SECTION SEC
SECURITY CONTROL SYSTEM

CONTENTS

WITH INTELLIGENT KEY SYSTEM

PRECAUTION

PRECAUTIONS

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

INFOID:0000000007563201

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:

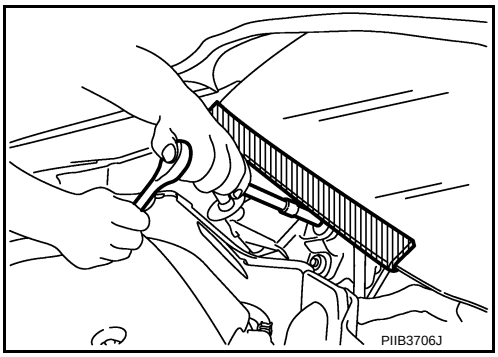
Always observe the following items for preventing accidental activation.

- **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:0000000007563202

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



Precaution for Battery Service

INFOID:0000000007563203

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:0000000007563204

WARNING:

Always observe the following items for preventing accidental activation.

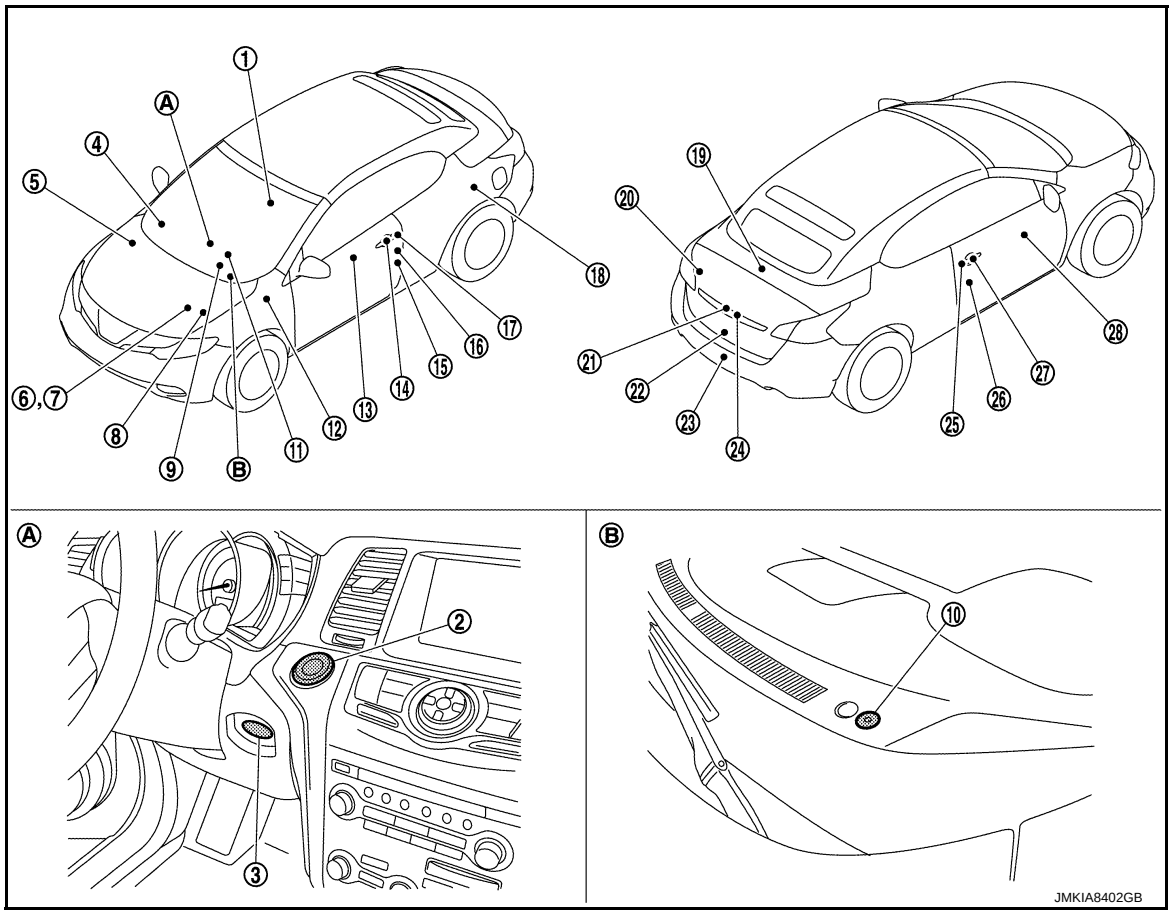
- **Risk of passenger injury or death may increase if the pop-up roll bar does not deploy during a roll over collision. In order to reduce the chance of an incident where the pop-up roll bar is inoperative, all maintenance must be performed by a NISSAN or INFINITI dealer.**
- **Before removing and installing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

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000007563205



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

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

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

Component Description

INFOID:0000000007563206

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

ABS Actuator and Electric Unit (Control Unit)

INFOID:0000000007563207

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:0000000007563208

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

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

CVT Shift Selector (Detention Switch)

INFOID:0000000007563209

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

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

ECM

INFOID:0000000007563210

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

IPDM E/R

INFOID:0000000007563211

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

TCM

INFOID:0000000007563212

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

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

Combination Meter

INFOID:0000000007563213

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

Door Switch

INFOID:0000000007563214

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

Inside Key Antenna

INFOID:0000000007563215

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

Intelligent Key

INFOID:0000000007563216

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

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

Key Slot

INFOID:0000000007563217

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:0000000007563218

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:0000000007563219

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:0000000007563220

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

Soft Top Control Unit

INFOID:0000000007563221

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

Starter Control Relay

INFOID:0000000007563222

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

Starter Relay

INFOID:0000000007563223

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

Stop Lamp Switch

INFOID:0000000007563224

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

Trunk Key Cylinder Switch

INFOID:0000000007563225

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

Trunk Room Lamp Switch

INFOID:0000000007563226

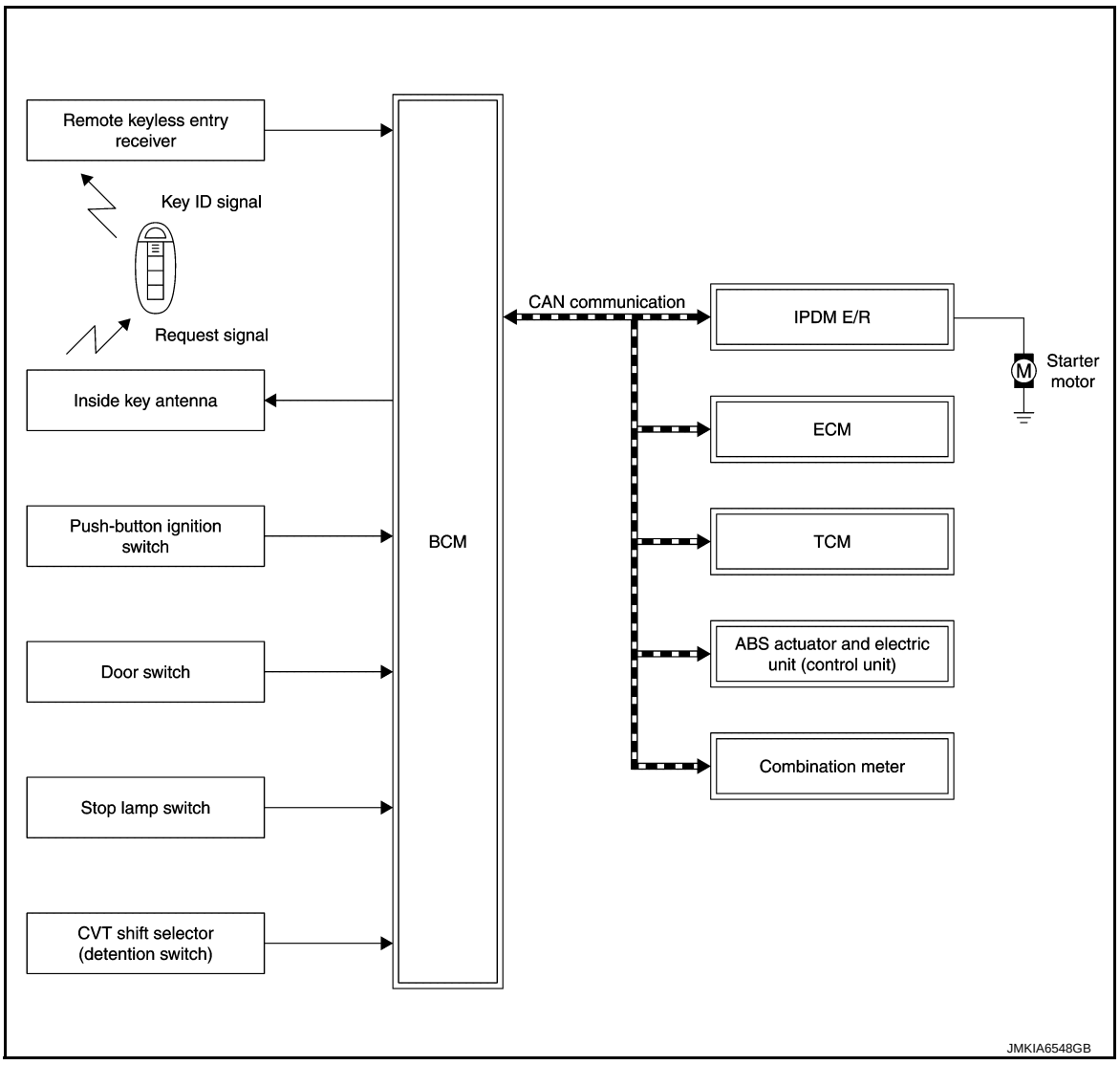
Trunk room lamp switch detects engagement of trunk lid lock assembly and trunk lid striker, then transmits the trunk room open/close signal to BCM.

