

SECTION SEC

SECURITY CONTROL SYSTEM

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SEC

PRECAUTION

PRECAUTIONS

Precautions Concerning On-board Servicing of Hybrid Systems

INFOID:000000008142645

CAUTION:

Be sure to turn the ignition switch OFF before performing inspection and servicing inside the engine compartment or underneath the vehicle. If the ignition switch is ON (vehicle READY state), even if the engine is stopped, the conditions of the vehicle may cause the engine to start automatically. If it is necessary to continually operate the engine during inspection or servicing, use the designated inspection mode. [HBC-89, "Description"](#).

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

INFOID:000000008142646

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 12V battery, and wait at least 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation after 12V Battery Disconnect

INFOID:000000008142647

For vehicle with steering lock unit, if the 12V battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the 12V battery disconnected or discharged, follow the operation procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both 12V battery cables.

NOTE:

Supply power using jumper cables if 12V battery is discharged.

2. Turn the ignition switch to ACC position.
(At this time, the steering lock will be released.)
3. Disconnect both 12V battery cables. The steering lock will remain released with both 12V battery cables disconnected and the steering wheel can be turned.

PRECAUTIONS

< PRECAUTION >

[WITH INTELLIGENT KEY SYSTEM]

4. Perform the necessary repair operation.
5. When the repair work is completed, re-connect both 12V battery cables. With the brake pedal released, turn the ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the ignition switch is turned to LOCK position.)
6. Perform All DTC Reading using CONSULT and delete DTC.

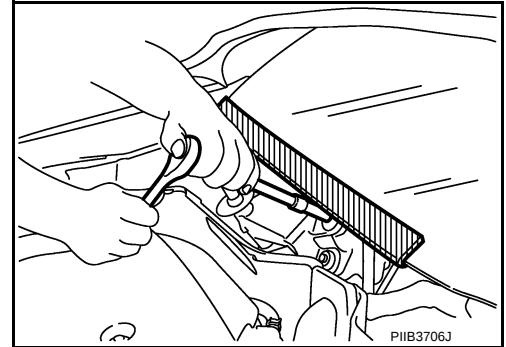
NOTE:

Multiple DTCs are detected when 12V battery cable is disconnected while ignition switch is in ACC position.

Precaution for Procedure without Cowl Top Cover

INFOID:0000000008142648

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



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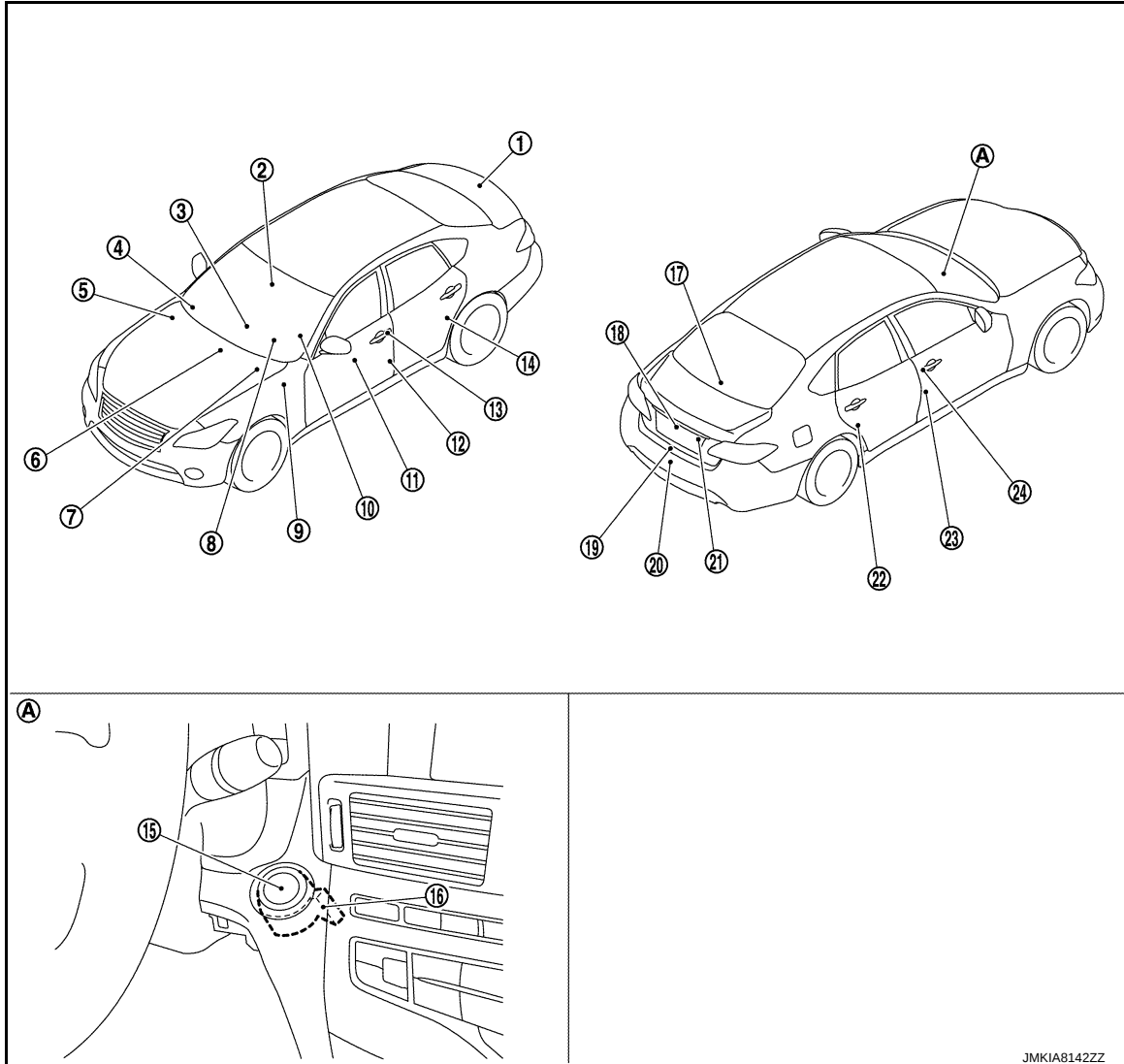
SEC

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000008142649



- | | | |
|---|--|--|
| 1. Inside key antenna (trunk room)
Refer to DLK-9, "DOOR LOCK SYSTEM : Component Parts Location" . | 2. Inside key antenna (console)
Refer to DLK-9, "DOOR LOCK SYSTEM : Component Parts Location" . | 3. Inside key antenna (instrument center)
Refer to DLK-9, "DOOR LOCK SYSTEM : Component Parts Location" . |
| 4. Remote keyless entry receiver
Refer to DLK-9, "DOOR LOCK SYSTEM : Component Parts Location" . | 5. IPDM E/R
Refer to PCS-5, "IPDM E/R : Component Parts Location" . | 6. Stop lamp switch
Refer to BRC-11, "Component Parts Location" . |
| 7. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 8. Combination meter
Refer to MWI-6, "METER SYSTEM : Component Parts Location" . | 9. BCM
Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location" . |
| 10. TCM
Refer to TM-13, "A/T CONTROL SYSTEM : Component Parts Location" . | 11. Power window main switch (door lock and unlock switch) | 12. Front door switch (driver side) |

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- | | | |
|--|--|--|
| 13. Front outside handle assembly LH
(outside key antenna and request switch) | 14. Rear door switch LH | 15. Push-button ignition switch |
| 16. NATS antenna amp. | 17. HPCM
Refer to HBC-13. "HYBRID CONTROL SYSTEM : Component Parts Location" . | 18. Trunk lid opener request switch |
| 19. Trunk closure assembly | 20. Outside key antenna (rear bumper)
Refer to DLK-9. "DOOR LOCK SYSTEM : Component Parts Location" . | 21. Trunk key cylinder switch |
| 22. Rear door switch RH | 23. Front door switch (passenger side) | 24. Front outside handle assembly RH
(outside key antenna and request switch) |

A. Behind push-button ignition switch

Component Description

INFOID:000000008142650

Component	Reference
A/T shift selector (detention switch)	SEC-7
BCM	SEC-8
HPCM	SEC-8
IPDM E/R	SEC-8
NATS antenna amp.	SEC-8
TCM	SEC-8
Combination meter	SEC-8
Door lock and unlock switch	DLK-9
Door request switch	DLK-9
Door switch	SEC-8
Hood switch	SEC-9
Inside key antenna	SEC-9
Intelligent Key	SEC-9
Push-button ignition switch	SEC-9
Remote keyless entry receiver	SEC-9
Security indicator lamp	SEC-9
Stop lamp switch	SEC-9
Trunk key cylinder switch	SEC-9
Trunk lid opener request switch	DLK-9
Vehicle information display	SEC-9

A/T Shift Selector (Detention Switch)

INFOID:000000008142651

Detention switch detects that A/T shift selector is in the P position, and then transmits the signal to BCM and IPDM E/R.

BCM confirms the A/T shift selector position with the following 4 signals.

- P position signal from A/T shift selector (detention switch)
- P/N position signal from TCM
- P position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the A/T shift selector position with the following signal.

- P position signal from A/T shift selector (detention switch)

ABS Actuator and Electric Unit (Control Unit)

INFOID:0000000008142652

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:0000000008142653

BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), IVIS (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 HPCM. If the ID verification result is OK, the vehicle can be set to READY.

HPCM

INFOID:0000000008142654

HPCM controls the vehicle.

When ignition switch is turned ON, BCM starts communication with HPCM and performs the ID verification between BCM and HPCM.

If the verification result is OK, the vehicle can be set to READY. If the verification result is NG, the vehicle can not be set to READY.

IPDM E/R

INFOID:0000000008142655

IPDM E/R has steering lock relay (Models with steering lock unit) and headlamp relays inside. Steering lock relay is used for the steering lock/unlock function. Headlamp relays are used for the vehicle security function. IPDM E/R controls these relays while communicating with BCM.

NATS Antenna Amp.

INFOID:0000000008142656

The ID verification is performed between BCM and transponder in Intelligent Key via NATS antenna amp. when Intelligent Key backside is contacted to push-button ignition switch in case that Intelligent Key battery is discharged. If the ID verification result is OK, the release of steering lock and the operation of push-button ignition switch are available (Models with steering lock unit), the vehicle can be set to READY.

TCM

INFOID:0000000008142657

TCM transmits the shift position signal (P/N position) to BCM.

BCM confirms the A/T shift selector position with the following 4 signals.

- P position signal from A/T shift selector (detention switch)
- P/N position signal from TCM
- P position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

Combination Meter

INFOID:0000000008142658

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:0000000008142659

Door switch detects door open/closed conditions and then transmits ON/OFF signal to BCM.

Door Lock and Unlock Switch

INFOID:0000000008142660

Door lock and unlock switch is integrated into the power window main switch and front power window switch (passenger side). This switch detects door lock/unlock operation conditions and then transmits lock/unlock operation signal to BCM.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Door Request Switch

INFOID:000000008142661

Door request switch is integrated into the outside door handle (driver side and passenger side). This switch detects if door request switch is pressed or released, and then transmits ON/OFF signal to BCM.

Hood Switch

INFOID:000000008142662

Hood switch detects hood open/closed conditions, and then transmits ON/OFF signal to IPDM E/R. IPDM E/R transmits hood switch signal to BCM via CAN communication.

Inside Key Antenna

INFOID:000000008142663

Inside key antenna detects whether Intelligent Key is inside the vehicle, and transmits the signal to BCM. Three inside key antennas are installed in the instrument center, console and trunk room.

Intelligent Key

INFOID:000000008142664

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 perform door lock/unlock operation and push-button ignition switch operation.

Push-button Ignition Switch

INFOID:000000008142665

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

Remote Keyless Entry Receiver

INFOID:000000008142666

Remote keyless entry receiver receives each button operation signal and electronic key ID signal from Intelligent Key, and then transmits the signal to BCM.

Security Indicator Lamp

INFOID:000000008142667

Security indicator lamp is located on combination meter. Security indicator lamp blinks when ignition switch is in any position other than ON to warn that IVIS (NATS) is on board.

Stop Lamp Switch

INFOID:000000008142670

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

Trunk Key Cylinder Switch

INFOID:000000008142671

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 Lid Opener Request Switch

INFOID:000000008142672

Trunk lid opener request switch detects if trunk lid opener switch is pressed or released, and then transmits ON/OFF signal to BCM.

Vehicle Information Display

INFOID:000000008142674

Vehicle information display is integrated in combination meter. Various information and warnings regarding to the Intelligent Key System are displayed.

