SECURITY CONTROL SYSTEM

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< PRECAUTION > PRECAUTION PRECAUTIONS

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

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

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery or batteries, and wait at least three minutes before performing any service.

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000012549505



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COMPONENT PARTS

< SYSTEM DESCRIPTION >

1.	BCM (view with combination meter removed)	2.	IPDM E/R	3.	Combination meter
4.	Security indicator lamp	5.	Push-button ignition switch	6.	NATS antenna amp.
7.	Inside key antenna (console)	8.	Inside key antenna (luggage room) (view with rear carpet removed)	9.	Horn (view with right head light re- moved)
10.	Stop lamp switch	11.	CVT shift selector (park position switch) (view with center console re- moved)	12.	Outside key antenna (drivers side)
13.	Outside key antenna (passenger side)	14.	Outside key antenna (rear bumper)	15.	Transmission range switch

Component Description

INFOID:000000012549506

Component	Reference
CVT shift selector (park position switch)	<u>SEC-6</u>
BCM	<u>SEC-6</u>
ECM	SEC-7
IPDM E/R	<u>SEC-7</u>
NATS antenna amp.	<u>SEC-7</u>
Combination meter	SEC-7
Door switch	<u>SEC-7</u>
Hood switch	<u>SEC-7</u>
Outside key antenna	<u>SEC-7</u>
Inside key antenna	<u>SEC-7</u>
Intelligent Key	<u>SEC-7</u>
Push-button ignition switch	<u>SEC-8</u>
Remote keyless entry receiver	<u>SEC-7</u>
Security indicator lamp	<u>SEC-8</u>
Starter control relay	<u>SEC-8</u>
Starter relay	<u>SEC-8</u>
Stop lamp switch	<u>SEC-8</u>
Transmission range switch	<u>SEC-8</u>
Vehicle information display	SEC-8

CVT Shift Selector (Park Position Switch)

INFOID:000000012549507

Park position switch detects that CVT shift selector is in the P (Park) position and then transmits the signal to BCM and IPDM E/R.

BCM confirms the CVT shift selector position with the following 5 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P (Park) position signal from IPDM E/R (CAN)
- P/N position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the CVT shift selector position with the following 3 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

BCM

INFOID:000000012549508

BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)], and VEHICLE SECURITY SYSTEM.

SEC-6

COMPONENT PARTS

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION > [WITH INTELLIGENT KEY SYS	TEM]
BCM performs the ID verification between BCM and Intelligent Key when the Intelligent Key is carried in detection area of inside key antenna and push-button ignition switch is pressed. If the ID verification re OK, push-button ignition switch operation is available.	nto the esult is A
Then, when the power supply position is turned ON, BCM performs ID verification between BCM and E the ID verification result is OK, ECM can start engine.	CM. If
ECM INFOID:00000	00012549509
ECM controls the engine. When power supply position is turned ON, BCM starts communication with ECM and performs the ID v tion between BCM and ECM.	erifica-
IPDM F/R	D
	0012549510
IPDM E/R has the starter relay and starter control relay inside. Starter relay and starter control relay ar for the engine starting function. IPDM E/R controls these relays while communicating with BCM.	e used
NATS Antenna Amp.	00012549511
The ID verification is performed between BCM and transponder in Intelligent Key via NATS antenna when Intelligent Key backside is contacted to push-button ignition switch in case that Intelligent Key ba discharged. If the ID verification result is OK, the operation of starting engine is available.	a amp. F ttery is
Combination Meter	G 00012549512
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 control nication. BCM compares both signals to detect the vehicle speed.	ommu- H
Door Switch	00012549513
Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.	
Outside Key Antenna	00012549514 J
Outside key antennas detects whether Intelligent Key is inside the vehicle and transmits the signal to B Three outside key antennas are installed outside key antenna RH, outside key antenna LH and outsi antenna rear bumper.	CM. de key SEC
Hood Switch	00012549515
Hood switch detects that hood is open/closed, and then transmits the signal to IPDM E/R. IPDM E/R transmos hood switch signal to BCM via CAN communication.	nsmits ${}^{ m L}$
Inside Key Antenna	00012549516
Inside key antenna detects whether Intelligent Key is inside the vehicle and transmits the signal to BCM Two inside key antennas are installed in the console and luggage room.	l. N
Remote Keyless Entry Receiver	IN 00012549517
Remote keyless entry receiver receives each button operation signal and electronic key ID signal from gent Key and then transmits the signal to BCM.	Intelli-
Intelligent Key	00012549518
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, remote start, doo unlock operation, remote back door, panic alarm and push-button ignition switch operation.	₽ or lock/

2016 Pathfinder

[WITH INTELLIGENT KEY SYSTEM]

Push-button Ignition Switch

< SYSTEM DESCRIPTION >

Push-button ignition switch detects that push-button is pressed and then transmits the signal to BCM. BCM changes the power supply position with the operation of push-button ignition switch. BCM maintains the power supply position status while push-button is not operated.