SYSTEM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Diagram

INFOID:0000000007563227



INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:0000000007563228

SYSTEM DESCRIPTION

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

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

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

OPERATION WHEN INTELLIGENT KEY IS CARRIED

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

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

OPERATION RANGE

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

OPERATION WHEN KEY SLOT IS USED

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

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

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

NOTE:

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

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

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

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

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

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

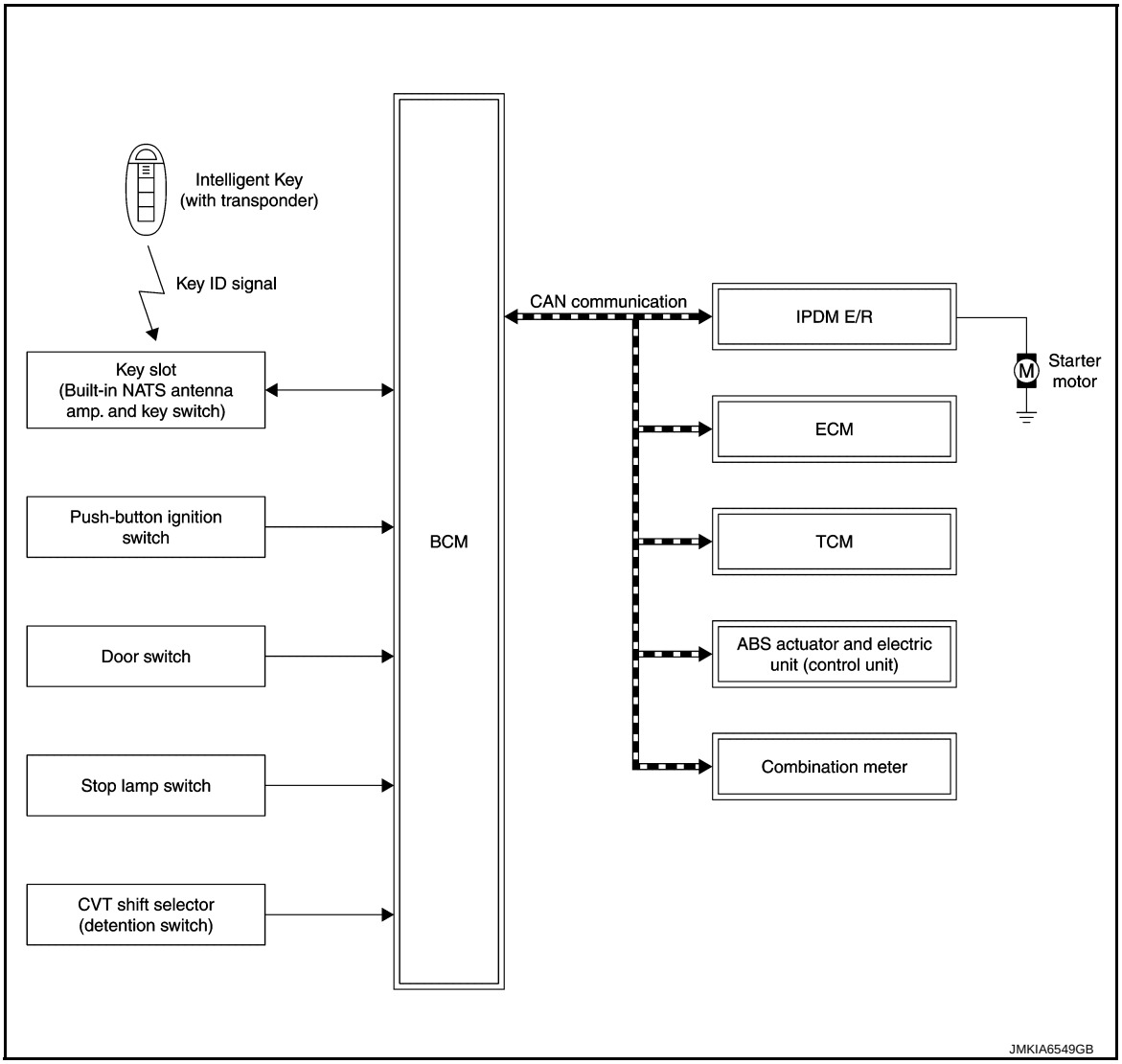
Emergency stop operation

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

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:0000000007563229



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:0000000007563230

SYSTEM DESCRIPTION

- The NIssan Vehicle Immobilizer System-NATS [NVIS (NATS)] prevents engine being started by Intelligent Key whose ID is not registered to the vehicle (BCM). It has a higher protection against auto theft involving the duplication of mechanical keys.
- The mechanical key integrated in the Intelligent Key cannot start the engine. When Intelligent Key battery is discharged, the NVIS (NATS) ID verification is performed between BCM and transponder integrated into Intelligent Key when Intelligent Key is inserted into key slot. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Security indicator lamp always blinks when the ignition switch is in any position except ON, to warn that the vehicle is equipped with NVIS (NATS).
- Up to 4 Intelligent Key can be registered (Including the standard ignition key) on request from the owner.
- When replacing ECM, BCM or Intelligent Key, the specified procedure (Initialization and registration) using CONSULT is required.
- Possible symptom of NVIS (NATS) malfunction is “Engine can not start”. However, this symptom may occur because of other than NVIS (NATS) malfunction. So, start the trouble diagnosis according to SEC-36, "Work Flow".
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-116, "Work Procedure".

PRECAUTIONS FOR KEY REGISTRATION

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

SECURITY INDICATOR LAMP

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

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

OPERATION WHEN INTELLIGENT KEY IS INSERTED INTO KEY SLOT

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

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

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

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

NOTE:

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

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

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

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

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

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

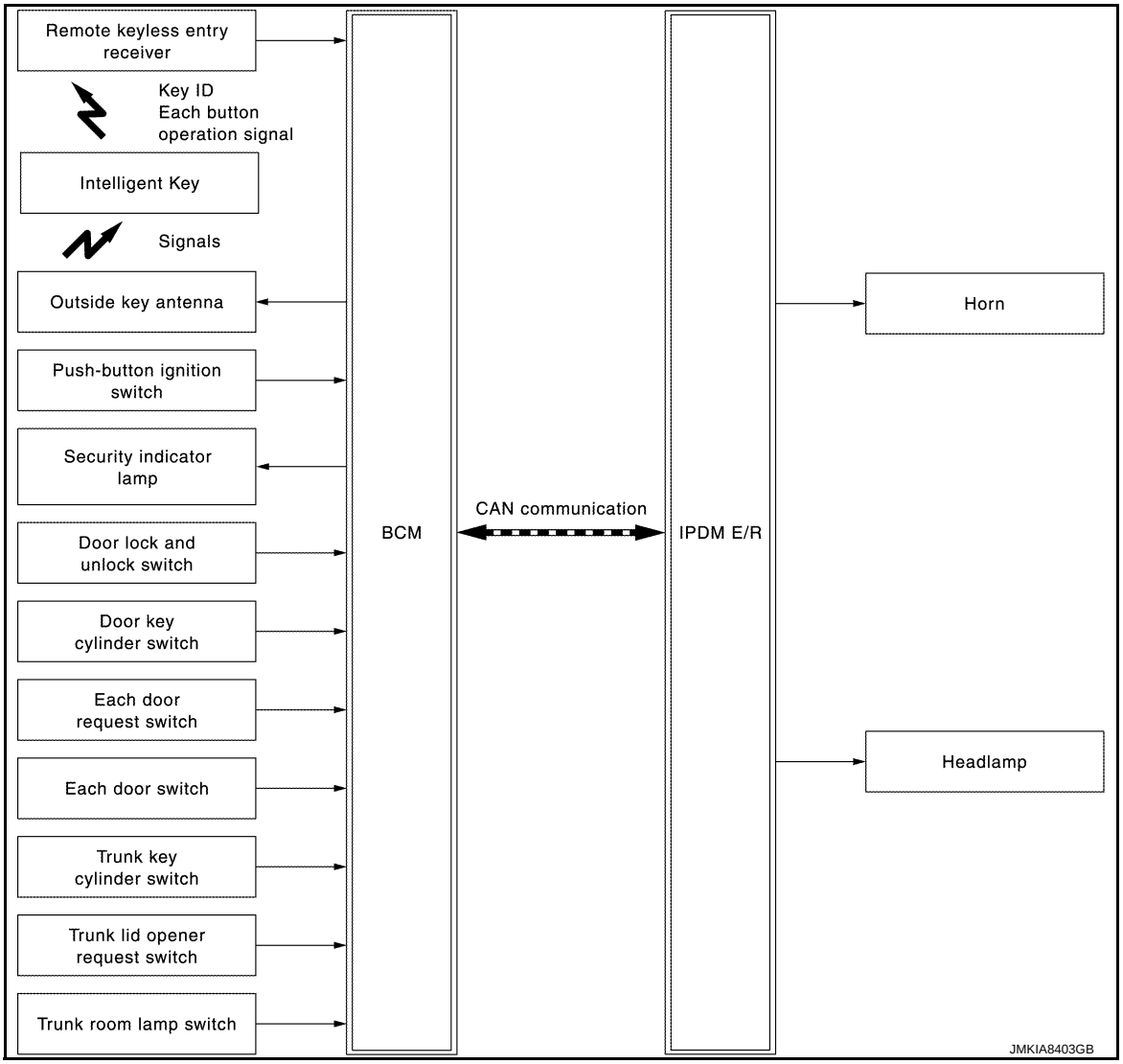
Emergency stop operation

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

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Diagram

INFOID:0000000007563231



VEHICLE SECURITY SYSTEM : System Description

INFOID:0000000007563232

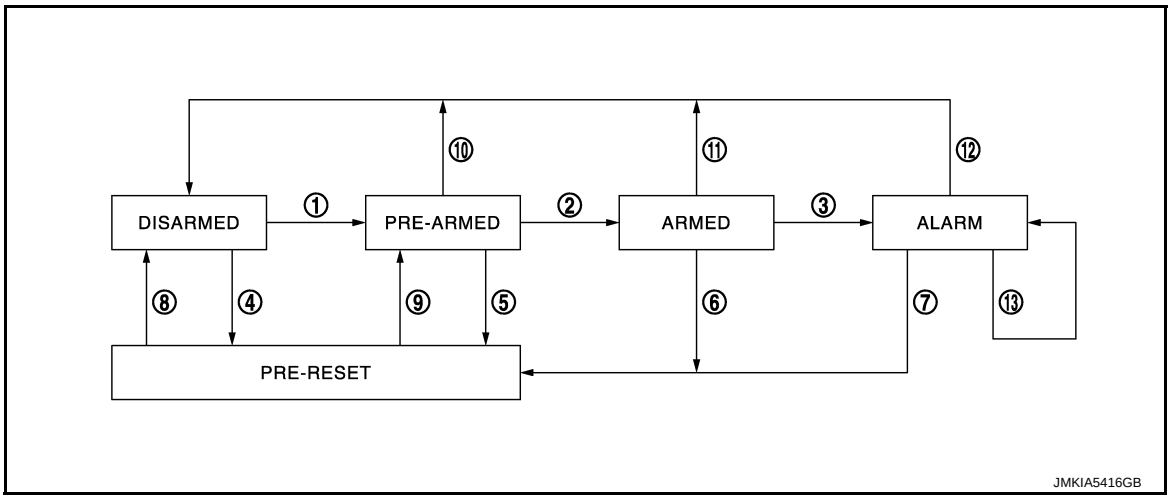
- The vehicle security system has two alarm functions (theft warning alarm and panic alarm), and reduces the possibility of a theft or mischief by activating horns and headlamps intermittently.
- The panic alarm does not start when the theft warning alarm is activating, and the panic alarm stops when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

Priority	Function
1	Theft warning alarm
2	Panic alarm

THEFT WARNING ALARM

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

Operation Flow



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

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

NOTE:

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

DISARMED Phase

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

PRE-ARMED Phase

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

ARMED Phase

The vehicle security system is set, and BCM monitors all necessary inputs. If any door or trunk lid is opened without using Intelligent Key or mechanical key, vehicle security system switches to the ALARM phase. Security indicator lamp blinks every 2.4 seconds.
If the theft warning alarm is activated irregularly when the customer opened trunk lid using mechanical key, trunk key cylinder switch circuit might have a malfunction. Check the switch circuit. Refer to SEC-97, "Component Function Check".
To reset the ARMED phase, refer to the switching condition of No. 11 in the table above.