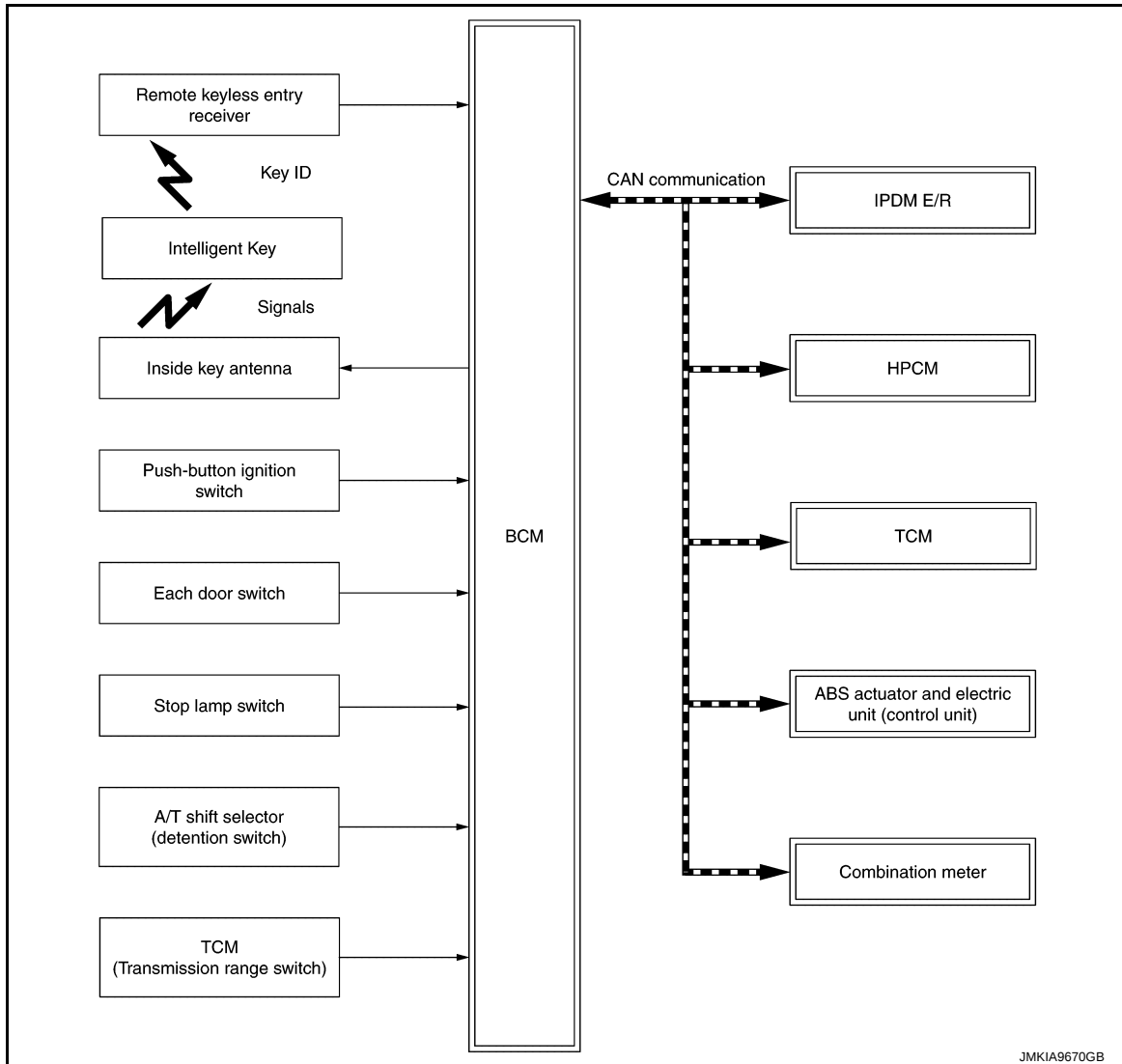
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SYSTEM

INTELLIGENT KEY SYSTEM/READY SET FUNCTION

INTELLIGENT KEY SYSTEM/READY SET FUNCTION : System Diagram INFOID:000000008142675



INTELLIGENT KEY SYSTEM/READY SET FUNCTION : System Description INFOID:000000008142676

SYSTEM DESCRIPTION

- The READY set function of Intelligent Key system makes it possible to set the vehicle to READY without using the key, based on the electronic ID verification. The electronic 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 NATS ID). It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- If the ID is successfully verified, when push-button ignition switch is pressed, the vehicle can be set to READY.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.

NOTE:

Refer to [DLK-13, "INTELLIGENT KEY SYSTEM : System Description"](#) for any functions other than READY set function of Intelligent Key system.

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

The transponder (the chip for 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, NATS ID verification can be performed when Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If verification result is OK, the vehicle can be set to READY.

OPERATION WHEN INTELLIGENT KEY IS CARRIED

1. When the push-button ignition switch is pressed, the BCM activates the inside key antenna and transmits the request signal to the Intelligent Key.
2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the BCM.
3. BCM receives the Intelligent Key ID signal via remote keyless entry receiver and verifies it with the registered ID.
4. BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
5. IPDM E/R turns the ignition relay ON to start the ignition power supply.
6. BCM detects that the selector lever position and brake pedal operating condition.
7. BCM transmits READY signal to HPCM if BCM judges that the READY set condition* is satisfied.
*: For READY set condition, refer to "READY SET CONDITION TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION" below.

CAUTION:

- If a malfunction is detected in the Intelligent Key system, "I-KEY system fault" on information display appears. In this case, BCM does not transmit READY signal.
 - When the Intelligent Key is carried outside of the vehicle (inside key antenna detection area) while the ignition switch position is ACC or ON, BCM does not transmit READY signal even if READY set condition* is satisfied.
8. When BCM receives feedback signal from HPCM indicating that the vehicle is set to READY, BCM stops transmitting READY.

OPERATION RANGE

Vehicle can be set to READY when Intelligent Key is inside the vehicle. However, sometimes vehicle may not be set to READY when Intelligent Key is on instrument panel or in glove box.

READY SET OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IGNITION SWITCH

When Intelligent Key battery is discharged, NATS ID verification between transponder in Intelligent Key and BCM is performed when Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If the verification result is OK, vehicle can be set to READY.

READY SET CONDITION TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

The vehicle can be set to READY by the following operations.

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna and when Intelligent Key backside is contacted to push-button ignition switch, it is equivalent to the operations below.
- When setting the vehicle to READY, the BCM monitors the following conditions.
 - Brake pedal operating condition
 - Selector lever position
 - Vehicle speed

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

	Vehicle condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
OFF → ACC	—	Not depressed	1
OFF → ACC → ON	—	Not depressed	2
OFF → ACC → ON → OFF	—	Not depressed	3

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

	Vehicle condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
OFF → READY ACC → READY ON → READY	P or N position	Depressed	1
READY → OFF	—	—	1

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

	Vehicle condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
READY → ACC	—	—	Emergency stop operation
ACC → READY (Return operation after emergency stop operation while driving)	N position	—	1

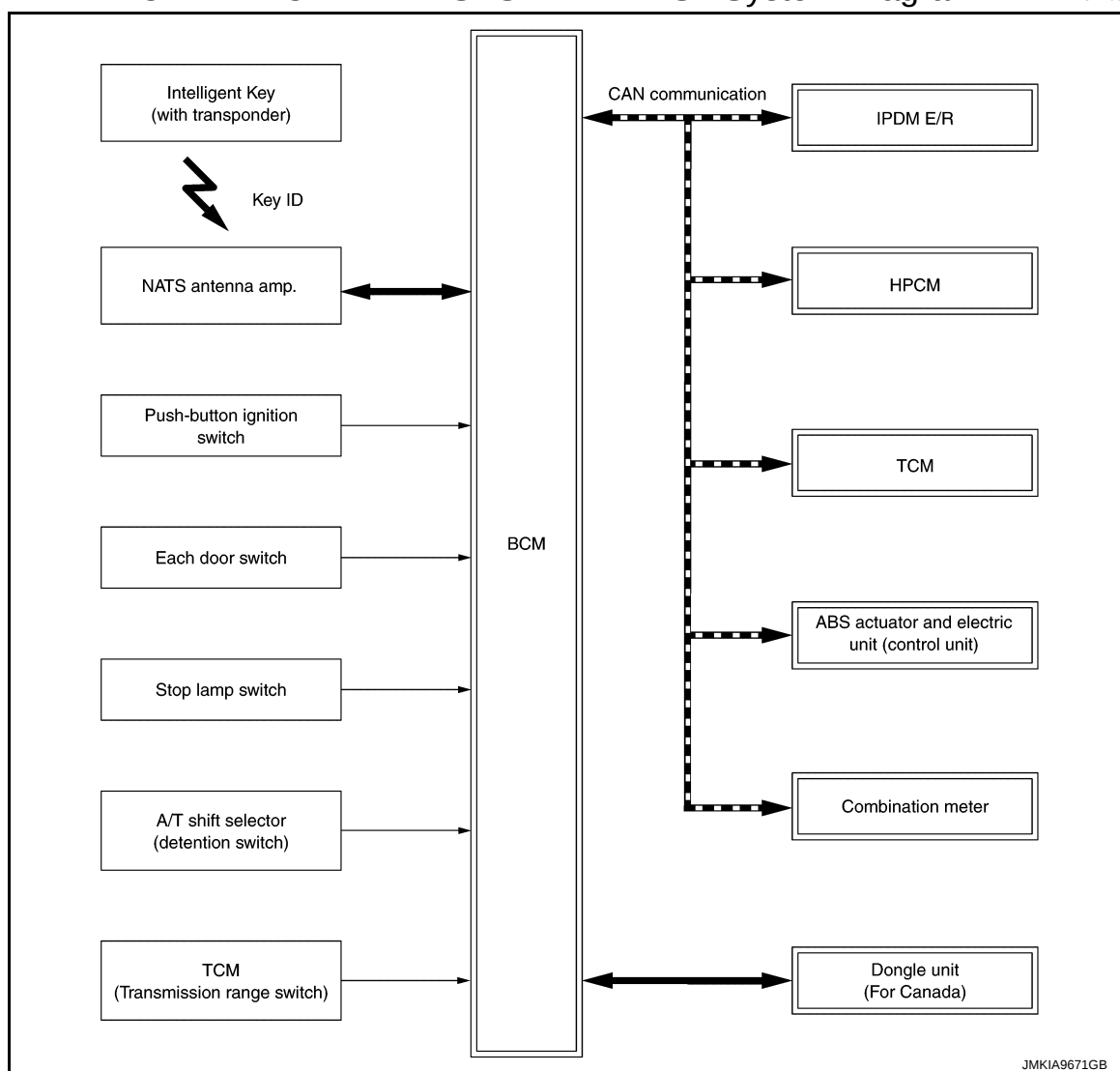
Emergency stop operation

- 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.

INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS

INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:000000008142677



INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:000000008142678

SYSTEM DESCRIPTION

- The INFINITI VEHICLE IMMOBILIZER SYSTEM-NATS [IVIS (NATS)] prevents the vehicle from being set to READY by Intelligent Key whose ID is not registered to the vehicle (BCM). It has higher protection against auto theft involving the duplication of mechanical keys.
- The mechanical key integrated into the Intelligent Key cannot set the vehicle to READY. When the Intelligent Key battery is discharged, the IVIS (NATS) ID verification is performed between the transponder integrated into Intelligent Key and BCM via NATS antenna amp. when the Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If the verification result is OK, the vehicle can be set to READY by the push-button ignition switch operation.
- Security indicator lamp is located on combination meter, and always blinks when the ignition switch is in any position other than ON to warn that the vehicle is equipped with IVIS (NATS).
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.
- When replacing HPCM, BCM or Intelligent Key, the specified procedure (Initialization and registration) using CONSULT is necessary.
- Possible symptom of IVIS (NATS) malfunction is "Vehicle cannot be set to READY". This symptom also occurs because of other than IVIS (NATS) malfunction, so start the trouble diagnosis according to [SEC-34, "Work Flow"](#).
- If HPCM other than genuine part is installed, the vehicle cannot be set to READY. For HPCM replacement procedure, refer to [HBC-86, "Work Procedure"](#).

PRECAUTIONS FOR KEY REGISTRATION

- When registering the Intelligent Key, perform the procedure following the instruction of CONSULT display.
- The ID registration procedure erases the current IVIS (NATS) ID once, and then reregisters a new ID. Therefore before starting the registration operation, collect all registered Intelligent Keys from the customer.

SECURITY INDICATOR LAMP

Security indicator lamp always blinks when the ignition switch is in any position other than ON, to warn that the vehicle is equipped with IVIS (NATS).

NOTE:

Because security indicator lamp is highly efficient, the 12V battery is barely affected.

OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IGNITION SWITCH

1. When brake pedal is depressed while selector lever is in the P position, BCM activates NATS antenna amp. which is located behind push-button ignition switch.
2. When Intelligent Key (transponder built-in) backside is contacted to push-button ignition switch, BCM starts IVIS (NATS) ID verification between BCM and Intelligent Key (transponder built-in) via NATS antenna amp.
3. When IVIS (NATS) ID verification result is OK, buzzer in combination meter sounds and BCM transmits the result to ECM.
4. BCM turns ACC relay ON and transmits ignition power supply ON signal to IPDM E/R.
5. IPDM E/R turns the ignition relay ON to start the ignition power supply.
6. BCM detects that the selector lever position and brake pedal operating condition.
7. BCM transmits READY signal to HPCM if BCM judges that the READY set condition* is satisfied.
*: For READY set condition, refer to "READY SET CONDITION TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION" below.

CAUTION:

- If a malfunction is detected in the Intelligent Key system, "I-KEY system fault" on information display appears. In this case, BCM does not transmits READY signal.
 - When the Intelligent Key is carried outside of the vehicle (inside key antenna detection area) while the ignition switch position is ACC or ON, BCM does not transmits READY signal even if READY set condition* is satisfied.
8. When BCM receives feedback signal from HPCM indicating that the vehicle is set to READY, BCM stops transmitting READY.

READY SET CONDITION TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

The vehicle can be set to READY by the following operations.

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna and when Intelligent Key backside is contacted to push-button ignition switch, it is equivalent to the operations below.
- When setting the vehicle to READY, the BCM monitors the following conditions.

