Before performing the following procedure, check "Work Flow". Refer to <u>SEC-36, "Work Flow"</u>
- 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

1.CHECK REMOTE KEYLESS ENTRY FUNCTION

| Check remote keyless entry function. Refer to DLK-20, "REMC | TE KEYLESS ENTRY FUNCTION : System | F |
|--|------------------------------------|---|
| Description" | | |
| Deep deer leek or upleak when energing intelligent key bytten? | | |

Does door lock or unlock when operating Intelligent key button?

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

2.CHECK VEHICLE SECURITY ALARM OPERATION

Check vehicle security alarm operation. Refer to <u>SEC-16, "VEHICLE SECURITY SYSTEM : System Descrip-</u>

Is alarm (headlamps and horns) activated?

YES >> GO TO 3.

NO >> Go to <u>SEC-104</u>, "Diagnosis Procedure".

3.CHECK "PANIC ALARM" BUTTON OPERATION

1. Turn ignition switch ON.

- Select "RKE-PANIC" and "RKE OPE COUN1" in "Data Monitor" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.
- 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 | $OFF\toON$ |
| 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 <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

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INFOID:000000007563343

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION KEY SLOT

Exploded View

INFOID:000000007563345

INFOID:000000007563346



1. Key slot

2. Instrument lower panel LH

Removal and Installation

REMOVAL

- 1. Remove the instrument lower panel LH (2). Refer to <u>IP-13.</u> <u>"Removal and Installation"</u>.
- 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

< REMOVAL AND INSTALLATION >

PUSH-BUTTON IGNITION SWITCH

Exploded View

INFOID:000000007563347



1. Push-button ignition switch

Removal and Installation

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.

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INFOID:000000007563348

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SEC-109

2012 Murano CrossCabriolet

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SECURITY INDICATOR LAMP

< REMOVAL AND INSTALLATION >

SECURITY INDICATOR LAMP

Exploded View

INFOID:000000007563349

INFOID:000000007563350

[WITH INTELLIGENT KEY SYSTEM]



1. Security indicator lamp

Removal and Installation

REMOVAL

Remove the security indicator lamp (1).

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

<u>∠__</u>: Pawl



INSTALLATION Install in the reverse order of removal.