ALARM Phase

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

NOTE:

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

PRE-RESET Phase

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

PANIC ALARM

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

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

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

INFOID:0000000007829021

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

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

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

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

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

NOTE:

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

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

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

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000007829023

WORK SUPPORT

Monitor item	Description
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode
AUTO LOCK SET	Auto door lock time can be changed in this mode • 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 BCS-54, "DTC Index".

DATA MONITOR

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
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

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

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

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operation. 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.

Test item	Description
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.
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.
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.

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:0000000007563235

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

DATA MONITOR

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

WORK SUPPORT

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

ACTIVE TEST

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

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000007563236

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

ACTIVE TEST

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

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:0000000007829022

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

Monitor Item [Unit]	MAIN SIGNALS	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 communication.
CRNRNG LMP REQ [Off/On]		**NOTE:** The item is indicated, but not monitored.

ACTIVE TEST

Test item

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

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:0000000007563238

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"

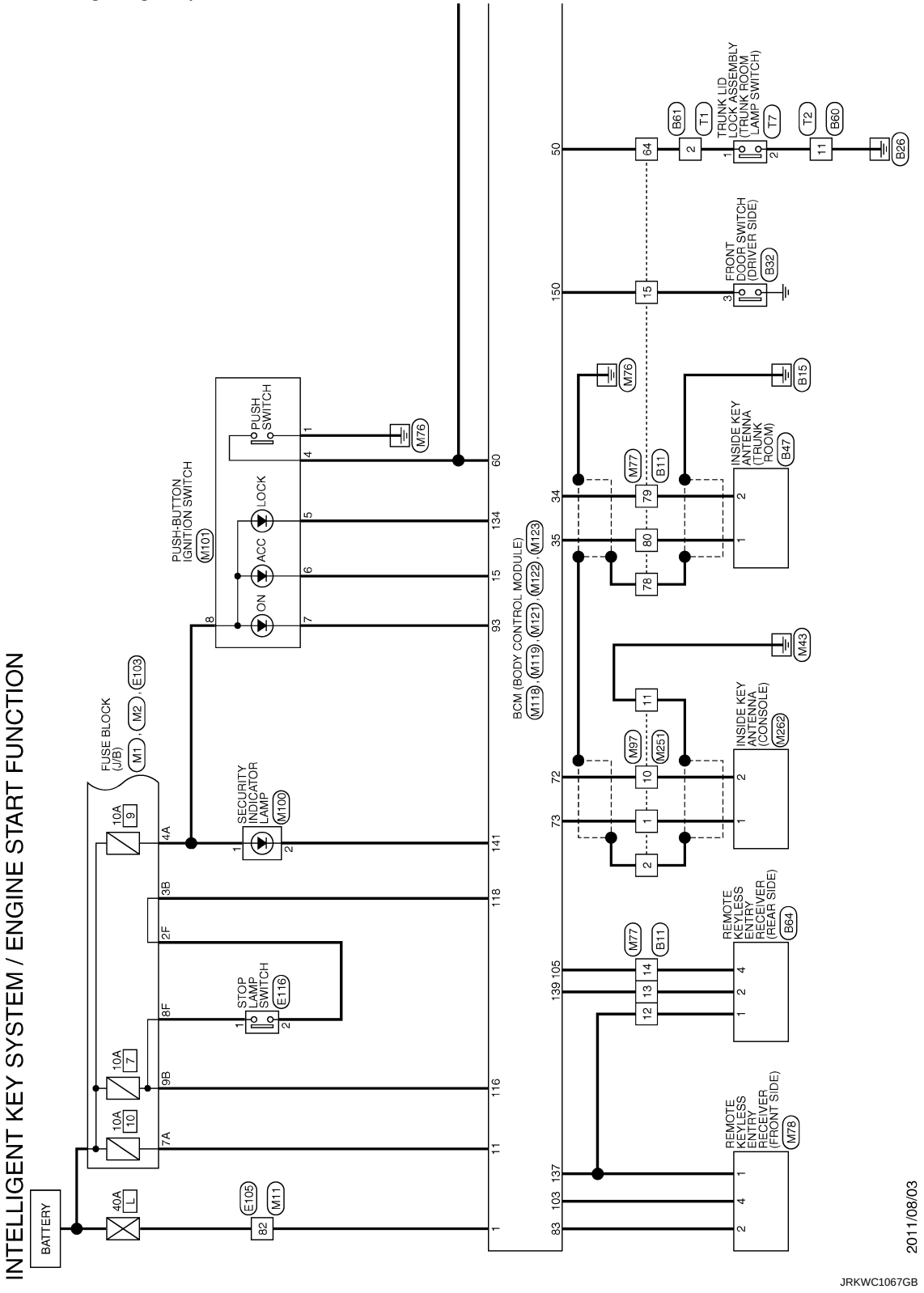
WIRING DIAGRAM

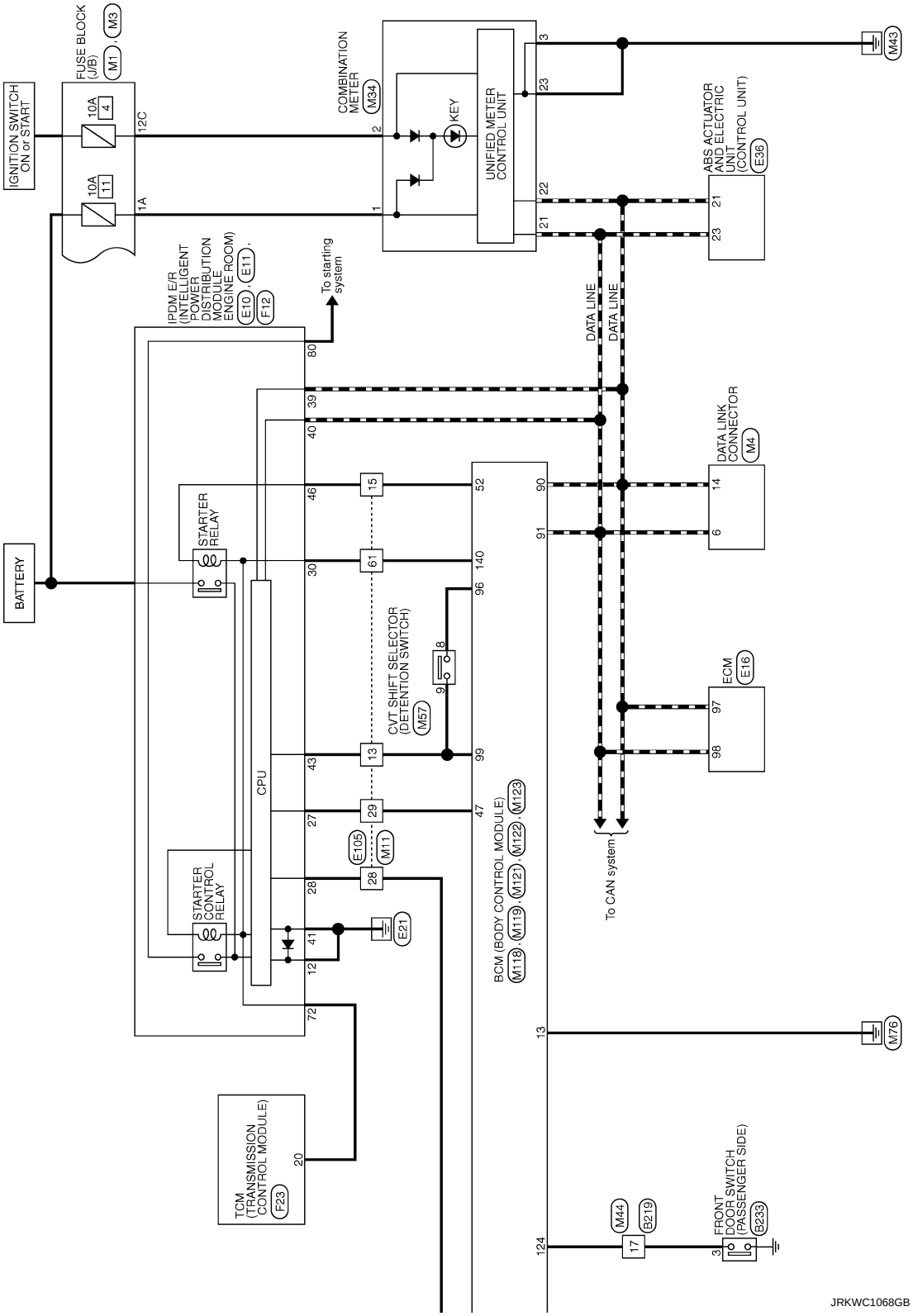
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram