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- Brake pedal operating condition
- Selector lever position
- Vehicle speed

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

	Vehicle condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
OFF → ACC	—	Not depressed	1
OFF → ACC → ON	—	Not depressed	2
OFF → ACC → ON → OFF	—	Not depressed	3
OFF → READY ACC → READY ON → READY	P or N position	Depressed	1
READY → OFF	—	—	1

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

	Vehicle condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
READY → ACC	—	—	Emergency stop operation
ACC → READY (Return operation after emergency stop operation while driving)	N position	—	1

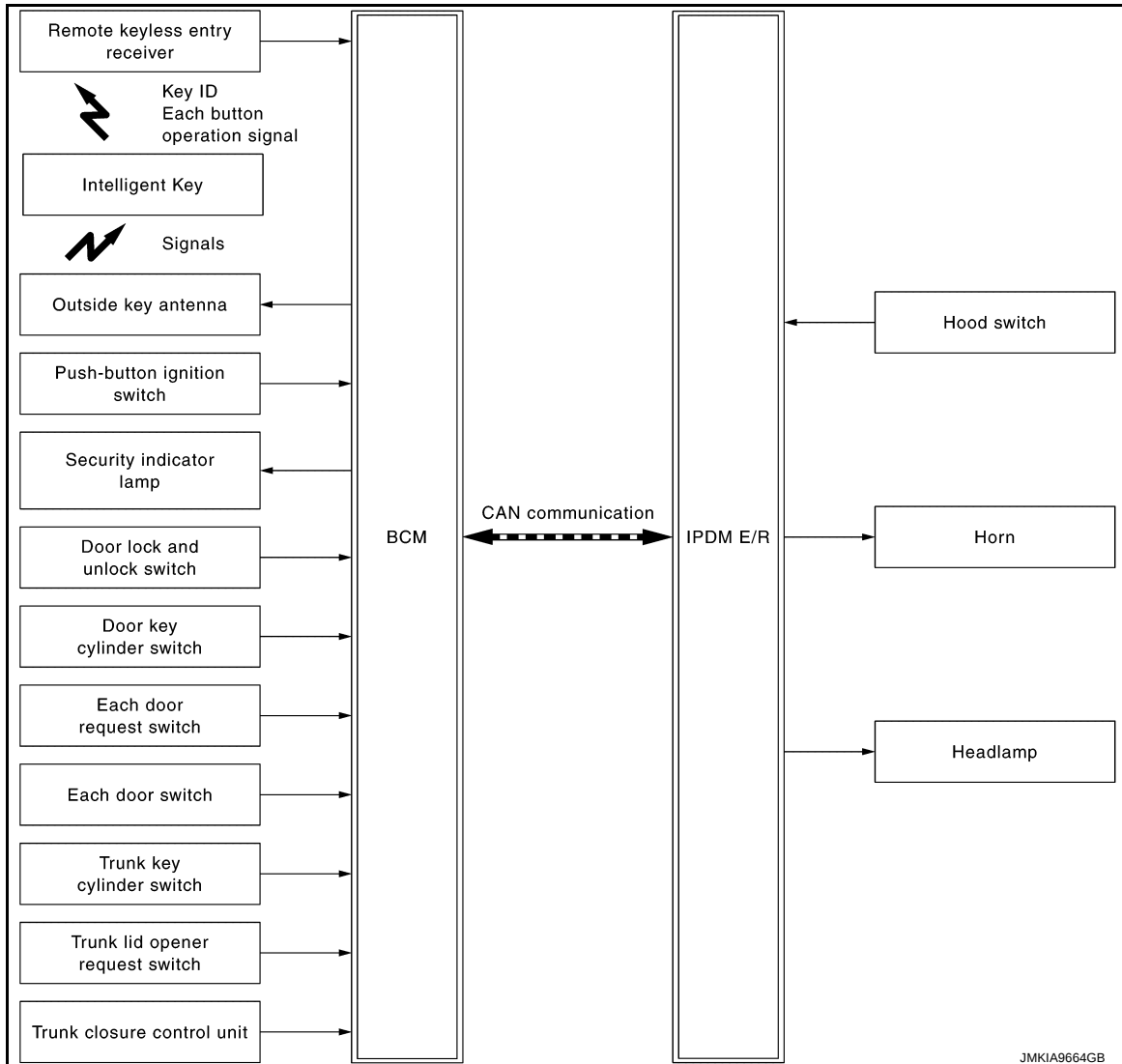
Emergency stop operation

- 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:000000008142679



VEHICLE SECURITY SYSTEM : System Description

INFOID:000000008142680

- 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

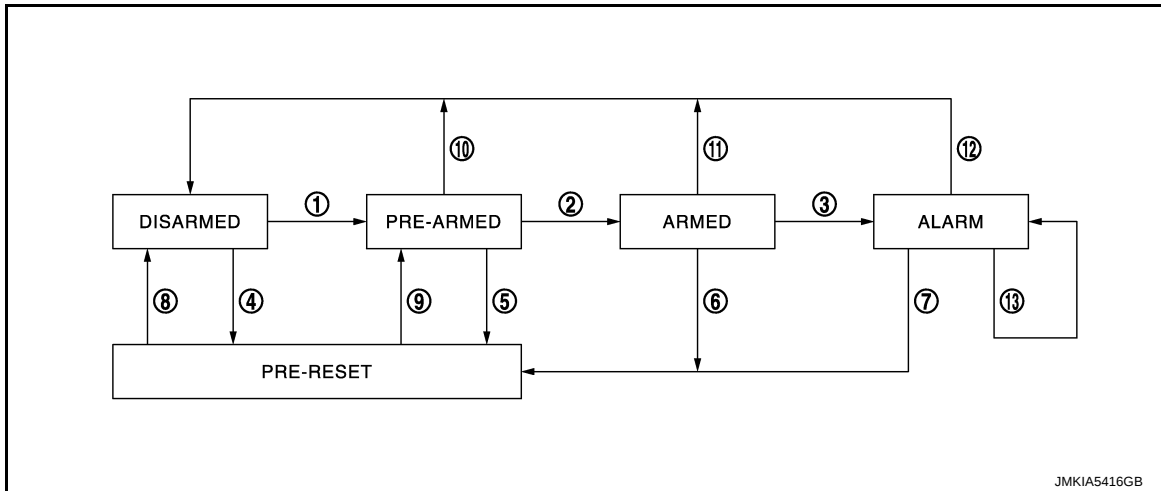
- The theft warning alarm function activates horns and headlamps intermittently when BCM detects that any door, hood or trunk lid is opened by unauthorized means, while the system is in the ARMED state.
- Security indicator lamp on combination meter always blinks when ignition switch is in any position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

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Operation Flow



No.	System state	Switching condition		
1	DISARMED to PRE-ARMED	When all conditions of A and one condition of B is satisfied.	A	B
			- Ignition switch: OFF - All doors: Closed - Hood: 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 - All doors: Locked - Hood: Closed - Trunk lid: Closed	
3	ARMED to ALARM	When condition A and one of condition of B are satisfied.	A	B
			Intelligent Key function: Not used	- Any door: Open - Hood: Open - Trunk lid: Open
4	DISARMED to PRE-RESET	When all conditions of A and one condition of B is satisfied.	A	B
			- Ignition switch: OFF - All doors: Closed - Hood and/or Trunk lid: Open	All doors are locked by: - Door key cylinder LOCK switch - LOCK button of Intelligent Key - Door request switch - Door lock and unlock switch
5	PRE-ARMED to PRE-RESET	When one of the following conditions is satisfied.	- Hood: Open - 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 - 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	
9	PRE-RESET to PRE-ARMED	When all conditions of A are satisfied, and all conditions of B are satisfied.	A	B
			- Ignition switch: OFF - All doors: Locked	- Hood: Closed - Trunk lid: Closed
10	PRE-ARMED to DISARMED	When one of the following condition is satisfied.	- Ignition switch: ACC/ON - Door key cylinder UNLOCK switch: ON - UNLOCK button of Intelligent Key: ON - Door request switch: ON - Any door: Open	

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

No.	System state	Switching condition	
11	ARMED to DISARMED	When one of the following condition is satisfied.	- Ignition switch: ACC/ON - Door key cylinder UNLOCK switch: ON - UNLOCK button of Intelligent Key: ON - Door request switch: ON
12	ALARM to DISARMED		
13	RE-ALARM	When any of the following condition is satisfied after the ALARM operation is finished.	- Any door: Open - Hood: 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-14, "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, hood, or trunk lid is opened without using Intelligent Key function 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-79, "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.

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.

REALARM phase

When ALARM phase is maintained for 50 seconds without any cancel operation, the system status returns to the ALARM phase. At this time, if BCM still detects unauthorized access to the vehicle, the system is switched to the ALARM phase again. This REALARM operation is carried out a maximum of 2 times.

PRE-RESET Phase

The PRE-RESET phase is the transient state between each phase and DISARMED phase. If only the condition of hood or 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 is OFF.
- 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.

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- 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)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000000826658

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	×		
IVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk lid open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
—	AIR PRESSURE MONITOR*	×	×	×

*: This item 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.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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"
	ACC		Power supply position is "ACC"
	ON		Power supply position is "IGN"
	ENGINE RUN		Power supply position is "RUN"
	CRANKING		Power supply position is "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:

*: Refer to [PCS-34, "POWER DISTRIBUTION SYSTEM : System Description"](#) for details of the power supply position.

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:000000008266657

WORK SUPPORT

Monitor item	Description
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operation in this mode • On: Operate • Off: Non-operation
ENGINE START BY I-KEY	Engine start function mode can be changed to operation with this mode • On: Operate • Off: Non-operation

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor item	Description
TRUNK/GLASS HATCH OPEN	Buzzer reminder function mode by trunk lid opener request switch and Intelligent Key can be changed to operation with this mode - On: Operate - Off: Non-operation
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
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 operation with this mode - On: Operate - Off: Non-operation
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operation with this mode - On: Operate - Off: Non-operation
HAZARD ANSWER BACK	Hazard reminder function mode by door request switch and Intelligent Key button can be selected from the following with this mode - Lock Only: Door lock operation only - Unlock Only: Door unlock operation only - Lock/Unlock: Lock and unlock operation - Off: Non-operation
ANS BACK I-KEY LOCK	Buzzer reminder function (lock operation) mode by door request switch 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 operation with this mode - On: Operate - Off: Non-operation
SHORT CRANKING OUTPUT	Starter motor can operate during the times below 70 msec 100 msec 200 msec
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 operation time can be changed in this mode - MODE 1: OFF - MODE 2: 30 sec - MODE 3: 1 minute - MODE 4: 2 minutes - MODE 5: 3 minutes - MODE 6: 4 minutes - MODE 7: 5 minutes
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key button can be selected from the following with this mode - On: Operate - Off: Non-operation
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

A

B

C

D

E

F

G

H

I

J

SEC

L

M

N

O

P

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor item	Description
WELCOME LIGHT SELECT	Welcome light function mode can be selected from the following with this mode • Puddle/Outside Handle • Room lamp • Head & Tail Lamps (this item is displayed, but cannot be used) • Heart Beat
WELCOME LIGHT OP SET	Welcome light function mode can be changed to operation with this mode • On: Operate • Off: Non-operation
INTELLIGENT KEY SETUP	Intelligent Key interlock function mode can be changed to operation with this mode • On: Operate • Off: Non-operation

SELF-DIAG RESULT

Refer to [BCS-55, "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 -BD/TR	Indicates [On/Off] condition of trunk lid opener request switch
PUSH SW	Indicates [On/Off] condition of push-button ignition switch
CLUTCH SW	NOTE: This item is displayed, but cannot be monitored
BRAKE SW 1	Indicates [On/Off]* condition of stop lamp switch power supply
BRAKE SW 2	Indicates [On/Off] condition of stop lamp 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	NOTE: This item is displayed, but cannot be monitored
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 TCM by numerical value [Km/h]

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver side door status
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] 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
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 OPEN signal from Intelligent Key
RKE-PANIC	Indicates [On/Off] condition of PANIC ALARM button of Intelligent Key
RKE-MODE CHG	Indicates [On/Off] condition of MODE CHANGE signal from Intelligent Key
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored

*: 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 - On: Operate - Off: Non-operation
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation - On: Operate - Off: Non-operation
INSIDE BUZZER	This test is able to check warning chime in combination meter operation - Take Out: Take away warning chime sounds when CONSULT screen is touched - Key: Key warning chime sounds when CONSULT screen is touched - Knob: OFF position warning chime sounds when CONSULT screen is touched - Off: Non-operation
INDICATOR	This test is able to check warning lamp operation - KEY ON: "KEY" Warning lamp illuminates when CONSULT screen is touched - KEY IND: "KEY" Warning lamp blinks when CONSULT screen is touched - Off: Non-operation
INT LAMP	This test is able to check interior room lamp operation - On: Operate - Off: Non-operation
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 - Steering lock information displays when "ROTAT" on CONSULT screen is touched NOTE: For models without steering lock unit, "ROTAT" is displayed but cannot be monitored. - P position warning displays when "SFT P" on CONSULT screen is touched - INSRT: This item is displayed, but cannot be monitored - BATT: This item is displayed, but cannot be monitored - 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
FLASHER	This test is able to check hazard warning lamp operation The hazard warning lamps are activated after "LH/RH/Off" on CONSULT screen is touched

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Test item	Description
P RANGE	This test is able to check A/T shift selector power supply - On: Operate - Off: Non-operation
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 LOCK indicator (push-button ignition switch) operation - On: Operate - Off: Non-operation
ACC INDICATOR	This test is able to check ACC indicator (push-button ignition switch) operation - On: Operate - Off: Non-operation
IGNITION ON IND	This test is able to check ON indicator (push-button ignition switch) operation - On: Operate - Off: Non-operation
HORN	This test is able to check horn operation - On: Operate - Off: Non-operation
TRUNK/BACK DOOR	This test is able to check trunk lid open operation Open: Operate
INTELLIGENT KEY LINK	This test is able to check Intelligent Key interlock function - ID No1: BCM transmits Intelligent Key ID No1 to each control unit - ID No2: BCM transmits Intelligent Key ID No2 to each control unit
INTELLIGENT KEY LINK (CAN)	This test is able to check Intelligent Key interlock function - Off: Non-operation - ID No1: BCM transmits Intelligent Key ID No1 to each control unit via CAN communication line - ID No2: BCM transmits Intelligent Key ID No2 to each control unit via CAN communication line - ID No3: BCM transmits Intelligent Key ID No3 to each control unit via CAN communication line - ID No4: BCM transmits Intelligent Key ID No4 to each control unit via CAN communication line - ID No5: This item is displayed, but cannot be used

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:000000008142683

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.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitored Item	Description
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 and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from door key cylinder switch.
KEY CYL SW-TR	Indicates [ON/OFF] condition of trunk lid open signal from 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 lid open/close signal.
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 OPEN signal from Intelligent Key.