Security Indicator Lamp

Security indicator lamp is located on combination meter. Security indicator lamp blinks when power supply position is any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] is on board.

Starter Control Relay

Engine starting system functions by controlling both starter relay and starter control relay. Both relays are integrated in IPDM E/R. Starter relay is controlled by BCM and starter control relay is controlled by IPDM E/R on request from BCM.

IPDM E/R transmits starter relay and starter control relay status signal to BCM via CAN communication.

Starter Relay

Engine starting system functions by controlling both starter relay and starter control relay. Both relays are integrated in IPDM E/R. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R on request from BCM.

IPDM E/R transmits starter relay and starter control relay status signal to BCM via CAN communication.

Stop Lamp Switch

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

Transmission Range Switch

Transmission range switch is integrated in CVT assembly, and detects the CVT shift selector position. TCM receives the transmission range switch signal and then transmits the P/N position signal to BCM and IPDM E/R.

BCM confirms the CVT shift selector position with the following 5 signals:

• P (Park) position signal from CVT shift selector (park position switch)

- P/N position signal from TCM
- P (Park) position signal from IPDM E/R (CAN)
- P/N position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the CVT shift selector position with the following 3 signals:

• P (Park) position signal from CVT shift selector (park position switch)

- P/N position signal from TCM
- P/N position signal from BCM (CAN)

Vehicle Information Display

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

SEC-8

INFOID:000000012549525

INFOID:0000000012549521

INFOID:000000012549522

INFOID:000000012549523

INFOID:000000012549524

INFOID:000000012549519

INFOID:000000012549520



INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:000000012549527

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SYSTEM DESCRIPTION

• The engine start function of Intelligent Key system makes it possible to start and stop the engine 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 NVIS (NATS) ID]. It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- When Intelligent Key battery is discharged, engine can be started by operating push-button ignition switch after contacting Intelligent Key backside to push-button ignition switch. At that time, the NVIS (NATS) ID verification is performed.
- If the ID is successfully verified, when push-button ignition switch is pressed, the engine can be started.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.



 For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the onscreen instructions.
 NOTE:

Refer to <u>DLK-21, "INTELLIGENT KEY SYSTEM : System Description"</u> for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

The transponder [the chip for NVIS (NATS) ID verification] is integrated into the Intelligent Key. In that case, the NVIS (NATS) ID verification can be performed when Intelligent Key backside is contacted to push-button ignition switch. If verification result is OK, engine can be started.

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 and starts the ignition power supply.
- 6. BCM detects that the selector lever position and brake pedal operating condition.
- 7. BCM transmits the starter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
- 8. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
- 9. Power supply is supplied through the starter relay and the starter control relay to operate the starter motor. **CAUTION:**

If a malfunction is detected in the Intelligent Key system, the "KEY" warning lamp in the combination meter illuminates. At that time, the engine cannot be started.

10. When BCM receives feedback signal from ECM indicating that the engine is started, the BCM transmits a stop signal to IPDM E/R and stops cranking by turning OFF the starter motor relay. (If engine start is unsuccessful, cranking stops automatically within 5 seconds.) CAUTION:

When the Intelligent Key is carried outside of the vehicle (inside key antenna detection area) while the power supply is in the ACC or ON position, even if the engine start condition* is satisfied, the engine cannot be started.

*: For the engine start condition, refer to the table below "POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION".

OPERATION RANGE

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

ENGINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IG-NITION SWITCH

When Intelligent Key battery is discharged, the NVIS (NATS) ID verification between transponder in Intelligent Key and BCM is performed when Intelligent Key backside is contacted to push-button ignition switch. If the verification result is OK, engine can be started.

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

The power supply position changing operation can be performed with 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 starting the engine, the BCM monitors under the engine start conditions:
- Brake pedal operating condition
- Selector lever position
- Vehicle speed

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

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

	Engine start/	stop condition	Push button ignition switch	A
Power supply position	Selector lever	Brake pedal operation condition	operation frequency	
$LOCK \rightarrow ACC$	—	Not depressed	1	В
$LOCK \rightarrow ACC \rightarrow ON$	—	Not depressed	2	
$LOCK \to ACC \to ON \to OFF$	—	Not depressed	3	
$\begin{array}{l} \text{LOCK} \rightarrow \text{START} \\ \text{ACC} \rightarrow \text{START} \\ \text{ON} \rightarrow \text{START} \end{array}$	P or N position	Depressed	1	Ĺ
Engine is running $\rightarrow \text{OFF}$	—	—	1	D

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

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

Emergency stop operation

• Press and hold the push-button ignition switch for 2 seconds or more.