INFOID:0000000007563239

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



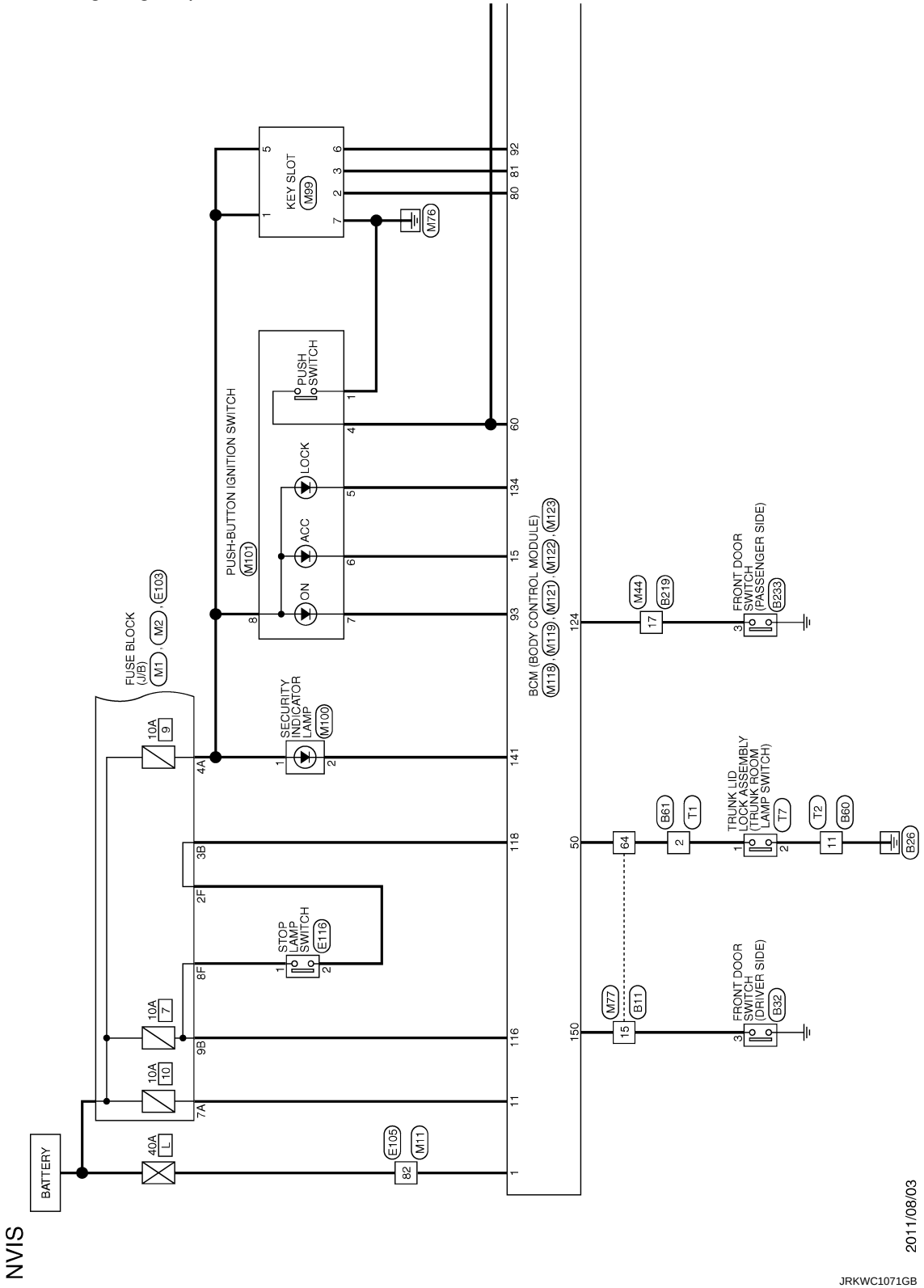

IGNITION SWITCH ON or START
FUSE BLOCK (JB)
M1
M3
10A 4
10A 11
12C
1A
COMBINATION METER
M34
KEY
UNIFIED METER CONTROL UNIT
M43
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
E36
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E10, E11, E12
To starting system
DATA LINE
DATA LINE
DATA LINK CONNECTOR
M4
BATTERY
STARTER RELAY
CPU
CVT SHIFT SELECTOR (DETENTION SWITCH)
M57
ECM
E16
STARTER CONTROL RELAY
E105
M11
E21
BCM (BODY CONTROL MODULE)
M118, M119, M121, M122, M123
To CAN system
TCM (TRANSMISSION CONTROL MODULE)
F23
M76
M44
B219
FRONT DOOR SWITCH (PASSENGER SIDE)
B233
JRKWC1068GB

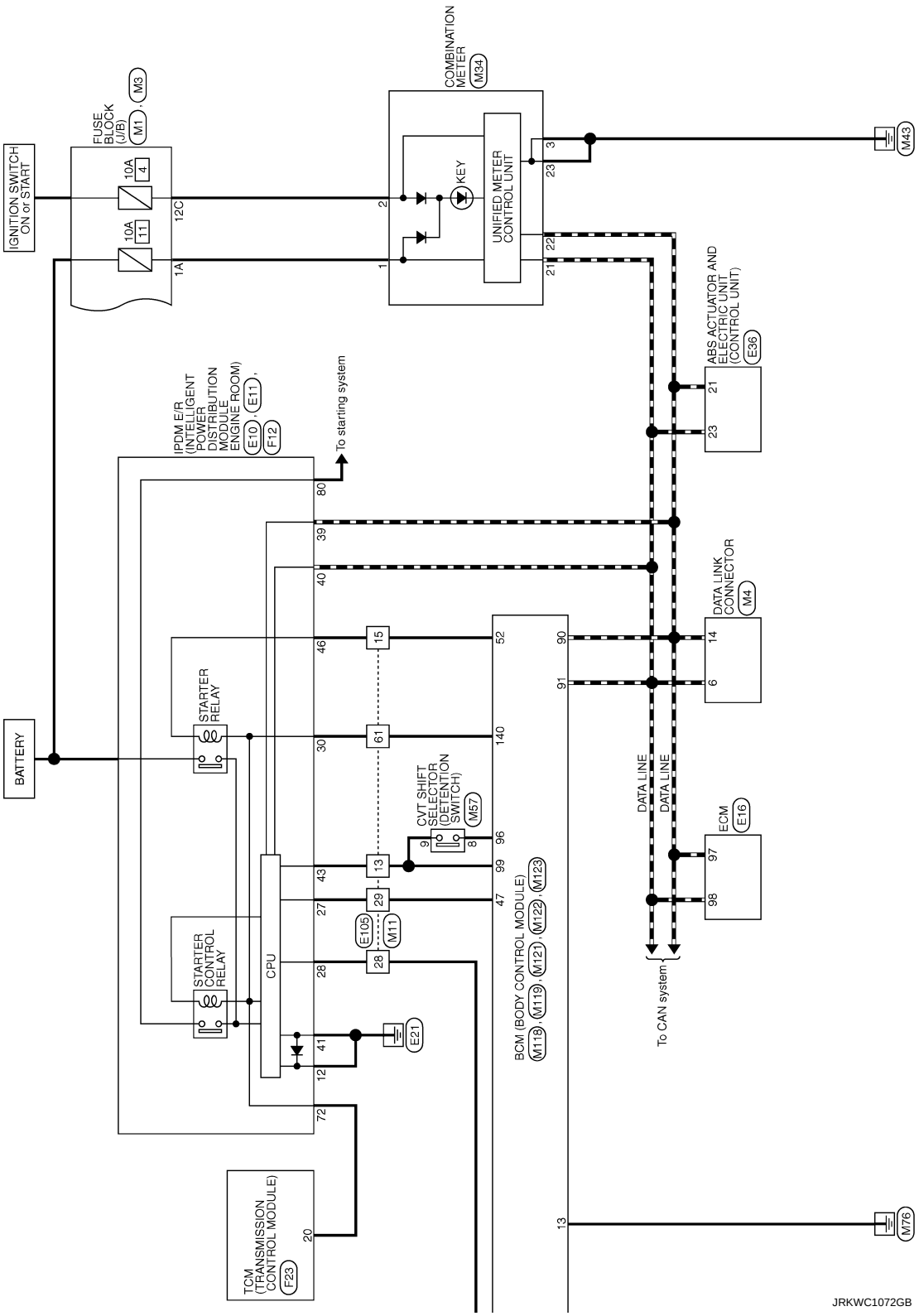
NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram

INFOID:0000000007563240

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



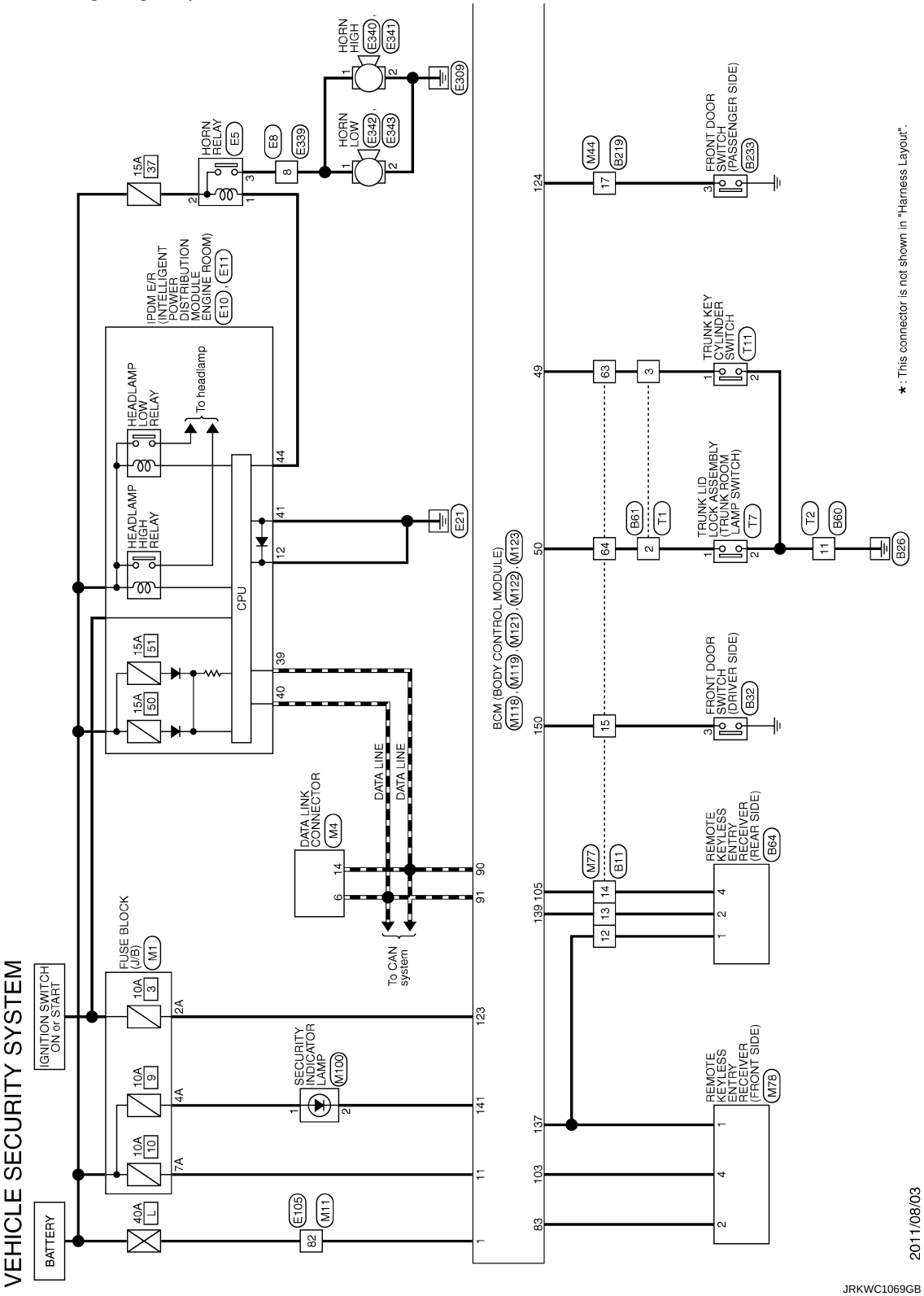

COMBINATION METER (M34)
FUSE BLOCK (J/B) (M1), (M3)
IGNITION SWITCH ON or START
10A 4
10A 11
12C
1A
UNIFIED METER CONTROL UNIT
KEY
M43
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (E36)
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E10), (E11), (F12)
To starting system
DATA LINK CONNECTOR (M4)
BATTERY
STARTER RELAY
CVT SHIFT SELECTOR (DETENTION SWITCH) (M57)
DATA LINE
ECM (E16)
STARTER CONTROL RELAY
CPU
BCM (BODY CONTROL MODULE) (M118), (M119), (M121), (M122), (M123)
E105
M11
E21
To CAN system
TCM (TRANSMISSION CONTROL MODULE) (F23)
M76
JRKWC1072GB

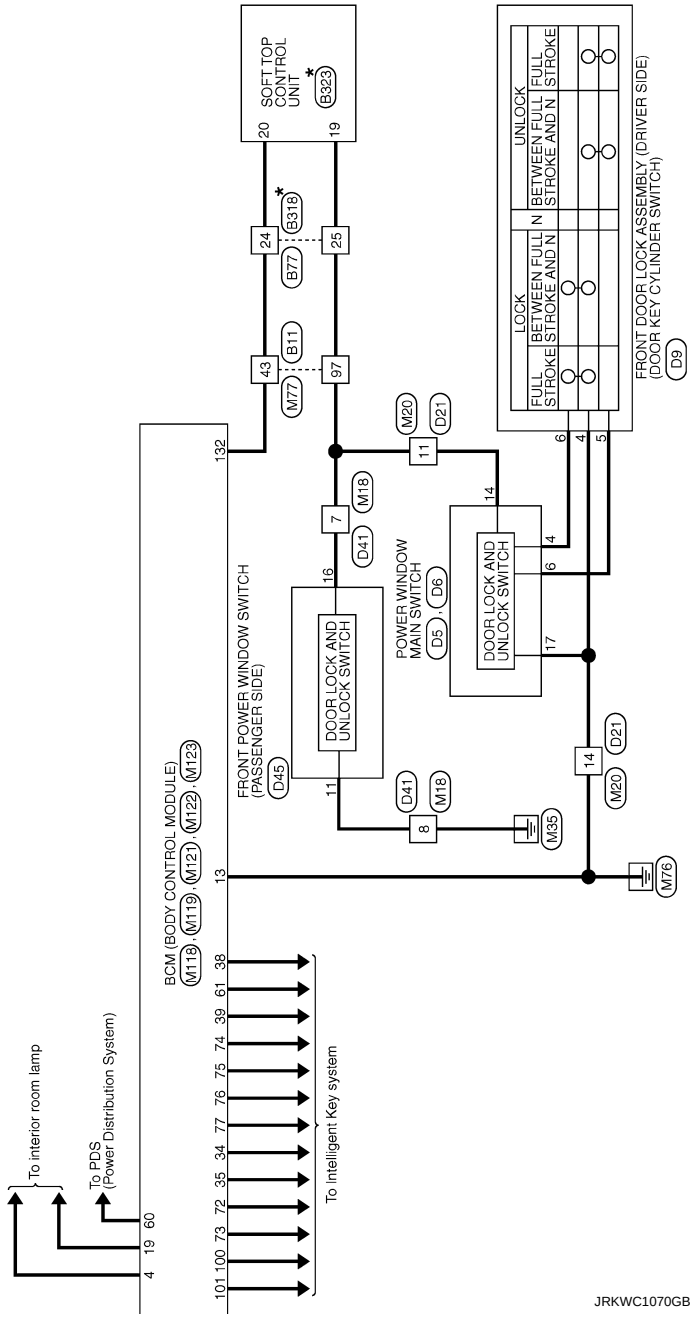
VEHICLE SECURITY SYSTEM

Wiring Diagram

INFOID:0000000007563241

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




SOFT TOP CONTROL UNIT
B323
20
19
24
25
B318
B77
43
97
B11
M77
FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE)
(DOOR KEY CYLINDER SWITCH)
D9
LOCK
UNLOCK
FULL STROKE
BETWEEN FULL STROKE AND N
N
BETWEEN FULL STROKE AND N
FULL STROKE
6
4
5
M20
D21
11
14
132
7
M18
D41
16
POWER WINDOW MAIN SWITCH
D5
D6
DOOR LOCK AND UNLOCK SWITCH
4
6
17
FRONT POWER WINDOW SWITCH (PASSENGER SIDE)
D45
DOOR LOCK AND UNLOCK SWITCH
11
D41
M18
8
M35
14
D21
M20
M76
13
BCM (BODY CONTROL MODULE)
M119, M119, M121, M122, M123
38
61
39
74
75
76
77
34
35
72
73
100
101
To intelligent Key system
To PDS
(Power Distribution System)
To interior room lamp
4
19
60
JRKWC1070GB

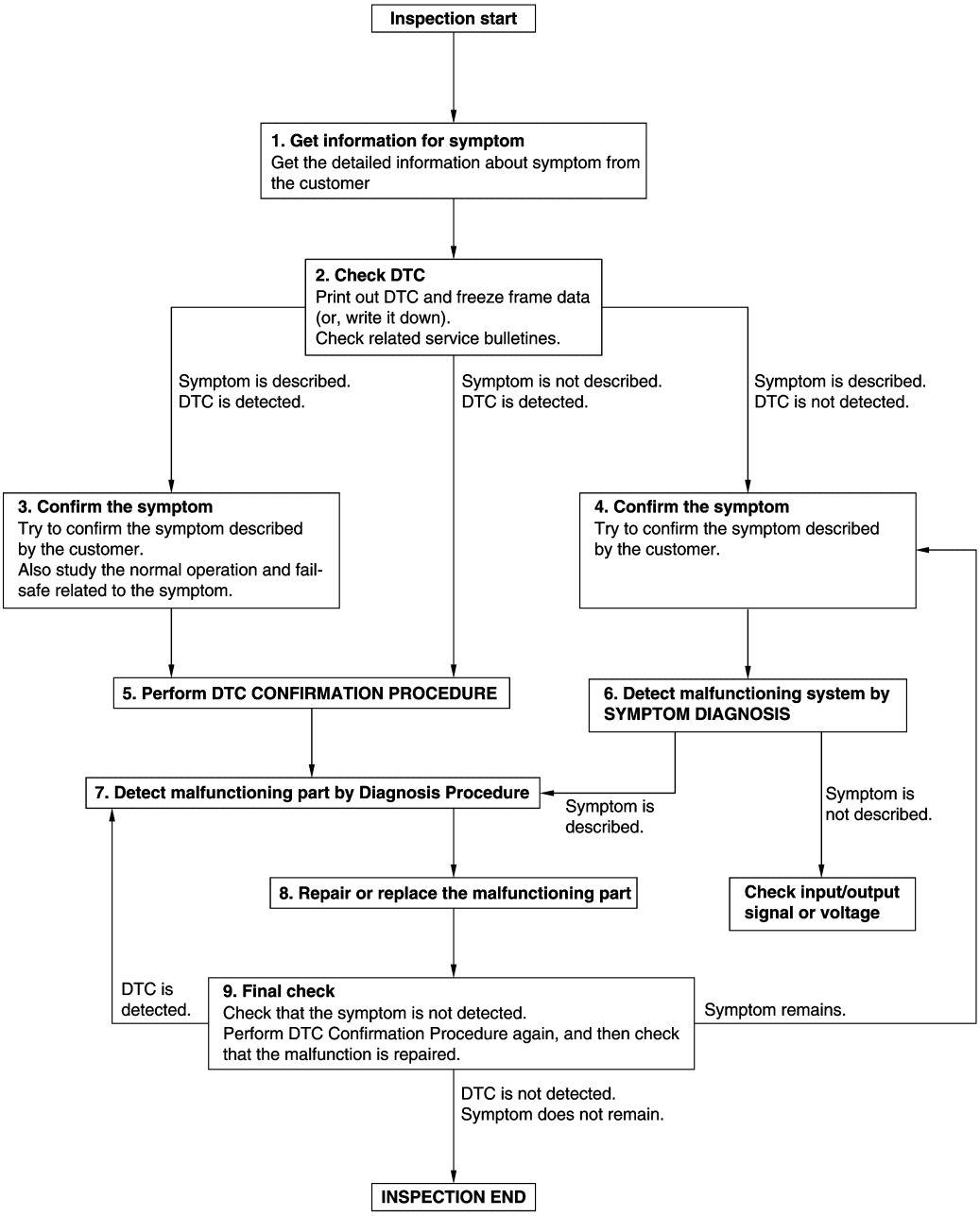
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000007827558

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

1.GET INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

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

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-53, "DTC Inspection Priority Chart" (BCM), and determine trouble diagnosis order.

NOTE:

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

Is DTC detected?

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

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

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

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

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

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

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

Is DTC detected and does symptom remain?