WORK SUPPORT

Test Item	Description
SECURITY ALARM SET	This mode is able to confirm and change vehicle security system (theft warning alarm) ON-OFF setting.
THEFT ALM TRG	The switch which activated vehicle security system (theft warning alarm) is recorded. This mode is able to confirm and erase the record of theft warning 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 is turned on when "ON" on CONSULT screen is touched.
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation. The horns are activated for 0.5 seconds after "ON" on CONSULT screen is touched.
HEADLAMP(HI)	This test is able to check headlamps operation. The headlamps are activated for 0.5 seconds after "ON" on CONSULT screen is touched.
FLASHER	This test is able to check hazard warning lamp operation. The hazard warning lamps are activated after "ON" on CONSULT screen is touched.

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:000000008142684

DATA MONITOR

Monitor item	Content
CONFIRM ID ALL	Indicates [YET] at all time. Switches to [DONE] when a registered Intelligent Key backside is contacted to push-button ignition switch.
CONFIRM ID4	
CONFIRM ID3	
CONFIRM ID2	
CONFIRM ID1	
NOT REGISTERED	Indicates [ID OK] when key ID that is registered is received or is not yet received. Indicates [ID NG] when key ID that is not registered is received.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor item	Content
TP 4	Indicates the number of IDs that are registered.
TP 3	
TP 2	
TP 1	
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.

ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator lamp operation. Security indicator lamp is turned on when "ON" on CONSULT screen touched.

WORK SUPPORT

Service item	Description
CONFIRM DONGLE ID	It is possible to check that dongle unit is applied to the vehicle.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:000000008142685

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-21, "DTC Index"](#).

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	NOTE: This item is indicated, but not monitored.
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 stop position 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]		NOTE: This item is indicated, but not monitored.
ST RLY CONT [Off/On]		NOTE: This item is indicated, but not monitored.
IHBT RLY -REQ [Off/On]		NOTE: This item is indicated, but not monitored.
ST/INHI RLY [Off/ ST /INHI/UNKWN]		NOTE: This item is indicated, but not monitored.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	MAIN SIG- NALS	Description
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication. NOTE: For models without steering lock unit, this item is not monitored.
S/L STATE [LOCK/UNLK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R. NOTE: For models without steering lock unit, this item is not monitored.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. NOTE: This item is monitored only on the vehicle with daytime running light system.
OIL P SW [Open/Close]		NOTE: This item is indicated, but not monitored.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		NOTE: This 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: This item is indicated, but not monitored.

ACTIVE TEST

Test item

Test item	Operation	Description
CORNERING LAMP	Off	NOTE: This 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	Transmits 50% pulse duty signal (PWM signal) to the cooling fan control module.
	3	Transmits 75% pulse duty signal (PWM signal) to the cooling fan control module.
	4	Transmits 100% pulse duty signal (PWM signal) to the cooling fan control module.
HEAD LAMP WASHER	On	NOTE: This item is indicated, but cannot be tested.
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay and the daytime running light 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

HPCM, BCM, IPDM E/R

List of ECU Reference

INFOID:000000008142686

ECU		Reference
HPCM	Reference Value	HBC-59, "Reference Value"
	Fail-safe	HBC-68, "Fail-safe"
	DTC Inspection Priority Chart	HBC-70, "DTC Inspection Priority Chart"
	DTC Index	HBC-71, "DTC Index"
BCM	Reference Value	BCS-34, "Reference Value"
	Fail-safe	BCS-54, "Fail-safe"
	DTC Inspection Priority Chart	BCS-54, "DTC Inspection Priority Chart"
	DTC Index	BCS-55, "DTC Index"
IPDM E/R	Reference Value	PCS-15, "Reference Value"
	Fail-safe	PCS-20, "Fail-safe"
	DTC Index	PCS-21, "DTC Index"

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SEC

SECURITY CONTROL SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

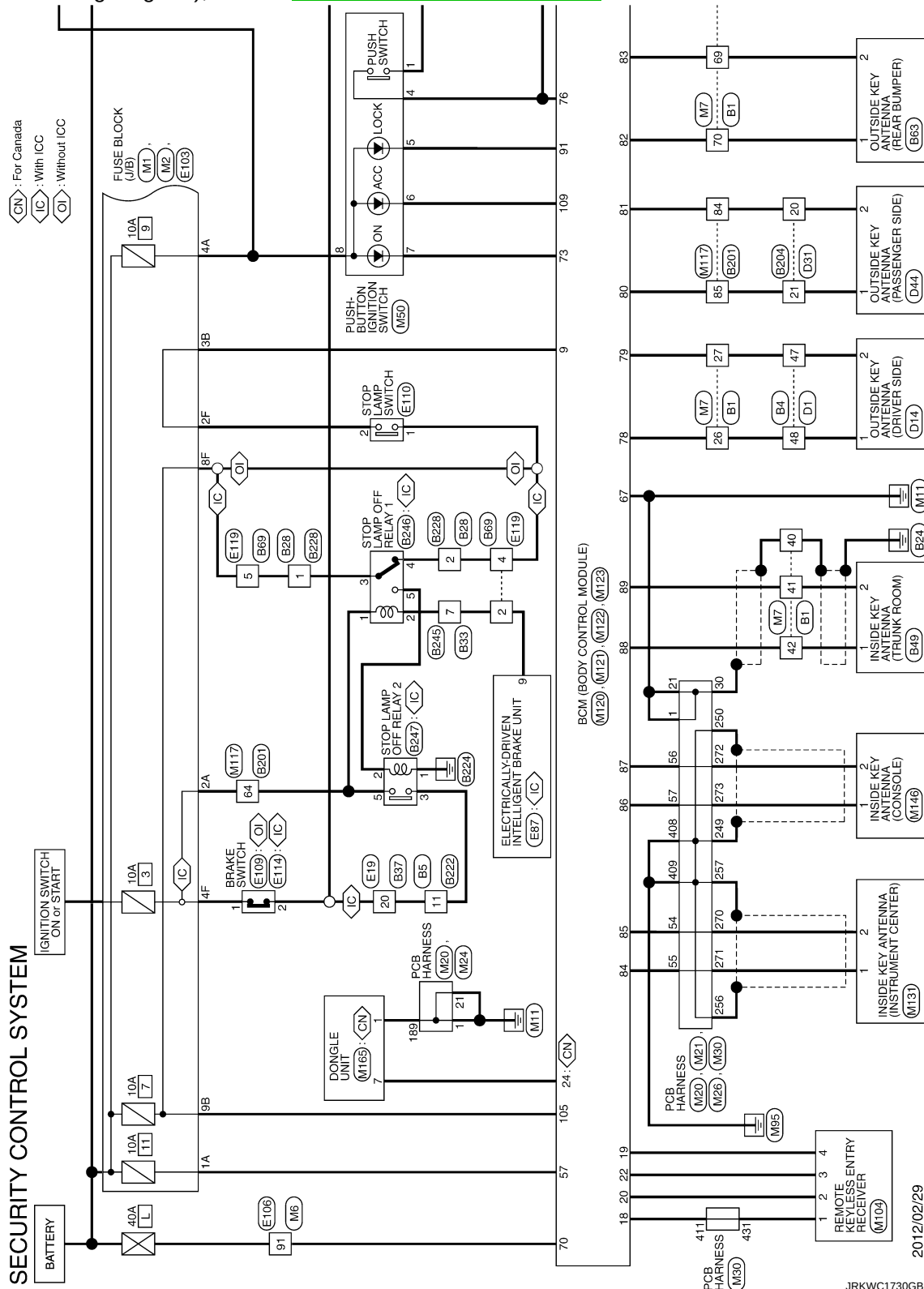
WIRING DIAGRAM

SECURITY CONTROL SYSTEM

Wiring Diagram

INFOID:000000008142687

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-13. "Connector Information"](#).

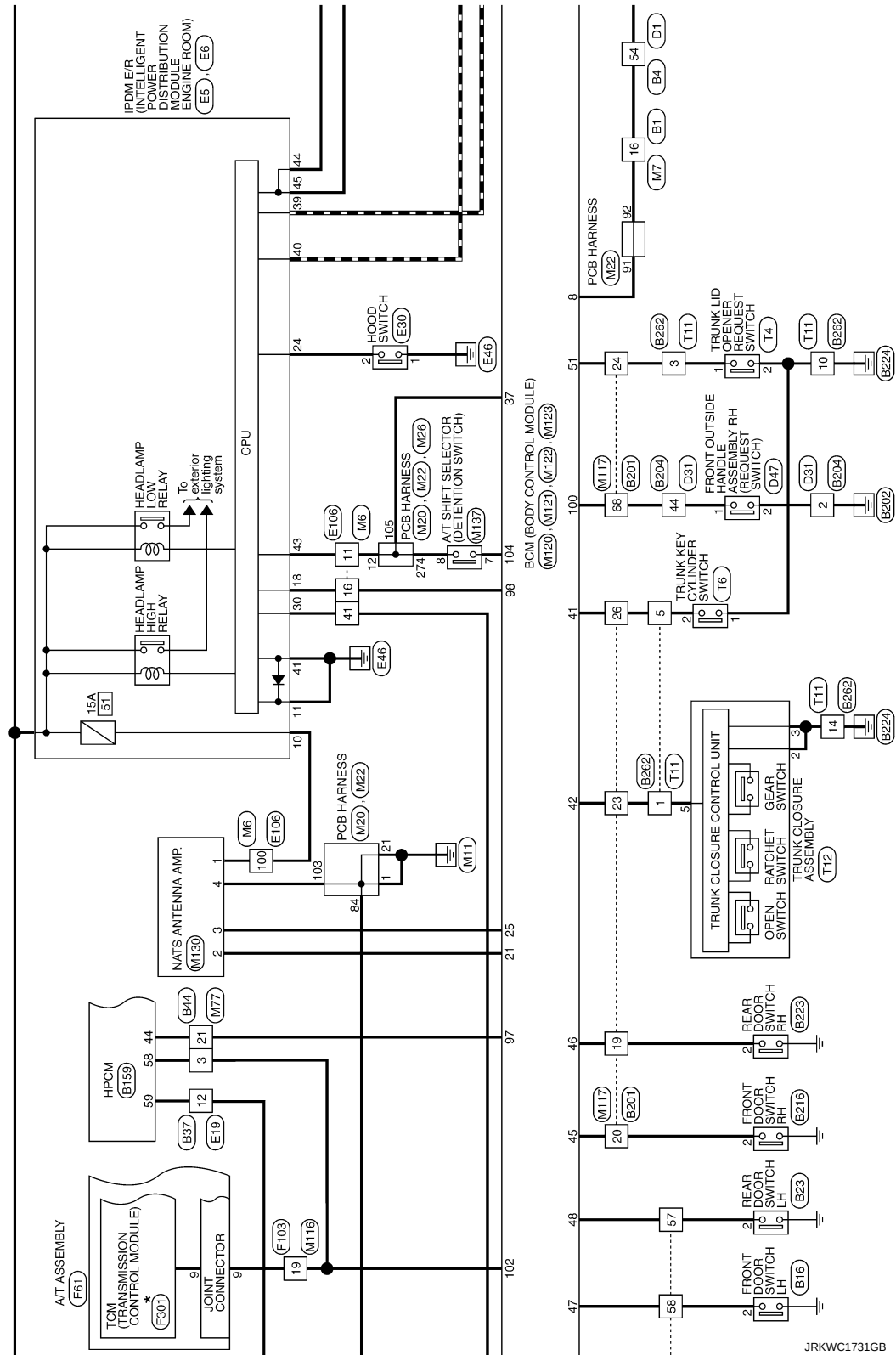


SECURITY CONTROL SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

★ : This connector is not shown in "Harness Layout".