• Press the push-button ignition switch 3 times or more within 1.5 seconds.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

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< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

SYSTEM DESCRIPTION

- The NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] prevents the engine from being started 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 ignition key integrated in the Intelligent Key cannot start the engine. When the Intelligent Key battery is discharged, the NVIS (NATS) ID verification is performed between the transponder integrated with Intelligent Key and BCM via NATS antenna amp. when the Intelligent Key backside is contacted to push-button ignition switch. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator lamp and apply the anti-theft system equipment sticker that warns that the NVIS (NATS) is on-board the model.
- Security indicator lamp always blinks when the power supply position is any position other than ON.
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.
- · Specified registration is required when replacing ECM, BCM or Intelligent Key.
- For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the onscreen instructions.
- Possible symptom of NVIS (NATS) malfunction is "Engine cannot start". The engine can not be started because of other than NVIS (NATS) malfunction, so start the trouble diagnosis according to <u>SEC-73. "Work</u> <u>Flow"</u>.

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC:503. "Removal and installation" (USA and Canada) or EC:885. "Removal and installation" (Mex- ico). PRECAUTIONS FOR KEY REGISTRATION The ID registration is a procedure that erases the current NVIS (NATS) ID once, and then reregisters a new ID. Therefore before starting the registration operation, collect all registered Intelligent Keys from the cus- tomer. When registering the Intelligent Key, perform only one procedure to simultaneously register both ID [NVIS (NATS) ID and Intelligent Key ID]. SECURITY INDICATOR LAMP Warns that the venicle is equipped with NVIS (NATS). Security indicator lamp is highly efficient, the battery is barely affected. ENGINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IG- NITION SWITCH When brake pedal is depressed while selector lever is in the P (Park) position, BCM activates NATS antenna amp. that is located behind push-button ignition switch. When Intelligent Key (transponder built-in) backside is contacted to push-button ignition switch. When the NVIS (NATS) ID verification result is OK, buzzer in combination meter sounds and BCM trans- mits the result to ECM. BOM turns ACC relay ON and transmits ignition power supply. BOM detects that the selector lever position is P(Park) or N(Neutral). BOM terts sharter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM indiges that the engine start condition is satisfied. IPDM E/R turns the starter control relay ON when receiving the starter request signal. Power supply position changing operation can be performed with the following operatems. Supplied through the starter request signal to IPDM E/R And Isatisfies Starter motor relay. (If engine start is unsuc- cessifi, carking stops automatically within 5 seconds.) * For the engine start condition, refer to the table "POWER SUPPLY POSITION CHANGE TABLE BY PU	Power supply position	Selector lever	Brake pedal operation condition	operation frequency	
 If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-509. "Removal and Installation" (USA and Canada) or EC-885. "Removal and Installation" (Mexico). PRECAUTIONS FOR KEY REGISTRATION The ID registration is a procedure that erases the current NVIS (NATS) ID once, and then reregisters a new ID. Therefore before starting the registration operation, collect all registered Intelligent Keys from the customer. When registering the Intelligent Key, perform only one procedure to simultaneously register both ID [NVIS (NATS) ID and Intelligent Key ID]. SECURITY INDICATOR LAMP Warms that the vehicle is equipped with NVIS (NATS). Security indicator lamp always blinks when the power supply position is any position other than ON. NOTE: BRGINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IGNITION SWITCH When trake pedal is depressed while selector lever is in the P (Park) position, BCM activates NATS antenna amp. that is located behind push-button gliniton switch. When the INIS (NATS) ID verification result is OK, buzzer in combination meter sounds and BCM transmits antenna amp. When the NVIS (NATS) ID verification result is OK, buzzer in combination meter sounds and BCM transmits light to reque signal to IPDM E/R. IPDM E/R turns the gliniton relay ON when receiving the starter request signal. Power supply is supplied through the starter request signal. Power supply position charge through the starter relay in IPDM E/R ON if BCM judges through the starter request signal. Power supply is supplied through the starter relay and the starter motor. When the NVIS (NATS) ID verification ersult is CM. Indicating that the engine is started, BCM transmits a starter could in , refer to the table "POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNI		Engine start/	stop condition	Duch hutton insition suits	Г
If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-508. "Removal and Installation" (USA and Canada) or EC-885. "Removal and Installation" (Mex- ico). PRECAUTIONS FOR KEY REGISTRATION The ID registration is a procedure that areases the current NVIS (NATS) ID once, and then reregisters a new ID. Therefore before starting the registration operation, collect all registered Intelligent Keys from the cus- tomer. When registering the Intelligent Key, perform only one procedure to simultaneously register both ID [NVIS (NATS) ID and Intelligent Key. perform only one procedure to simultaneously register both ID [NVIS (NATS) ID and Intelligent Key. DI). SECURITY INDICATOR LAMP Warns that the vehicle is equipped with NVIS (NATS). Security indicator lamp always blinks when the power supply position is any position other than ON. MOTE: Because security indicator lamp is highly efficient, the battery is barely affected. ENGINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IG- NITION SWITCH When brake pedal is depressed while selector lever is in the P (Park) position, BCM activates NATS antenna amp. that is located behind push-button ignition switch. When Intelligent Key (transponder built-in) backside is contacted to push-button ignition switch, BCM starts NVIS (NATS) ID verification result is OK, buzzer in combination meter sounds and BCM trans- mits the result to ECM. BCM turns ACC relay ON and transmits ignition power supply ON signal to IPDM E/R. IPDM E/R turns the ignition relay ON and starts the ignition power supply. BCM detects that the selector lever position is P (Park) or N (Neutral). Power supply is supplied through the starter relay and the starter relay in IPDM E/R ON if BCM judges that the engine start condition " is satisfied. PDM E/R turns the starter control relay ON when receiving the starter motor relay. (If engine start sunsuc-	Vehicle speed: less than 4 km/h (2.5	5 MPH)			D
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	 If ECM other than genuine part i refer to <u>EC-508</u>, "Removal and In 	s installed, the engine on the second state of	cannot be started. For I Canada) or <u>EC-885, "Re</u>	ECM replacement procedure, moval and Installation" (Mex-	А