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM

ECM : Description

INFOID:0000000007563243

Performing the following procedure can automatically activate recommunication of ECM and BCM, but only when the ECM is replaced with a new one*.
*: New one means a virgin ECM that has never been energized on-board.
(In this step, initialization procedure using CONSULT is not necessary)

NOTE:
- **When the replaced ECM is not a brand new, the specified procedure (Initialization and registration) using CONSULT is necessary.**
- **If multiple keys are attached to the key holder, separate them before beginning work.**
- **Distinguish keys with unregistered key IDs from those with registered IDs.**

ECM : Work Procedure

INFOID:0000000007563244

1.PERFORM ECM RECOMMUNICATING FUNCTION

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

>> GO TO 2.

2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform the following procedure, EC-116, "Work Procedure".

>> END

BCM

BCM : Description

INFOID:0000000007563245

BEFORE REPLACEMENT

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

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

AFTER REPLACEMENT

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

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

BCM : Work Procedure

INFOID:0000000007563246

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-62, "Description".

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

>> GO TO 2.

2. REPLACE BCM

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

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to BCS-62, "Work Procedure".

>> GO TO 4.

4. INITIALIZE BCM (NATS) (IF EQUIPPED)

Perform BCM initialization. (NATS)

>> WORK END

DTC/CIRCUIT DIAGNOSIS

P1610 LOCK MODE

Description

INFOID:0000000007563247

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:0000000007563248

DTC DETECTION LOGIC

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

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to SEC-41, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563249

1. CHECK ENGINE START FUNCTION

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

>> INSPECTION END

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000007563250

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

Diagnosis Procedure

INFOID:0000000007563251

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 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 4.

4.REPLACE ECM

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

>> INSPECTION END

P1612 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000007563252

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563253

1.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 2.

2.REPLACE ECM

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

>> INSPECTION END

P1614 CHAIN OF IMMU-KEY

DTC Logic

INFOID:0000000007563254

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 CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

YES >> Go to SEC-44, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563255

1. INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

Which procedure confirms DTC?

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

2.CHECK PUSH-BUTTON IGNITION SWITCH OPERATION

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

Does ignition switch turn ON?

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

3.CHECK KEY SLOT COMMUNICATION SIGNAL

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

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

Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-108, "Removal and Installation".
NO >> GO TO 4.

4.CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

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

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

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

Key slot		Ground	Continuity
Connector	Terminal		
M99	3		Not existed

Is the inspection result normal?

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

5. CHECK KEY SLOT GROUND CIRCUIT

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

Key slot		Ground	Continuity
Connector	Terminal		
M99	7		Existed

Is the inspection result normal?

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

6. CHECK KEY SLOT INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-108, "Removal and Installation".
NO >> GO TO 7.

7. CHECK KEY SLOT CIRCUIT

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

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

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

Key slot		Ground	Continuity
Connector	Terminal		
M99	2		Not existed

Is the inspection result normal?

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

8.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

P1615 DIFFRENCE OF KEY

DTC Logic

INFOID:0000000007563256

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to SEC-47, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563257

1.PERFORM INITIALIZATION

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

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

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

2.REPLACE INTELLIGENT KEY

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

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

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2190 NATS ANTENNA AMP.

DTC Logic

INFOID:0000000007563258

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

YES >> Go to SEC-48, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563259

1. INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

Which procedure confirms DTC?

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

2.CHECK PUSH-BUTTON IGNITION SWITCH OPERATION

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

Does ignition switch turn ON?

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

3.CHECK KEY SLOT COMMUNICATION SIGNAL

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

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

Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-108, "Removal and Installation".
NO >> GO TO 4.

4.CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

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

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

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

Key slot		Ground	Continuity
Connector	Terminal		
M99	3		Not existed

Is the inspection result normal?

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

5. CHECK KEY SLOT GROUND CIRCUIT

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

Key slot		Ground	Continuity
Connector	Terminal		
M99	7		Existed

Is the inspection result normal?

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

6. CHECK KEY SLOT INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-108, "Removal and Installation".
NO >> GO TO 7.

7. CHECK KEY SLOT CIRCUIT

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

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

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

Key slot		Ground	Continuity
Connector	Terminal		
M99	2		Not existed

Is the inspection result normal?

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

8.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2191 DIFFERENCE OF KEY

DTC Logic

INFOID:0000000007563260

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to SEC-51, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563261

1.PERFORM INITIALIZATION

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

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

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

2.REPLACE INTELLIGENT KEY

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

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

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000007563262

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

Diagnosis Procedure

INFOID:0000000007563263

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 Logic

INFOID:0000000007563264

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563265

1.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 2.

2.REPLACE ECM

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

>> INSPECTION END

B2195 ANTI-SCANNING

DTC Logic

INFOID:0000000007563266

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563267

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 BCS-76, "Removal and Installation".

3.CHECK SELF DIAGNOSTIC RESULT 2

1. Obtain the customers approval to remove unspecified accessory part related to engine start, and then remove it.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
3. Erase DTC.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-54, "DTC Logic".

Is DTC B2195 detected?

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

B2555 STOP LAMP

DTC Logic

INFOID:0000000007563268

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563269

1.CHECK STOP LAMP SWITCH INPUT SIGNAL 1

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

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

Is the inspection normal?

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

2.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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

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

Is the inspection result normal?

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

3.CHECK STOP LAMP SWITCH INPUT SIGNAL 2

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

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

Is the inspecting result normal?

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

4.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

5.CHECK STOP LAMP SWITCH CIRCUIT

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

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

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

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E116	2		Not existed

Is the inspection result normal?

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

6.CHECK STOP LAMP SWITCH

Refer to SEC-56, "Component Inspection".

Is the inspection result normal?

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

7.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000007563270

1.CHECK STOP LAMP SWITCH

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

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

Is the inspection result normal?

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

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:0000000007563271

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

INFOID:0000000007563272

1.CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

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

Is the inspection normal?

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

2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

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

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

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

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

Is the inspection normal?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation".
NO >> Repair or replace harness or connector.

3. CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

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

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

Is the inspection normal?

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

4. CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-59, "Component Inspection".

Is the inspection normal?

YES >> GO TO 5.
NO >> Replace push-button ignition switch. Refer to SEC-109, "Removal and Installation".

5. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000007563273

1. CHECK PUSH-BUTTON IGNITION SWITCH

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

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

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace push-button ignition switch. Refer to SEC-109, "Removal and Installation".

B2557 VEHICLE SPEED

DTC Logic

INFOID:0000000007563274

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2557 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
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 SEC-60, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563275

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

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

Is the inspection result normal?

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

2.CHECK DTC OF COMBINATION METER

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

Is the inspection result normal?

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2560 STARTER CONTROL RELAY

DTC Logic

INFOID:0000000007563276

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
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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563277

1.CHECK DTC OF IPDM E/R

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

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident"

>> INSPECTION END

B2601 SHIFT POSITION

DTC Logic

INFOID:0000000007563278

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 BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2601	SHIFT POSITION	BCM detects a difference between the P position signal from CVT sift selector (detention switch) and the P position signal from IPDM E/R (CAN) for 2 seconds or more	• Harness or connectors (The CAN communication line is open or shorted.) • 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 SEC-62, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563279

1.CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

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

Is the inspection result normal?

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

2.CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

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

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

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

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation".
NO >> Repair or replace harness or connector.

3. CHECK CVT SHIFT SELECTOR CIRCUIT (BCM)

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

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

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

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

Is the inspection result normal?

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

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

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

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

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

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

Is the inspection result normal?

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

5. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-65, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CVT shift selector. Refer to TM-143, "Removal and Installation".

6. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2602 SHIFT POSITION

DTC Logic

INFOID:0000000007563280

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2602 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
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

INFOID:0000000007563281

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

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

Is the inspection result normal?

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

2.CHECK DTC OF COMBINATION METER

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

Is the inspection result normal?

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

3.CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

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

Is the inspection result normal?

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

4. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

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

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

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

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation".
NO >> Repair or replace harness or connector.

5. CHECK CVT SHIFT SELECTOR CIRCUIT

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

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

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

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

Is the inspection result normal?

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

6. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-65, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace CVT shift selector. Refer to TM-143, "Removal and Installation".

7. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000007563282

1. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

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

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

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

Is the inspection result normal?

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

B2603 SHIFT POSITION

DTC Logic

INFOID:0000000007563283

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	Possible causes
B2603	SHIFT POSI STATUS	BCM 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 open or shorted.) • Harness or connector [CVT shift selector circuit (detention switch) is open or shorted.] • Harness or connectors (TCM circuit is open or shorted.) • CVT shift selector (detention switch) • TCM • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

YES >> Go to SEC-67, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

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

Is DTC detected?

YES >> Go to SEC-67, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563284

1.CHECK DTC OF TCM

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

Is the inspection result normal?

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

2.CHECK TCM CIRCUIT

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

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

4. Check continuity between TCM harness connector and ground.

TCM		Ground	Continuity
Connector	Terminal		
F23	20		Not existed

Is the inspection result normal?

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

3. CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

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

Is the inspection result normal?

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

4. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

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

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

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

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation".
NO >> Repair or replace harness or connector.

5. CHECK CVT SHIFT SELECTOR CIRCUIT

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

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

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

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

Is the inspection result normal?

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

6. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-65, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace CVT shift selector. Refer to TM-143, "Removal and Installation".

7. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000007563285

1. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

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

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

Is the inspection result normal?

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

B2604 SHIFT POSITION

DTC Logic

INFOID:0000000007563286

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2604 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
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 SEC-70, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563287

1.CHECK DTC OF TCM

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

Is the inspection result normal?

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

2.CHECK TCM CIRCUIT 1

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

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

Is the inspection result normal?

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

3.CHECK TCM CIRCUIT 2

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

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

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

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

Is the inspection result normal?

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

4. CHECK TCM CIRCUIT 3

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

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

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

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

Is the inspection result normal?

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

5. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2605 SHIFT POSITION

DTC Logic

INFOID:0000000007563288

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 BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2605	PNP/CLUTCH SW	BCM detects the following status for 500 ms or more when ignition switch is in the ON position • 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:0000000007563289

1.CHECK DTC OF IPDM E/R

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

Is the inspection result normal?

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

2.CHECK TCM CIRCUIT

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

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

4. Check continuity between TCM harness connector and ground.

TCM		Ground	Continuity
Connector	Terminal		
F23	20		Not existed

Is the inspection result normal?