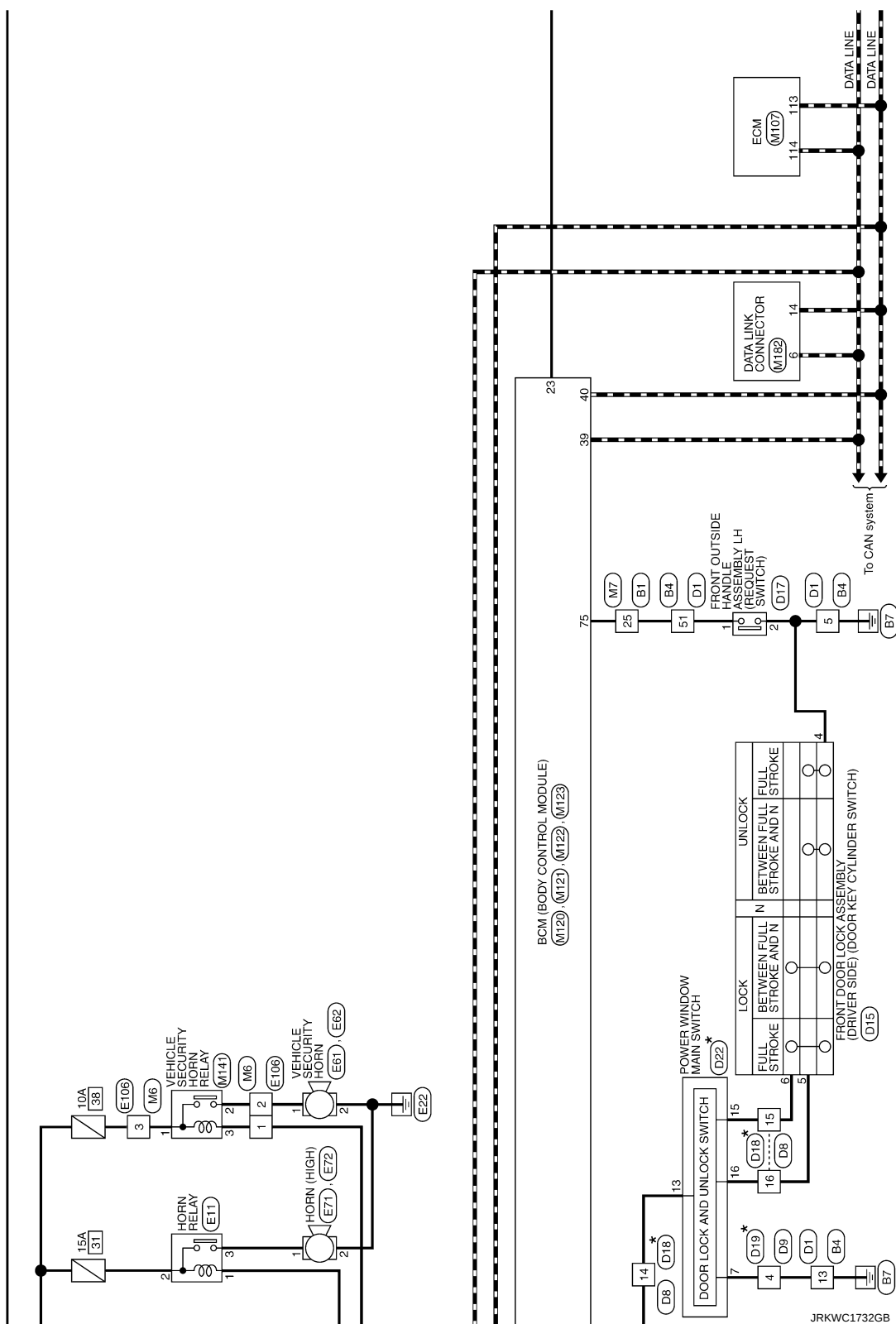
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[WITH INTELLIGENT KEY SYSTEM]

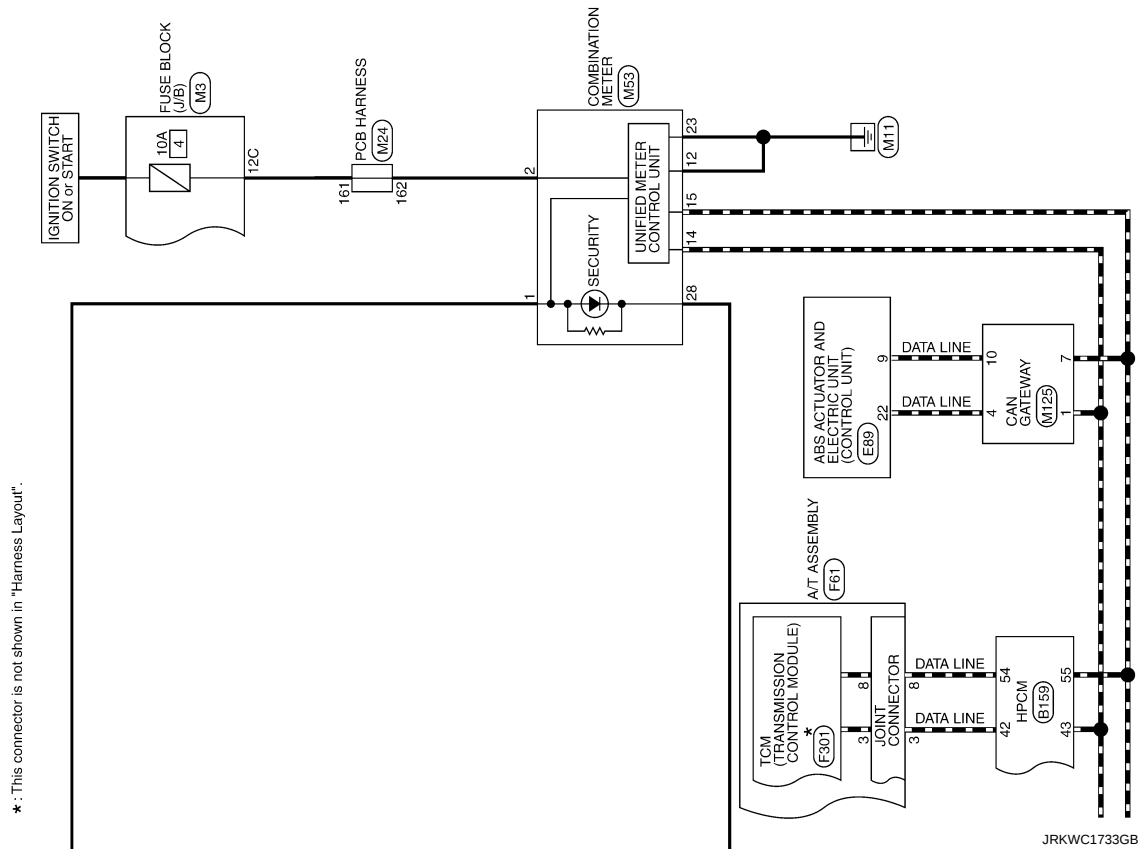
★: This connector is not shown in "Harness Layout".



SECURITY CONTROL SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

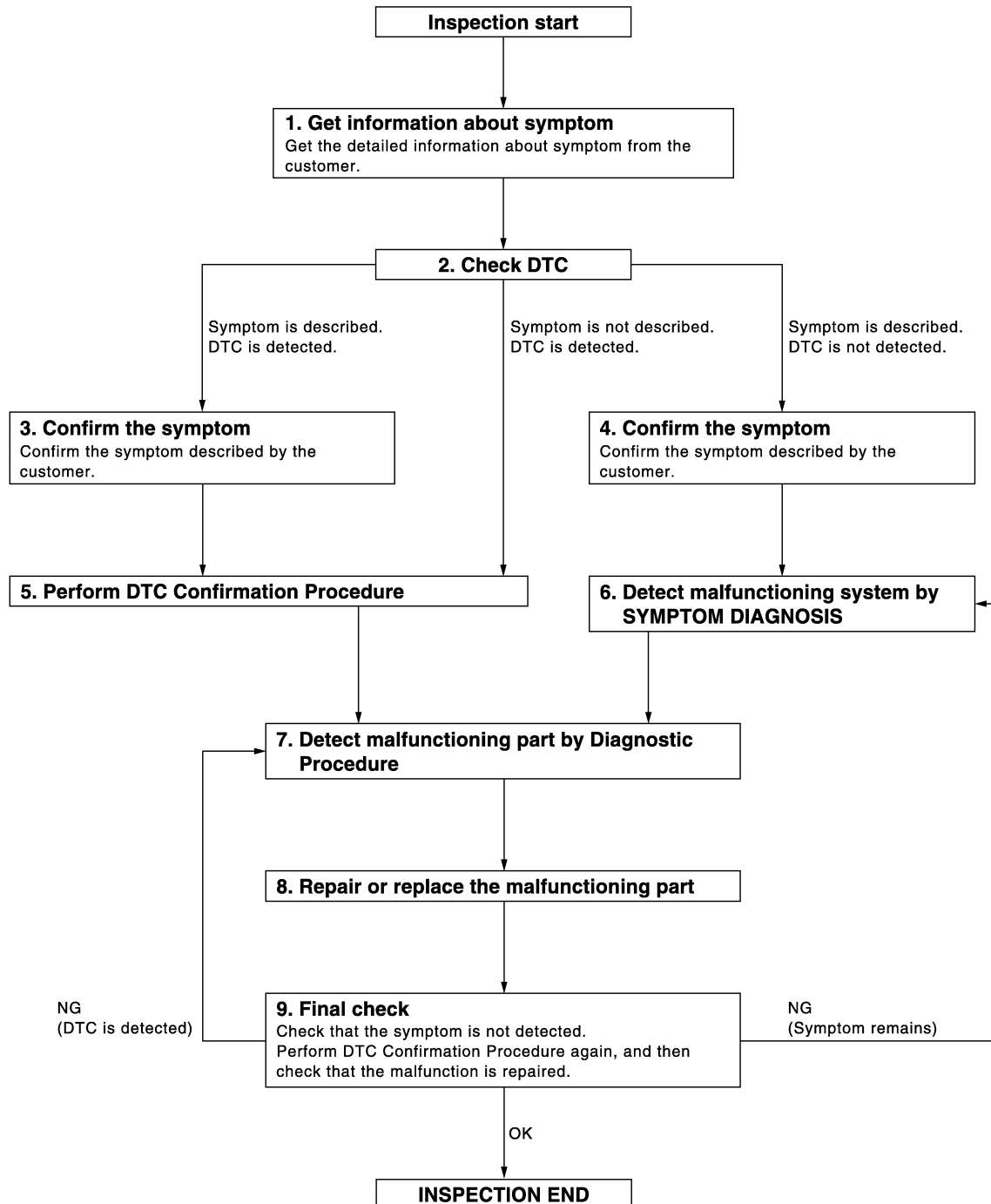
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000008142688

OVERALL SEQUENCE



JMKIA3449GB

DETAILED FLOW

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

1.GET INFORMATION ABOUT SYMPTOM

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).

>> GO TO 2.

2.CHECK DTC

1. Check DTC of "EV/HEV", "BCM" and "IPDM E/R" using CONSULT.
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

Confirm the symptom described by the customer.

Connect CONSULT to the vehicle, and check self diagnostic results in real time.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT to the vehicle, and check self diagnostic results in real time.

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 self diagnostic results in real time.

If two or more DTCs are detected, refer to [BCS-54, "DTC Inspection Priority Chart"](#) (BCM) or [PCS-21, "DTC Index"](#) (IPDM E/R), and determine the trouble diagnosis order.

Is DTC detected?

YES >> GO TO 7.

NO >> Refer to [GI-49, "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.

>> GO TO 7.

7.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

NOTE:

The Diagnostic Procedure is described based on open and short circuit inspection.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check voltage of related BCM terminals or IPDM E/R terminals using CONSULT.

8.REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

2. Reconnect parts or connectors disconnected during Diagnostic 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 again, and then check that the malfunction is repaired securely.

When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

YES (DTC is detected)>>GO TO 7.

YES (Symptom remains)>>GO TO 6.

NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

HPCM

HPCM : Description

INFOID:0000000008142689

Performing the following procedure can automatically activate recommunication of HPCM and BCM, but only when the HPCM is replaced with a new one*.

*: New one means a virgin HPCM that has never been energized on-board.

(In this step, initialization procedure by CONSULT is not necessary)

NOTE:

- When the replaced HPCM is not a brand new, the initialization of BCM 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.

HPCM : Work Procedure

INFOID:0000000008142690

1.PERFORM HPCM RECOMMUNICATING FUNCTION

1. Install HPCM.
2. Contact backside of registered Intelligent key* to push-button ignition switch while brake pedal is depressed, then turn ignition switch ON.
*: To perform this step, use the key that is used before performing HPCM replacement.
3. Maintain ignition switch in the ON position for at least 5 seconds.
4. Turn ignition switch OFF.
5. Check that the vehicle can be set to READY.

>> GO TO 2.

2.PERFORM ADDITIONAL SERVICE WHEN REPLACING HPCM

Perform the following procedure, [HBC-86, "Work Procedure"](#).

>> END

BCM

BCM : Description

INFOID:0000000008142691

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:0000000008142692

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [BCS-64, "CONFIGURATION \(BCM\) : Description"](#).

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ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

NOTE:

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

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to [BCS-80, "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-64, "CONFIGURATION \(BCM\) : 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:0000000008142695

HPCM forcibly switches to the mode that inhibits engine start, when engine start operation is performed 5 times or more while communication between HPCM and BCM is not normal.

DTC Logic

INFOID:0000000008142696

DTC DETECTION LOGIC

NOTE:

If DTC P1610 is displayed with other DTC (for BCM or EV/HEV), first perform the trouble diagnosis for other DTC.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	When HPCM detects a communication malfunction between HPCM and BCM 5 times or more.	—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in "Self Diagnostic Result" mode of "EV/HEV" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-39. "Diagnosis Procedure"](#).
 NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008142697

1.CHECK ENGINE START FUNCTION

1. Check that DTC except for DTC P1610 is not detected.
If detected, erase the DTC after fixing.
2. Turn ignition switch OFF.
3. Contact the registered Intelligent Key backside to push-button ignition switch and wait 5 seconds.
4. Turn ignition switch ON.
5. Turn ignition switch OFF and wait 5 seconds.
6. Repeat steps 3 and 5 twice (a total of 3 times).
7. Check that vehicle can be set to READY.

>> INSPECTION END

SEC

P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000008142698

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1611	ID DISCORD, IMMU-HCM*	The ID verification results between BCM and HPCM are NG.	• BCM • HPCM

*: "HCM" is indicated on CONSULT display, however this means HPCM on this model.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in "Self Diagnostic Result" mode of "EV/HEV" using CONSULT.