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2608 STARTER RELAY

DTC Logic

INFOID:0000000007563290

DTC DETECTION LOGIC

NOTE:

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

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2608	STARTER RELAY	BCM receives starter relay ON signal (CAN) from IPDM E/R even if BCM turns the starter relay OFF.	• Harness or connectors (The CAN communication line is open or shorted.) • 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 SEC-74, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563291

1.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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

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

Is the inspection result normal?

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

2.CHECK STARTER RELAY CIRCUIT

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

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

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

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

Is the inspection result normal?

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B260F ENGINE STATUS

Description

INFOID:0000000007563292

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

DTC Logic

INFOID:0000000007563293

DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B260F 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
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 SEC-76, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563294

1.INSPECTION START

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

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

DTC Logic

INFOID:0000000007563295

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563296

1.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2617. Refer to SEC-77, "DTC Logic".

Is DTC detected?

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

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.

>> INSPECTION END

B261A PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:0000000007563297

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 BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261A	PUSH-BTN IGN SW	BCM detects the mismatch between the following for 1 second or more • 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 ignition 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 SEC-78, "Diagnosis Procedure"
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563298

1.INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

Which procedure confirms DTC?

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

2.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 1

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

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

Is the inspection result normal?

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

3. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 1

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

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

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

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

Is the inspection result normal?

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

4. CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 2

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

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

Is the inspection result normal?

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

5. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 2

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

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

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

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

Is the inspection result normal?

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

6. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B261E VEHICLE TYPE

Description

INFOID:0000000007563299

There are two types of vehicle.
- HEV
- Conventional

DTC Logic

INFOID:0000000007563300

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to SEC-81, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563301

1.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B261E. Refer to SEC-81, "DTC Logic".

Is the DTC displayed?

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

B26EA KEY REGISTRATION

DTC Logic

INFOID:0000000007563302

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 SEC-82, "Diagnosis Procedure"
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563303

1.PERFORM INITIALIZATION

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

Is DTC detected?

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

2.REPLACE INTELLIGENT KEY

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

Is DTC detected?

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

B210B STARTER CONTROL RELAY

DTC Logic

INFOID:0000000007563304

DTC DETECTION LOGIC

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

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210B	START CONT RLY ON	IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second. • 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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000007563305

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

B210C STARTER CONTROL RELAY

DTC Logic

INFOID:0000000007563306

DTC DETECTION LOGIC

NOTE:

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

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210C	START CONT RLY OFF	IPDM E/R detects that the relay is stuck at OFF position even if the followings condition are met for about 1 second. • 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 SEC-84, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563307

1.INSPECTION START

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

Is the DTC B210C displayed again?

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

B210D STARTER RELAY

DTC Logic

INFOID:0000000007563308

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
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

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

INFOID:0000000007563309

1.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B210D. Refer to SEC-85, "DTC Logic".

Is the DTC B210D displayed again?

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

B210E STARTER RELAY

DTC Logic

INFOID:0000000007563310

DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".
- If DTC B210E is displayed with DTC B2110 for IPDM E/R, first perform the trouble diagnosis for DTC B2110. Refer to SEC-90, "DTC Logic".
- If DTC B210E is displayed with DTC B2617 for BCM, first perform the trouble diagnosis for DTC B2617. Refer to SEC-77, "DTC Logic".
- When IPDM E/R power supply voltage is low (Approx. 7 - 8 V for about 1 second), the DTC B210F may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210E	STARTER RELAY OFF	IPDM E/R detects that the relay is stuck at OFF position even if the followings condition are met for about 1 second. • 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 SEC-86, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000007563311

1.CHECK STARTER RELAY OUTPUT SIGNAL

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

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

Is the inspection result normal?

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

2.CHECK STARTER RELAY OUTPUT SIGNAL CIRCUIT

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

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

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M121	52		Not existed

Is the inspection result normal?

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

3. CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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

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

Is the inspection result normal?

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

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:0000000007563312

DTC DETECTION LOGIC

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

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTRLCK/PNP SW ON	IPDM E/R detects a mismatch between the signals below for 1 second or more. • P/N position signal from TCM • Shift 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

INFOID:0000000007563313

1.CHECK DTC OF BCM

Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT. Refer to BCS-54, "DTC Index".

Is the inspection result normal?

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

2.CHECK P/N POSITION SIGNAL

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

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

Is the inspection result normal?

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

3.CHECK P/N POSITION SIGNAL CIRCUIT

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

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

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

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

Is the inspection result normal?

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

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:0000000007563314

DTC DETECTION LOGIC

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

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2110	INTRLCK/PNP SW OFF	IPDM E/R detects mismatch between the following signals for 1 second or more. • P/N position signal from TCM • Shift 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

INFOID:0000000007563315

1.CHECK DTC OF TCM

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

Is the inspection result normal?

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

2.CHECK P/N POSITION SIGNAL

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

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

Is the inspection result normal?

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

3.CHECK P/N POSITION SIGNAL CIRCUIT

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

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

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

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

Is the inspection result normal?

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

HEADLAMP FUNCTION

Component Function Check

INFOID:0000000007563316

1.CHECK FUNCTION

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

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

Is the inspection result normal?

YES >> INSPECTION END
NO >> Refer to SEC-92, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000007563317

1.CHECK HEADLAMP FUNCTION

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

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

HORN FUNCTION

Component Function Check

INFOID:0000000007563318

1.CHECK FUNCTION

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

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

Is the operation normal?

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

Diagnosis Procedure

INFOID:0000000007563319

1.CHECK HORN FUNCTION

Check that horns function properly using horn switch.

Does horn sound?

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

2.CHECK HORN CONTROL CIRCUIT

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

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

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

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

Is the inspection result normal?

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

KEY WARNING LAMP

Component Function Check

INFOID:0000000007563320

1.CHECK FUNCTION

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

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

Is the inspection result normal?

YES >> Key warning lamp in combination meter is OK.
NO >> Refer to SEC-94, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000007563321

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

Component Function Check

INFOID:0000000007563322

1.CHECK FUNCTION

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

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

Is the inspection result normal?

YES >> INSPECTION END
NO >> Go to SEC-95, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000007563323

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

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

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 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.

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

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	
M100	2	M123	141	Existed

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

Security indicator lamp		Ground	Continuity
Connector	Terminal		
M100	2		Not existed

Is the inspection result normal?

YES >> Replace security indicator lamp. Refer to SEC-110, "Removal and Installation".
NO >> Repair or replace harness.

TRUNK KEY CYLINDER SWITCH

Component Function Check

INFOID:0000000007563324

1.CHECK FUNCTION

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

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

Is the inspection result normal?

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

Diagnosis Procedure

INFOID:0000000007563325

1.CHECK TRUNK KEY CYLINDER SWITCH INPUT SIGNAL

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

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

Is the inspection result normal?

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

2.CHECK TRUNK KEY CYLINDER SWITCH SIGNAL CIRCUIT

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

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

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M121	49		Not existed

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

4. CHECK TRUNK KEY CYLINDER SWITCH GROUND CIRCUIT

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

Trunk key cylinder switch		Ground	Continuity
Connector	Terminal		
T11	2		Existed

Is the inspection result normal?

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

5. CHECK TRUNK KEY CYLINDER SWITCH

Refer to SEC-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

INFOID:0000000007563326

1. CHECK TRUNK KEY CYLINDER SWITCH

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

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

Is the inspection result normal?

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

SYMPTOM DIAGNOSIS

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:0000000007563327

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

NOTE:

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

Conditions of Vehicle (Operating Conditions)

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

Diagnosis Procedure

INFOID:0000000007563328

1.PERFORM WORK SUPPORT

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

>> GO TO 2.

2.PERFORM SELF-DIAGNOSTIC RESULT

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

Is DTC detected?

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

3.CHECK PUSH-BUTTON IGNITION SWITCH

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

Is the operation normal?

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

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

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

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:0000000007563329

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

NOTE:

- Before performing the diagnosis in the following table, check “Work Flow”. Refer to SEC-36, "Work Flow".
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

Conditions of Vehicle (Operating Conditions)

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

Diagnosis Procedure

INFOID:0000000007563330

1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.
Refer to SEC-95, "Component Function Check".

Is the inspection result normal?

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

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

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

VEHICLE SECURITY SYSTEM CANNOT BE SET

INTELLIGENT KEY

INTELLIGENT KEY : Description

INFOID:0000000007563331

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

NOTE:

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

CONDITION OF VEHICLE (OPERATING CONDITION)

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

INTELLIGENT KEY : Diagnosis Procedure

INFOID:0000000007563332

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

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

Is the inspection result normal?

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

2.CHECK DOOR SWITCH

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

Is the inspection result normal?

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

3.CHECK TRUNK ROOM LAMP SWITCH

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

Is the inspection result normal?

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

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

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

DOOR REQUEST SWITCH

DOOR REQUEST SWITCH : Description

INFOID:0000000007563333

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

NOTE:

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

CONDITION OF VEHICLE (OPERATING CONDITION)

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

DOOR REQUEST SWITCH : Diagnosis Procedure

INFOID:0000000007563334

1.CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)

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

Is the inspection result normal?

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

2.CHECK DOOR SWITCH

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

Is the inspection result normal?

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

3.CHECK TRUNK ROOM LAMP SWITCH

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

Is the inspection result normal?

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

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

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

DOOR KEY CYLINDER

DOOR KEY CYLINDER : Description

INFOID:0000000007563335

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

DOOR KEY CYLINDER : Diagnosis Procedure

INFOID:0000000007563336

1.CHECK POWER DOOR LOCK SYSTEM

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

Is the inspection result normal?

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

2.CHECK DOOR SWITCH

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

Is the inspection result normal?

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

3.CHECK TRUNK ROOM LAMP SWITCH

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

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

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

DOOR LOCK AND UNLOCK SWITCH

DOOR LOCK AND UNLOCK SWITCH : Description

INFOID:0000000007563337

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

NOTE:

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

CONDITION OF VEHICLE (OPERATING CONDITIONS)

“SECURITY ALARM SET”: ON

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

DOOR LOCK AND UNLOCK SWITCH : Diagnosis Procedure

INFOID:0000000007563338

1.CHECK DTC OF SOFT TOP CONTROL UNIT

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

Is DTC detected?

YES >> Perform the trouble diagnosis regarding to the detected DTC. Refer to RF-63, "DTC Index".
NO >> GO TO 2.

2.CHECK DOOR LOCK FUNCTION

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

Is the inspection result normal?

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

3.CHECK DOOR SWITCH

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

Is the inspection result normal?