Is DTC detected?

YES >> Go to [SEC-40, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142699

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT.
2. Check that the vehicle can be set to READY using registered Intelligent Key.

Is the inspection result normal?

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

2.CHECK SELF DIAGNOSTIC RESULT

1. Select "Self Diagnostic Result" mode of "EV/HEV" using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to [SEC-40, "DTC Logic"](#).

Is DTC detected?

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

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Check that the vehicle can be set to READY using registered Intelligent Key.

Is the inspection result normal?

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

4.REPLACE HPCM

1. Replace HPCM. Refer to [HBC-339, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT". Refer to [SEC-37, "HPCM : Description"](#) and [SEC-37, "HPCM : Work Procedure"](#).

>> INSPECTION END

P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1612 CHAIN OF ECM-IMMU

DTC Logic

INFOID:000000008142700

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000 (for BCM), first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC P1612 is displayed with DTC U1010 (for BCM), first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

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

*: "HCM" is indicated on CONSULT display, however this means HPCM on this model.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in "Self Diagnostic Result" mode of "EV/HEV" using CONSULT.

Is DTC detected?

YES >> Go to [SEC-41, "Diagnosis Procedure"](#).

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142701

1.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Check that the vehicle can be set to READY using registered Intelligent Key.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.REPLACE HPCM

1. Replace HPCM. Refer to [HBC-339, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT". Refer to [SEC-37, "HPCM : Description"](#) and [SEC-37, "HPCM : Work Procedure"](#).

>> INSPECTION END

B2192 ID DISCORD, IMMU-ECM**DTC Logic**

INFOID:000000008142702

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD BCM-ECM*	The ID verification results between BCM and HPCM are NG.	• BCM • ECM

*: "ECM" is indicated on CONSULT display, however this means HPCM on this models.

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-42, "Diagnosis Procedure"](#).
 NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142703

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT.
2. Check that the vehicle can be set to READY using registered Intelligent Key.

Is the inspection result normal?

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

2.CHECK SELF DIAGNOSTIC RESULT

1. Select "Self Diagnostic Result" mode of "EV/HEV" using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2192. 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-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Check that the vehicle can be set to READY using registered Intelligent Key.

Is the inspection result normal?

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

4.REPLACE HPCM

1. Replace HPCM. Refer to [HBC-339, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT". Refer to [SEC-37, "HPCM : Description"](#) and [SEC-37, "HPCM : Work Procedure"](#).

>> INSPECTION END

B2193 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2193 CHAIN OF ECM-IMMU

DTC Logic

INFOID:000000008142704

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

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

*: "ECM" is indicated on CONSULT display, however this means HPCM on this models.

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-43, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142705

1.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Check that the vehicle can be set to READY using registered Intelligent Key.

Is the inspection result normal?

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

2.REPLACE HPCM

1. Replace HPCM. Refer to [HBC-339, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT". Refer to [SEC-37, "HPCM : Description"](#) and [SEC-37, "HPCM : Work Procedure"](#).

>> INSPECTION END

B2195 ANTI-SCANNING

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2195 ANTI-SCANNING

DTC Logic

INFOID:000000008142706

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2195	ANTI-SCANNING	ID verification between BCM and HPCM that is out of the specified specification is detected.	• ID verification request out of the specified specification • 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 >> Refer to [SEC-44, "Diagnosis Procedure"](#).
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:000000008142707

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-44, "DTC Logic"](#).

Is DTC detected?

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

2.CHECK EQUIPMENT OF THE VEHICLE

Check that unspecified accessory part related to set vehicle to READY is not installed.

Is unspecified accessory part installed?

- YES >> GO TO 3.
NO >> GO TO 4.

3.CHECK SELF DIAGNOSTIC RESULT 2

1. Obtain the customers approval to remove unspecified accessory part related to set vehicle to READY, and then remove it.
2. Select "Self Diagnostic Result" of "BCM" using CONSULT.
3. Erase DTC.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to [SEC-44, "DTC Logic"](#).

Is DTC detected?

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

4.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2196 DONGLE UNIT

Description

INFOID:0000000008142708

BCM performs ID verification between BCM and dongle unit.
When verification result is OK, BCM permits cranking.

DTC Logic

INFOID:0000000008142709

DTC DETECTION LOGIC

NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2196	DONGLE NG	The ID verification results between BCM and dongle unit is NG.	• Harness or connectors (Dongle unit circuit is open or shorted.) • Dongle unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Turn ignition switch ON.
4. Check DTC in "Self-diagnosis result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Refer to [SEC-45, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008142710

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT.
2. Check that the vehicle can be set to READY using registered Intelligent Key.

Is the inspection result normal?

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

2.CHECK DONGLE UNIT CIRCUIT

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

BCM		Dongle unit		Continuity
Connector	Terminal	Connector	Terminal	
M120	24	M165	7	Existed

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M120	24		Not existed

Is the inspection result normal?

- YES >> GO TO 3.

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NO >> Repair or replace harness.

3.CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dongle unit		Ground	Continuity
Connector	Terminal		
M165	1		Existed

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:000000008142711

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2198	NATS ANTENNA AMP.	Inactive communication between NATS antenna amp. and BCM is detected when BCM enters in the low battery consumption mode (BCM sleep condition)	• Harness or connectors (NATS antenna amp. circuit is open or shorted.) • NATS antenna amp. • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Make the conditions that the BCM enters in the low battery consumption mode (BCM sleep condition), and wait 15 to 60 minutes. Refer to [BCS-12, "POWER CONSUMPTION CONTROL SYSTEM : System Description"](#).
2. Turn ignition switch ON.
3. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-47, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142712

1.CHECK FUSE

1. Turn ignition switch OFF.
2. Check that the following fuse in IPDM E/R is not blown.

Signal name	Fuse No.
Battery power supply	51 (15 A)

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the blown fuse after repairing the cause of blowing.

2.CHECK NATS ANTENNA AMP. POWER SUPPLY

1. Disconnect NATS antenna amp. connector.
2. Check voltage between NATS antenna amp. harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
NATS antenna amp.			
Connector	Terminal		
M130	1	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 4.
NO >> GO TO 3.

3.CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and NATS antenna amp. connector.

IPDM E/R		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
E5	10	M130	1	Existed

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-29, "Removal and Installation"](#).

NO >> Repair or replace harness.

4.CHECK NATS ANTENNA AMP. GROUND CIRCUIT

Check continuity between NATS antenna amp. harness connector and ground.

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M130	4		Existed

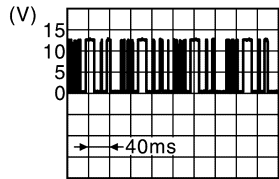
Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 1

Check voltage signal between NATS antenna amp. harness connector and ground using an oscilloscope.

(+)		(-)	Condition		Voltage (V) (Approx.)
NATS antenna amp.					
Connector	Terminal				
M130	2	Ground	Intelligent Key: Intelligent Key battery is removed	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed	(V) 
				Brake pedal: Not depressed	12

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

6.CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 1

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and NATS antenna amp. connector.

BCM		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M120	21	M130	2	
				Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M120	21		Not existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

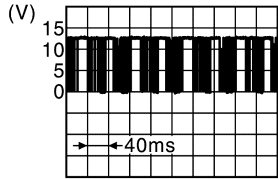
7.CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 2

Check voltage signal between NATS antenna amp. harness connector and ground using an oscilloscope.

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

(+) NATS antenna amp.		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
M130	3	Ground	Intelligent Key: Intelligent Key battery is removed	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed	
				Brake pedal: Not depressed	12

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to [SEC-90, "Removal and Installation"](#).

NO >> GO TO 8.

8. CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 2

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector and NATS antenna amp. connector.

BCM		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M130	25	M120	3	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M120	25		Not existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

9. REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

SEC

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2555 STOP LAMP

DTC Logic

INFOID:000000008142717

DTC DETECTION LOGIC

NOTE:

If DTC B2555 is displayed with DTC C1A68 (for BRAKE), first perform the trouble diagnosis for DTC C1A68. Refer to [BR-132. "DTC 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.) • Harness or connectors (Stop lamp OFF relay 1, 2 circuit is open or shorted.) (Models with ICC) • Stop lamp switch • Stop lamp OFF relay 1 (Models with ICC) • Stop lamp OFF relay 2 (Models with ICC) • Fuse • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Depress the brake pedal for 1 second or more.
2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

YES >> Go to [SEC-50. "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142718

1.INSPECTION START

Perform inspection in accordance with the vehicle type.

Which type of vehicle?

Models with ICC>>GO TO 2.
Models without ICC>>GO TO 3.

2.CHECK DTC OF ELECTRICALLY-DRIVEN INTELLIGENT BRAKE UNIT

1. Perform DTC CONFIRMATION PROCEDURE for C1A68. Refer to [BR-132. "DTC Logic"](#).
2. Check DTC in "Self Diagnostic Result" mode of "BRAKE" using CONSULT.

Is DTC C1A68 detected?

YES >> Perform the trouble diagnosis for DTC C1A68. Refer to [BR-132. "Diagnosis Procedure"](#).
NO >> GO TO 3.

3.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	105	Ground	Battery voltage

Is the inspection normal?

YES >> GO TO 4.
NO-1 >> Check 10 A fuse [No. 7, located in the fuse block (J/B)].

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NO-2 >> Check harness for open or short between BCM and fuse.

4.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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

(+)		(-)	Voltage (V) (Approx.)
Stop lamp switch			
Connector	Terminal		
E110	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check harness for open or short between stop lamp switch and fuse.

5.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				
M120	9	Ground	Brake pedal	Depressed	Battery voltage
				Not depressed	0

Is the inspecting result normal?

YES >> GO TO 6.

NO >> GO TO 7.

6.REPLACE BCM

1. Replace BCM. Refer to [BCS-80. "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

7.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	
E110	2	M120	9	Existed

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

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E110	2		Not existed

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8.CHECK STOP LAMP SWITCH

Refer to [SEC-52. "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 9.

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B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NO >> Replace stop lamp switch. Refer to [BR-280, "Removal and Installation"](#).

9.CHECK INTERMITTENT INCIDENT

Refer to [GI-49, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:0000000008142719

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-280, "Removal and Installation"](#).

B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:000000008142720

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2556	PUSH-BTN IGN SW	BCM detects the push-button ignition switch stuck at 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-53, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142721

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		
M50	4	Ground	12

Is the inspection result normal?

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

2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

1. Disconnect BCM connector and IPDM E/R 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	
M50	4	M123	100	Existed

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M50	4		Not existed

Is the inspection result normal?

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

B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

4.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		
M50	1		Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to [SEC-54, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace push-button ignition switch. Refer to [SEC-91, "Removal and Installation"](#).

6.CHECK INTERMITTENT INCIDENT

Refer to [GI-49, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000008142722

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
Terminal				
1	4	Push-button ignition switch	Pressed	Existed
			Not pressed	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace push-button ignition switch. Refer to [SEC-91, "Removal and Installation"](#).

B2557 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2557 VEHICLE SPEED

DTC Logic

INFOID:000000008142723

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	BCM detects one of the following conditions for 10 seconds continuously. • Vehicle speed signal from combination meter is 10 km/h (6.2 MPH) or more, and vehicle speed signal from ABS actuator and electric unit (control unit) is 4 km/h (2.5 MPH) or less. • Vehicle speed signal from combination meter is 4 km/h (2.5 MPH) or less, and vehicle speed signal from ABS actuator and electric unit (control unit) is 10 km/h (6.2 MPH) or more.	• 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. Set the vehicle to READY 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-55, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142724

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

Check DTC in "Self Diagnostic Result" mode of "ABS" using CONSULT.

Is DTC detected?

- YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [BRC-57, "DTC Index"](#).
NO >> GO TO 2.

2.CHECK DTC OF COMBINATION METER

Check DTC in "Self Diagnostic Result" mode of "METER/M&A" using CONSULT.

Is DTC detected?

- YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [MWI-51, "DTC Index"](#).
NO >> GO TO 3.

3.CHECK INTERMITTENT INCIDENT

Refer to [GI-49, "Intermittent Incident"](#).

>> INSPECTION END

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2601 SHIFT POSITION

DTC Logic

INFOID:000000008142725

DTC DETECTION LOGIC

NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2601	SHIFT POSITION	When there is a difference between P position signal from A/T shift selector (detention switch) and P position signal from IPDM E/R (CAN).	• Harness or connectors (CAN communication line is open or shorted.) • Harness or connectors [A/T shift selector (detention switch) circuit is open or shorted.] • IPDM E/R • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to [SEC-56, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142726

1.CHECK A/T SHIFT SELECTOR CIRCUIT (BCM)

1. Turn ignition switch OFF.
2. Disconnect A/T shift selector (detention switch) connector.
3. Disconnect BCM connector.
4. Check continuity between A/T shift selector (detention switch) harness connector and BCM harness connector.

A/T shift selector (detention switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M137	8	M120	37	Existed

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK A/T SHIFT SELECTOR CIRCUIT (IPDM E/R)

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

A/T shift selector (detention switch)		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
M137	8	E6	43	Existed

Is the inspection result normal?

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2601. Refer to [SEC-56, "DTC Logic"](#).

Is DTC B2601 detected again?

- YES >> Replace IPDM E/R. Refer to [PCS-29, "Removal and Installation"](#).
NO >> INSPECTION END

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B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2602 SHIFT POSITION

DTC Logic

INFOID:000000008142727

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).
- If DTC B2602 is displayed with DTC B2557, first perform the trouble diagnosis for DTC B2557. Refer to [SEC-55, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT POSITION	BCM detects the following status for 10 seconds. • Selector lever 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 [A/T shift selector (detention switch) circuit is open or shorted.] • A/T shift selector (detention switch) • Combination meter • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Set the vehicle to READY.
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-58, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142728

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

Check DTC in "Self Diagnostic Result" mode of "ABS" using CONSULT.