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

4.CHECK TRUNK ROOM LAMP SWITCH

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

Is the inspection result normal?

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

5.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

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

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description

INFOID:0000000007563339

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:0000000007563340

1.CHECK DOOR SWITCH

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

Is the inspection result normal?

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

2.CHECK TRUNK ROOM LAMP SWITCH

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

Is the inspection result normal?

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

3.CHECK HEADLAMP FUNCTION

Check headlamp function.
Refer to SEC-92, "Component Function Check".

Is the inspection result normal?

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

4.CHECK HORN FUNCTION

Check horn function. Refer to SEC-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 GI-40, "Intermittent Incident".
NO >> GO TO 1.

INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE

Description

INFOID:0000000007563341

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

NOTE:

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

Diagnosis Procedure

INFOID:0000000007563342

1.CHECK POWER POSITION

Check if ignition switch position is changing or not.

Does ignition switch position change?

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

2.CHECK PUSH-BUTTON IGNITION SWITCH

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

Is the inspection result normal?

YES >> Check BCM for DTC. Refer to BCS-54, "DTC Index".
NO >> Repair or replace the malfunctioning parts.

3.CHECK DOOR SWITCH

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

Is the inspection result normal?

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

4.CHECK KEY SLOT

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

Is the inspection result normal?

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

5.CHECK INFORMATION DISPLAY

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

Is the inspection result normal?

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

6.CHECK KEY SLOT INDICATOR

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

Is the inspection result normal?

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

7.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

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

NO >> GO TO 1.

PANIC ALARM FUNCTION DOES NOT OPERATE

Description

INFOID:0000000007563343

NOTE:
- Before performing the following procedure, check “Work Flow”. Refer to SEC-36, "Work Flow".
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

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

Diagnosis Procedure

INFOID:0000000007563344

1.CHECK REMOTE KEYLESS ENTRY FUNCTION

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

Does door lock or unlock when operating Intelligent key button?

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

2.CHECK VEHICLE SECURITY ALARM OPERATION

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

Is alarm (headlamps and horns) activated?

YES >> GO TO 3.
NO >> Go to SEC-104, "Diagnosis Procedure".

3.CHECK “PANIC ALARM” BUTTON OPERATION

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

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

Is the inspection result normal?

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

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

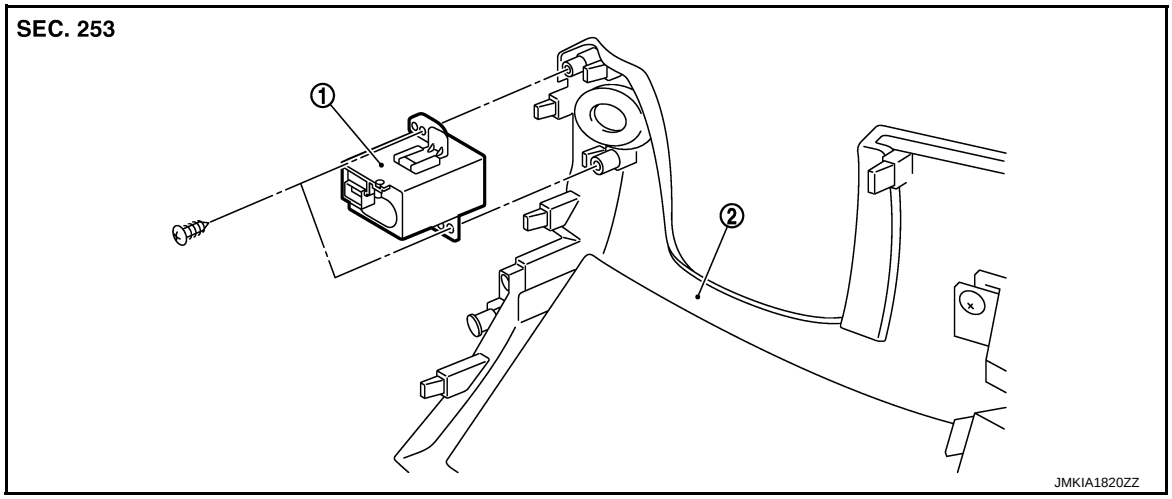
YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".
NO >> GO TO 1.

REMOVAL AND INSTALLATION

KEY SLOT

Exploded View

INFOID:0000000007563345



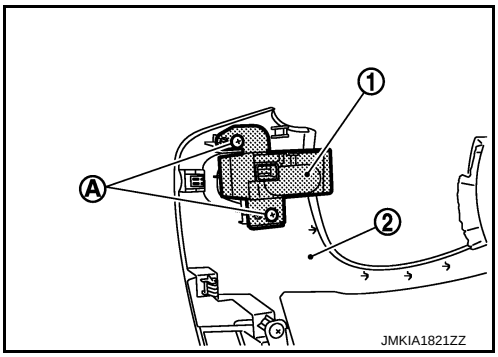
1. Key slot
2. Instrument lower panel LH

Removal and Installation

INFOID:0000000007563346

REMOVAL

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



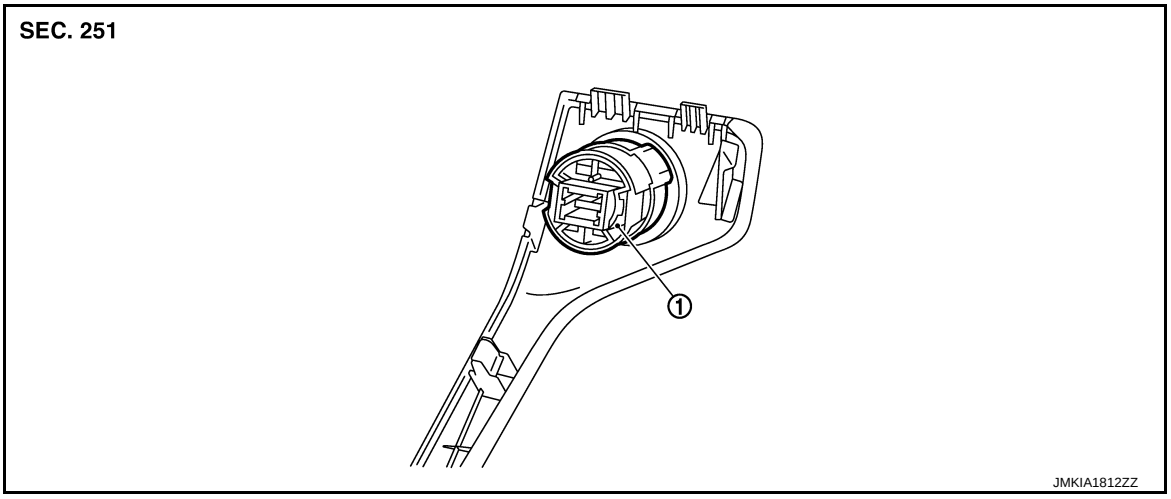
INSTALLATION

Install in the reverse order of removal.

PUSH-BUTTON IGNITION SWITCH

Exploded View

INFOID:0000000007563347



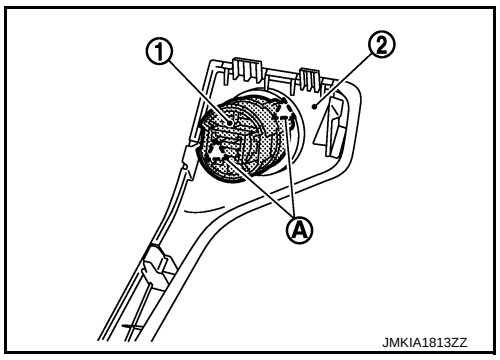
1. Push-button ignition switch

Removal and Installation

INFOID:0000000007563348

REMOVAL

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



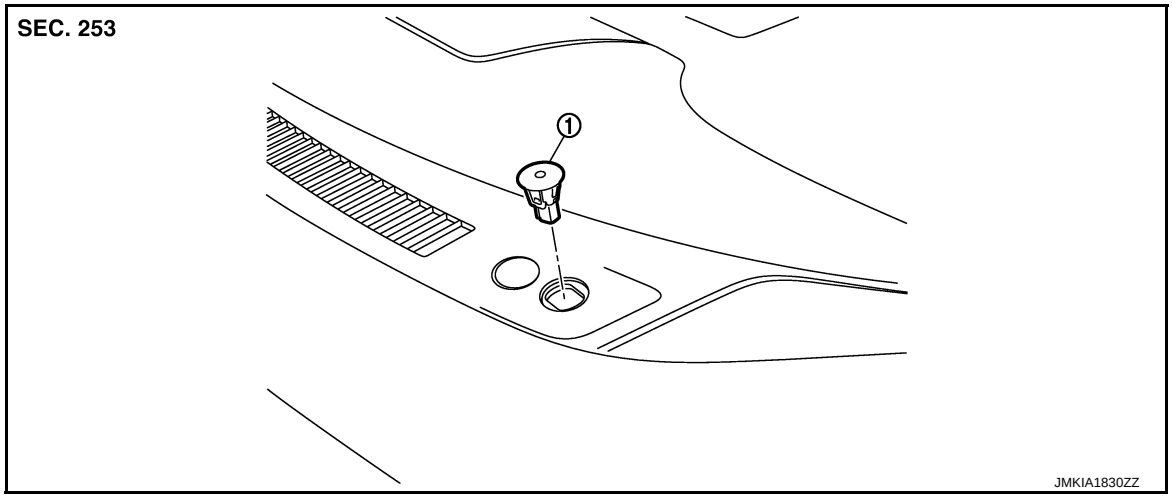
INSTALLATION

Install in the reverse order of removal.

SECURITY INDICATOR LAMP

Exploded View

INFOID:0000000007563349



1. Security indicator lamp

Removal and Installation

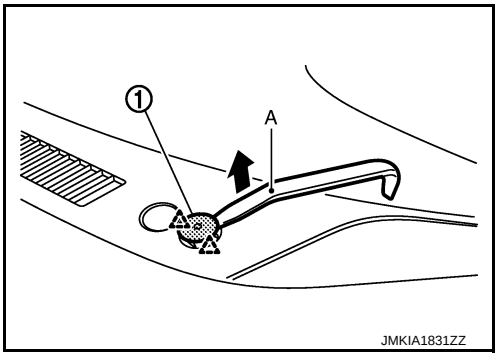
INFOID:0000000007563350

REMOVAL

Remove the security indicator lamp (1).

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

: **Pawl**



INSTALLATION

Install in the reverse order of removal.