Is DTC detected?

- YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [BRC-57, "DTC Index"](#).
NO >> GO TO 2.

2.CHECK DTC OF COMBINATION METER

Check DTC in "Self Diagnostic Result" mode of "METER/M&A" using CONSULT.

Is DTC detected?

- YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [MWI-51, "DTC Index"](#).
NO >> GO TO 3.

3.CHECK A/T SHIFT SELECTOR POWER SUPPLY

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

(+)		(-)	Voltage (V) (Approx.)
A/T shift selector (detention switch)			
Connector	Terminal		
M137	7	Ground	12

B2602 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 4.

4. CHECK A/T SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

A/T shift selector (detention switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M137	7	M123	104	Existed

3. Check continuity between A/T shift selector (detention switch) harness connector and ground.

A/T shift selector (detention switch)		Ground	Continuity
Connector	Terminal		
M137	7		Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

6. CHECK A/T SHIFT SELECTOR CIRCUIT

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

A/T shift selector (detention switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M137	8	M120	37	Existed

3. Check continuity between A/T shift selector (detention switch) harness connector and ground.

A/T shift selector (detention switch)		Ground	Continuity
Connector	Terminal		
M137	8		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7. CHECK A/T SHIFT SELECTOR (DETENTION SWITCH)

Refer to [SEC-60, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace A/T shift selector. Refer to [TM-180, "Removal and Installation"](#).

8. CHECK INTERMITTENT INCIDENT

Refer to [GI-49, "Intermittent Incident"](#).

>> INSPECTION END

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B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Component Inspection

INFOID:000000008142729

1. CHECK A/T SHIFT SELECTOR (DETENTION SWITCH)

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

A/T shift selector (detention switch)		Condition		Continuity
Terminal				
7	8	Selector lever: P position	Selector button: Released	Not existed
			Selector button: Pressed	Existed
		Selector lever: Other than P position		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace A/T shift selector. Refer to [TM-180, "Removal and Installation"](#).

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2603 SHIFT POSITION

DTC Logic

INFOID:000000008142730

DTC DETECTION LOGIC

NOTE:

- If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to [SEC-56, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSI STATUS	BCM detects the following status when ignition switch is in the ON position. - P/N position signal from TCM: approx. 0 V (Other than P/N position) - A/T shift selector (detention switch) signal: approx. 0 V (P position)	- Harness or connector [A/T shift selector (detention switch) circuit is open or shorted.] - Harness or connectors (TCM circuit is open or shorted.) - A/T shift selector (detention switch) - A/T assembly (TCM) - BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

- YES >> Go to [SEC-61, "Diagnosis Procedure"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

- Shift the selector lever to any position other than P, and wait 1 second or more.
- 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:000000008142731

1.INSPECTION START

Perform inspection in accordance with the procedure that confirms DTC.

Which procedure confirms DTC?

- DTC confirmation procedure 1>>GO TO 2.
DTC confirmation procedure 2>>GO TO 6.

2.CHECK DTC OF TCM

Check DTC in "Self Diagnostic Result" mode of "TCM" using CONSULT.

Is DTC detected?

- YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [TM-80, "DTC Index"](#).
NO >> GO TO 3.

3.CHECK BCM INPUT SIGNAL

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

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

(+)		(-)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
M123	102	Ground	Selector lever	P or N position	12
				Other than above	0

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 5.

4. REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

5. CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Disconnect A/T assembly connector.
4. Check continuity between A/T assembly harness connector and BCM harness connector.

A/T assembly		BCM		Continuity
Connector	Terminal	Connector	Terminal	
F61	9	M123	102	Existed

5. Check continuity between A/T assembly harness connector and ground.

A/T assembly		Ground	Continuity
Connector	Terminal		
F61	9		Not existed

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace harness.

6. CHECK A/T SHIFT SELECTOR POWER SUPPLY

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

(+)		(-)	Voltage (V) (Approx.)
A/T shift selector (detention switch)			
Connector	Terminal		
M137	7	Ground	12

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 7.

7. CHECK A/T SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

A/T shift selector (detention switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M137	7	M123	104	Existed

3. Check continuity between A/T shift selector (detention switch) harness connector and ground.

A/T shift selector (detention switch)		Ground	Continuity
Connector	Terminal		
M137	7		Not existed

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

9.CHECK A/T SHIFT SELECTOR CIRCUIT

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

A/T shift selector (detention switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M137	8	M120	37	Existed

3. Check continuity between A/T shift selector (detention switch) harness connector and ground.

A/T shift selector (detention switch)		Ground	Continuity
Connector	Terminal		
M137	8		Not existed

Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace harness.

10.CHECK A/T SHIFT SELECTOR (DETENTION SWITCH)

Refer to [SEC-63, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 11.

NO >> Replace A/T shift selector. Refer to [TM-180, "Removal and Installation"](#).

11.CHECK INTERMITTENT INCIDENT

Refer to [GI-49, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000008142732

1.CHECK A/T SHIFT SELECTOR (DETENTION SWITCH)

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

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

A/T shift selector (detention switch)		Condition		Continuity
Terminal				
7	8	Selector lever: P position	Selector button: Released	Not existed
			Selector button: Pressed	Existed
		Selector lever: Other than P position		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace A/T shift selector. Refer to [TM-180. "Removal and Installation"](#).

B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2604 SHIFT POSITION

DTC Logic

INFOID:000000008142733

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2604	PNP/CLUTCH SW	The following states are detected for 5 seconds while ignition switch is ON. • P/N position signal is sent from TCM but shift position signal input (CAN) from TCM is other than P and N • P/N position signal is not sent from TCM but shift position signal input (CAN) from TCM is P or N	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connectors (TCM circuit is open or shorted.) • TCM • BCM

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-65, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142734

1.CHECK DTC OF TCM

Check DTC in "Self Diagnostic Result" mode of "TCM" using CONSULT.

Is DTC detected?

- YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [BCS-55, "DTC Index"](#).
NO >> GO TO 2.

2.CHECK BCM INPUT SIGNAL

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

(+)		(-)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
M123	102	Ground	Selector lever	P or N position	12
				Other than above	0

Is the inspection result normal?

- YES >> GO TO 3.
NO >> GO TO 4.

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> INSPECTION END

4. CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect A/T assembly connector.
3. Disconnect BCM connector.
4. Check continuity between BCM harness connector and A/T assembly harness connector.

BCM		A/T assembly		Continuity
Connector	Terminal	Connector	Terminal	
M123	102	F61	9	Existed

5. Check continuity between TCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M123	102		Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK INTERMITTENT INCIDENT

Refer to [GI-49, "Intermittent Incident"](#).

>> INSPECTION END

B2617 READY SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2617 READY SIGNAL CIRCUIT

DTC Logic

INFOID:000000008142745

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- Press push-button ignition switch under the following conditions, and wait at least 1 second.
 - Shift position: P or N
 - Brake pedal: Depressed
- 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:000000008142746

1.INSPECTION START

- Turn ignition switch ON.
- Select "Self Diagnostic Result" mode of "BCM" using CONSULT.
- Touch "ERASE".
- Perform DTC CONFIRMATION PROCEDURE for DTC B2617. Refer to [SEC-67, "DTC Logic"](#).

Is DTC detected?

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

2.REPLACE BCM

- Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
- Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

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SEC

B261E VEHICLE TYPE**Description**

INFOID:000000008142749

There are two types of vehicle.

- EV/HEV
- Conventional

DTC Logic

INFOID:000000008142750

DTC DETECTION LOGIC**NOTE:**

- If DTC B261E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B261E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC 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-68, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142751

1.INSPECTION START

1. Turn power 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-68, "DTC Logic"](#).

Is the DTC B261E detected again?

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

2.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

B26F7 BCM

DTC Logic

INFOID:000000008142760

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F7	BCM	Inside key antenna output circuit in BCM is malfunctioning.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press door request switch.
2. Turn ignition switch ON.
3. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-69, "Diagnosis Procedure"](#).
 NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008142761

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 B26F7. Refer to [SEC-69, "DTC Logic"](#).

Is DTC detected?

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

2.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

SEC

B26FC KEY REGISTRATION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26FC KEY REGISTRATION

DTC Logic

INFOID:0000000008142762

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26FC	KEY REGISTRATION	Intelligent Key that does not match the vehicle is registered.	• Improper registration operation • Intelligent Key • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Perform initialization of BCM and reregistration 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-70. "Diagnosis Procedure"](#)
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008142763

1.REPLACE INTELLIGENT KEY

1. Prepare Intelligent Key that matches the vehicle.
2. Perform initialization of BCM and reregistration of Intelligent Key using CONSULT.
3. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

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

2.REPLACE BCM

1. Replace BCM. Refer to [BCS-80. "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

HEADLAMP FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

HEADLAMP FUNCTION

Component Function Check

INFOID:000000008142770

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-71, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008142771

1.CHECK HEADLAMP FUNCTION

Refer to [EXL-71, "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-49, "Intermittent Incident"](#).

>> INSPECTION END

SEC

HOOD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

HOOD SWITCH

Component Function Check

INFOID:000000008142772

1.CHECK FUNCTION

1. Select "HOOD SW" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. Check "HOOD SW" indication under the following condition.

Monitor item	Condition		Indication
HOOD SW	Hood	Open	ON
		Close	OFF

Is the indication normal?

YES >> Hood switch is OK.

NO >> Go to [SEC-72, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008142773

1.CHECK HOOD SWITCH SIGNAL CIRCUIT 1

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

(+)		(-)	Voltage (V) (Approx.)
Hood switch			
Connector	Terminal		
E30	2	Ground	12

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK HOOD SWITCH SIGNAL CIRCUIT 2

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

IPDM E/R		Hood switch		Continuity
Connector	Terminal	Connector	Terminal	
E5	24	E30	2	Existed

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E5	24	Ground	Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-29, "Removal and Installation"](#).

NO >> Repair or replace harness.

3.CHECK HOOD SWITCH GROUND CIRCUIT

Check continuity between hood switch harness connector and ground.

Hood switch		Ground	Continuity
Connector	Terminal		
E30	1	Ground	Existed

HOOD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Is the inspection result normal?

- YES >> Replace hood lock (RH). Refer to [DLK-162, "HOOD LOCK : Removal and Installation"](#).
NO >> Repair or replace harness.

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HORN FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

HORN FUNCTION

Component Function Check

INFOID:000000008142774

1.CHECK FUNCTION 1

1. Disconnect vehicle security horn relay.
2. Perform "VEHICLE SECURITY HORN" in "ACTIVE TEST" mode of "THEFT ALM" of "BCM" using CONSULT.
3. Check the horn operation.

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

Is the operation normal?

YES >> GO TO 2.

NO >> Go to [SEC-74, "Diagnosis Procedure"](#).

2.CHECK FUNCTION 2

1. Reconnect vehicle security horn relay.
2. Disconnect horn relay.
3. Perform "VEHICLE SECURITY HORN" in "ACTIVE TEST" mode of "THEFT ALM" of "BCM" using CONSULT.
4. Check the horn operation.

Test item		Description	
VEHICLE SECURITY HORN	ON	Vehicle security horn	Sounds (for 0.5 sec)

Is the operation normal?

YES >> INSPECTION END

NO >> Go to [SEC-74, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008142775

1.INSPECTION START

Perform inspection in accordance with procedure that confirms malfunction.

Which procedure confirms malfunction?

Component Function Check 1>>GO TO 2.

Component Function Check 2>>GO TO 4.

2.CHECK HORN FUNCTION

Check horn function using horn switch.

Do the horn sound?

YES >> GO TO 3.

NO >> Check horn circuit. Refer to [HRN-3, "Wiring Diagram"](#).

3.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	
E6	44	E11	1	Existed

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

HORN FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

IPDM E/R		Ground	Continuity
Connector	Terminal		
E6	44		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-29, "Removal and Installation"](#).

NO >> Repair or replace harness.

4.CHECK VEHICLE SECURITY HORN RELAY CONTROL SIGNAL

- Turn power switch ON.
- Select "VEHICLE SECURITY HORN" in "ACTIVE TEST" mode of "THEFT ALM" of "BCM" using CONSULT.
- Check voltage between IPDM E/R harness connector and ground under the following conditions.

(+)		(-)	Condition	Voltage (V) (Approx.)
IPDM E/R			VEHICLE SECURITY HORN	
Connector	Terminal			
E6	45	Ground	ON	0
			OFF	Battery voltage

Is the operation normal?

YES >> GO TO 8.

NO >> GO TO 5.

5.CHECK VEHICLE SECURITY HORN RELAY POWER SUPPLY

- Disconnect vehicle security horn relay.
- Check voltage between vehicle security horn relay harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Vehicle security horn relay			
Connector	Terminal		
M141	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6.

NO-1 >> Check 10 A fuse [No. 38 located in the fuse block (J/B)].

NO-2 >> Check harness for open or short between vehicle security horn relay and fuse.

6.CHECK VEHICLE SECURITY HORN CONTROL CIRCUIT

- Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and vehicle security horn relay harness connector.

IPDM E/R		Vehicle security horn relay		Continuity
Connector	Terminal	Connector	Terminal	
E6	45	M141	3	Existed

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E6	45		Not existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

HORN FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

7. CHECK VEHICLE SECURITY HORN RELAY

Refer to [SEC-76. "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-29. "Removal and Installation"](#).

NO >> Replace vehicle security horn relay.

8. CHECK VEHICLE SECURITY HORN CIRCUIT

1. Disconnect vehicle security horn relay.
2. Disconnect vehicle security horn connector.
3. Check continuity between vehicle security horn relay harness connector and vehicle security horn harness connector.

Vehicle security horn relay		Vehicle security horn		Continuity
Connector	Terminal	Connector	Terminal	
M141	2	E61	1	Existed

4. Check continuity between vehicle security horn relay harness connector and ground.

Vehicle security horn relay		Ground	Continuity
Connector	Terminal		
M141	2		Not existed

5. Check continuity between vehicle security horn harness connector and ground.

Vehicle security horn		Ground	Continuity
Connector	Terminal		
E62	2		Existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

9. CHECK VEHICLE SECURITY HORN RELAY

Refer to [SEC-76. "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace vehicle security horn.

NO >> Replace vehicle security horn relay.

Component Inspection

INFOID:000000008142776

1. CHECK VEHICLE SECURITY HORN RELAY

1. Turn power switch OFF.
2. Disconnect vehicle security horn relay.
3. Check voltage between vehicle security horn relay terminal and ground under the following conditions.

(+)	(-)	Condition	Voltage (V) (Approx.)
Vehicle security horn relay Terminal			
3	Ground	12 V direct current supply between terminals 1 and 2	12
		No current supply	0

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace vehicle security horn relay.

SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

SECURITY INDICATOR LAMP

Component Function Check

INFOID:000000008142777

1.CHECK FUNCTION

1. Perform "THEFT IND" in "ACTIVE TEST" mode of "IMMU" of "BCM" using CONSULT.
2. Check security indicator lamp operation.

Test item		Description	
THEFT IND	ON	Security indicator lamp	Illuminates
	OFF		Does not illuminate

Is the inspection result normal?

YES >> INSPECTION END

NO >> Go to [SEC-77, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008142778

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)		(-)	Voltage (V) (Approx.)
Combination meter			
Connector	Terminal		
M53	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 9, located in the fuse block (J/B)].

NO-2 >> Check harness for open or short between combination meter and fuse.

2.CHECK SECURITY INDICATOR LAMP SIGNAL

1. Connect combination meter connector.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
BCM			
Connector	Terminal		
M120	23	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

4.CHECK SECURITY INDICATOR LAMP CIRCUIT

1. Disconnect combination meter connector.
2. Check continuity between combination meter harness connector and BCM harness connector.

SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Combination meter		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M53	28	M120	23	Existed

3. Check continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M53	28		Not existed

Is the inspection result normal?

- YES >> Replace combination meter. Refer to [MWI-81, "Removal and Installation"](#).
NO >> Repair or replace harness.

TRUNK KEY CYLINDER SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

TRUNK KEY CYLINDER SWITCH

Component Function Check

INFOID:000000008142779

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	OF
		On (Trunk lid open) position	OFF

Is the inspection result normal?

YES >> Trunk key cylinder switch is OK.

NO >> Refer to [SEC-79, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008142780

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		
T6	2	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	41	T6	2	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M121	41	Ground	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-80, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

TRUNK KEY CYLINDER SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

4.CHECK TRUNK KEY CYLINDER SWITCH GROUND CIRCUIT

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

Trunk key cylinder switch		Ground	Continuity
Connector	Terminal		
T6	1		Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK TRUNK KEY CYLINDER SWITCH

Refer to [SEC-80, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace trunk key cylinder switch.

6.CHECK INTERMITTENT INCIDENT

Refer to [GI-49, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000008142781

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.

TRUNK LID OPEN CLOSE SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

TRUNK LID OPEN CLOSE SIGNAL

Component Function Check

INFOID:0000000008405737

1.CHECK FUNCTION

1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
2. Select "TRNK/HAT MNTR" in "DATA MONITOR" mode.
3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
TRNK/HAT MNTR	Trunk lid	Open	On
		Closed	Off

Is the inspection result normal?

YES >> Trunk closure assembly is OK.

NO >> Refer to [SEC-81, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:0000000008405738

1.CHECK TRUNK LID OPEN/CLOSE SIGNAL

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

(+)		(-)	Voltage
Trunk closure assembly			
Connector	Terminal		
T12	5	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK TRUNK LID OPEN/CLOSE SIGNAL CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM connector and trunk closure assembly connector.

BCM		Trunk closure assembly		Continuity
Connector	Terminal	Connector	Terminal	
M121	42	T12	5	Existed

3. Check continuity between BCM connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M121	42		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-80, "Removal and Installation"](#).

NO >> Repair or replace harness.

3.CHECK TRUNK CLOSURE ASSEMBLY GROUND CIRCUIT

Check continuity between trunk closure assembly connector and ground.

TRUNK LID OPEN CLOSE SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Trunk closure assembly		Ground	Continuity
Connector	Terminal		
T12	2		Existed
	3		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-49. "Intermittent Incident"](#).

>> INSPECTION END

VEHICLE CANNOT BE SET TO READY WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

VEHICLE CANNOT BE SET TO READY WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:0000000008142782

Vehicle cannot be set to READY when brake pedal is depressed and 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 vehicle READY set 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": ON
Check the setting of "ENGINE START BY I-KEY" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:0000000008142783

1.PERFORM WORK SUPPORT

Perform "INSIDE ANT DIAGNOSIS" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.

Refer to [DLK-33, "INTELLIGENT KEY : CONSULT Function \(BCM - INTELLIGENT KEY\)"](#).

>> GO TO 2.

2.PERFORM SELF-DIAGNOSIS 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-48, "DTC Logic"](#) (instrument center), [DLK-50, "DTC Logic"](#), (console) or [DLK-52, "DTC Logic"](#) (trunk room).

NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Refer to [PCS-64, "Component Function Check"](#).

Is the operation normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

4.CHECK STOP LAMP SWITCH

Check stop lamp switch.

Refer to [SEC-52, "Component Inspection"](#).

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 inspection normal?

YES >> Check intermittent incident. Refer to [GI-49, "Intermittent Incident"](#).

NO >> GO TO 1.

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:000000008142786

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

NOTE:

- Before performing the diagnosis, perform "Work Flow". Refer to [SEC-34, "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)

Ignition switch position is other than ON.

Diagnosis Procedure

INFOID:000000008142787

1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.

Refer to [SEC-77, "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-49, "Intermittent Incident"](#).

NO >> GO TO 1.

VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM CANNOT BE SET INTELLIGENT KEY

INTELLIGENT KEY : Description

INFOID:0000000008142788

ARMED phase is not activated when door is 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)

- SECURITY ALARM SET: ON

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

INTELLIGENT KEY : Diagnosis Procedure

INFOID:0000000008142789

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

Lock or unlock doors using Intelligent Key.

Refer to [DLK-18, "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 HOOD SWITCH

Check hood switch circuit.

Refer to [SEC-72, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning parts. Refer to [SEC-72, "Diagnosis Procedure"](#).

3.CHECK TRUNK LID OPEN/CLOSE SIGNAL

Check trunk lid open/close signal circuit.

Refer to [SEC-81, "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-49, "Intermittent Incident"](#).

NO >> GO TO 1.

DOOR REQUEST SWITCH

DOOR REQUEST SWITCH : Description

INFOID:0000000008142790

ARMED phase is not activated when door is 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)

- SECURITY ALARM SET: ON

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

VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

DOOR REQUEST SWITCH : Diagnosis Procedure

INFOID:000000008142791

1.CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)

Lock or unlock doors using door request switch.

Refer to [DLK-14, "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 HOOD SWITCH

Check hood switch circuit.

Refer to [SEC-72, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning parts. Refer to [SEC-72, "Diagnosis Procedure"](#).

3.CHECK TRUNK LID OPEN/CLOSE SIGNAL

Check trunk lid open/close signal circuit.

Refer to [SEC-81, "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-49, "Intermittent Incident"](#).

NO >> GO TO 1.

DOOR LOCK AND UNLOCK SWITCH

DOOR LOCK AND UNLOCK SWITCH : Description

INFOID:000000008142792

Armed phase is not activated when door is locked using door lock and unlock 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)

"SECURITY ALARM SET" setting in "WORK SUPPORT" mode of "THEFT ALM" of "BCM" is ON.

DOOR LOCK AND UNLOCK SWITCH : Diagnosis Procedure

INFOID:000000008142793

1.CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)

Lock/unlock door with door lock and unlock switch.

Refer to [DLK-11, "System Description"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check Intelligent Key system (door lock function). Refer to [DLK-98, "ALL DOOR : Diagnosis Procedure"](#).

2.CHECK HOOD SWITCH

Check hood switch.

Refer to [SEC-72, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace hood switch.

VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-49, "Intermittent Incident"](#).

NO >> GO TO 1.

DOOR KEY CYLINDER

DOOR KEY CYLINDER : Description

INFOID:000000008142794

ARMED phase is not activated when door is locked using mechanical 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)

- SECURITY ALARM SET: ON

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

DOOR KEY CYLINDER : Diagnosis Procedure

INFOID:000000008142795

1.CHECK POWER DOOR LOCK SYSTEM

Lock or unlock doors using mechanical key.

Refer to [DLK-11, "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 HOOD SWITCH

Check hood switch circuit.

Refer to [SEC-72, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning parts. Refer to [SEC-72, "Diagnosis Procedure"](#).

3.CHECK TRUNK LID OPEN /CLOSE SIGNAL

Check trunk lid open/close signal circuit.

Refer to [SEC-81, "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-49, "Intermittent Incident"](#).

NO >> GO TO 1.

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SEC

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description

INFOID:000000008142796

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.

CONDITIONS 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.

Diagnosis Procedure

INFOID:000000008142797

1.CHECK DOOR SWITCH

Check door switch circuit.

Refer to [DLK-61, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning parts. Refer to [DLK-61, "Diagnosis Procedure"](#).

2.CHECK HOOD SWITCH

Check hood switch circuit.

Refer to [SEC-72, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning parts. Refer to [SEC-72, "Diagnosis Procedure"](#).

3.CHECK TRUNK LID OPEN/CLOSE SIGNAL

Check trunk lid open/close signal circuit.

Refer to [SEC-81, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

4.CHECK HEADLAMP FUNCTION

Check headlamp function.

Refer to [SEC-71, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace malfunctioning parts. Refer to [SEC-71, "Diagnosis Procedure"](#).

5.CHECK HORN FUNCTION

Check horn function.

Refer to [SEC-74, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace malfunctioning parts. Refer to [SEC-74, "Diagnosis Procedure"](#).

6.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-49, "Intermittent Incident"](#).

NO >> GO TO 1.

PANIC ALARM FUNCTION DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

PANIC ALARM FUNCTION DOES NOT OPERATE

Description

INFOID:000000008142798

NOTE:

- Before performing the following procedure, check "Work Flow". Refer to [SEC-34, "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)

- Ignition switch: OFF
- 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:000000008142799

1.CHECK REMOTE KEYLESS ENTRY FUNCTION

Check remote keyless entry function. Refer to [DLK-18, "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-15, "VEHICLE SECURITY SYSTEM : System Description"](#).

Is alarm (headlamps and horns) activated?

YES >> GO TO 3.

NO >> Go to [SEC-88, "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-49, "Intermittent Incident"](#).

NO >> GO TO 1.

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

INFOID:0000000008142800

REMOVAL

1. Remove the push-button ignition switch. Refer to [SEC-91. "Removal and Installation"](#).
2. Remove NATS antenna amp.

INSTALLATION

Install in the reverse order of removal.

PUSH-BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

PUSH-BUTTON IGNITION SWITCH

Exploded View

INFOID:000000008142801

Refer to [IP-12, "Exploded View"](#).

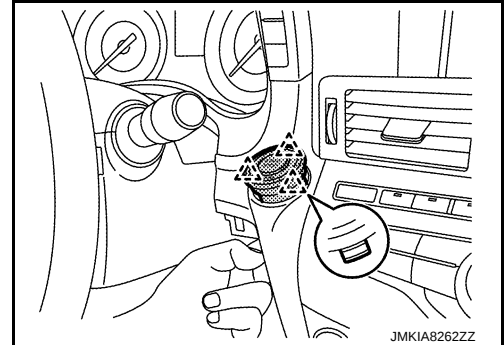
Removal and Installation

INFOID:000000008142802

REMOVAL

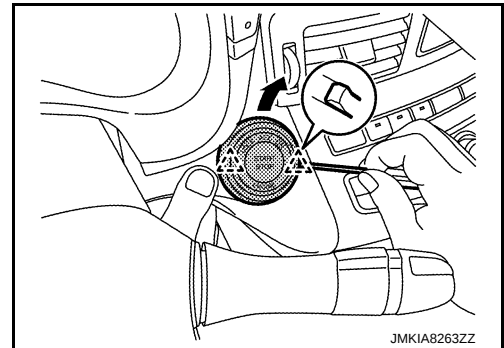
1. Remove front body side welt. Refer to [INT-36, "BODY SIDE WELT : Removal and Installation"](#).
2. Remove instrument side finisher LH. Refer to [IP-13, "Removal and Installation"](#).
3. Remove instrument lower panel LH. Refer to [IP-13, "Removal and Installation"](#).
4. Disconnect NATS antenna amp. connector and push-button ignition switch connector.
5. Disengage the NATS antenna amp. fixing pawls while pushing NATS antenna amp. from its back side, so that NATS antenna amp. and push-button ignition switch are lifted up from instrument panel assembly.

 : Pawl



6. While pushing the push-button ignition switch from its back side, disengage the push-button ignition switch fixing pawls using a minus driver etc., and then remove push-button ignition switch.

 : Pawl



INSTALLATION

Install in the reverse order of removal.