 $\overline{\text{LOCK}} \rightarrow \text{ACC} \rightarrow \text{ON} \rightarrow \text{OFF}$

 $\mathsf{LOCK}\to\mathsf{ACC}\to\mathsf{ON}$

 $\mathsf{LOCK}\to\mathsf{ACC}$

Not depressed

Not depressed

Not depressed

_

_

—

1

2

3

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

	Engine start/s	Push-button ignition switch operation frequency	
Power supply position	Selector lever Brake pedal operation condition		
$LOCK \rightarrow START$ ACC $\rightarrow START$ ON $\rightarrow START$	P (Park) or N (Neutral) po- sition	Depressed	1
Engine is running $\rightarrow \text{OFF}$	—	—	1

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

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

Emergency stop operation

• Press and hold the push-button ignition switch for 2 seconds or more.

• Press the push-button ignition switch 3 times or more within 1.5 seconds.

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Diagram



VEHICLE SECURITY SYSTEM : System Description

INFOID:000000012549531

INFOID:000000012549530

• 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.

< SYSTEM DESCRIPTION >

• The panic alarm does not start when the theft warning alarm is activating and the panic alarm stops when the theft warning alarm is activated.

The priority of the functions are as per the following.

Priority	Function
1	Theft warning alarm
2	Panic alarm

THEFT WARNING ALARM

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

Operation Flow



No.	System state		Switching condition	
1	DISARMED to	When all conditions of A and	А	В
	PRE-ARMED	fied.	 Power supply position: OFF/LOCK All doors: Closed Hood: Closed 	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	 Power supply position: OFF/LOCK All doors: Locked Hood: Closed 	L
3	ARMED to	When one condition of A and	A	В
	ALARM	one condition of B are satis- fied.	Intelligent Key: Not used	Any door: OpenHood: Open
4	DISARMED to	When all conditions of A and	A	В
	PRE-RESET	one condition of B is satis- fied.	 Power supply position: OFF/LOCK All doors: Closed Hood: Open 	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch
5	PRE-ARMED to PRE-RESET	When one of the following conditions is satisfied.	Hood: Open	
6	ARMED to PRE-RESET	No conditions.		[
7	ALARM to PRE-RESET			

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[WITH INTELLIGENT KEY SYSTEM]

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< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

No.	System state		Switching condition
8	PRE-RESET to DISARMED	When one of the following conditions is satisfied.	 Power supply position: ACC/ON/CRANKING/RUN Door key cylinder UNLOCK switch: ON UNLOCK button of Intelligent Key: ON Door request switch: ON Back door opener switch: ON UNLOCK switch of door lock and unlock switch: ON Any door: Open
9	PRE-RESET to PRE-ARMED	When all of the following conditions are satisfied.	Power supply position: OFF/LOCKAll doors: ClosedHood: Closed
10	PRE-ARMED to DISARMED	When one of the following conditions is satisfied.	 Power supply position: ACC/ON/CRANKING/RUN Door key cylinder UNLOCK switch: ON UNLOCK button of Intelligent Key: ON AUTO BACK DOOR button of Intelligent Key: ON Door request switch: ON Back door opener switch: ON Any door: Open
11	ARMED to DISARMED	When one of the following conditions is satisfied.	 Power supply position: ACC/ON/CRANKING/RUN Door key cylinder UNLOCK switch: ON
12	ALARM to DISARMED		 ONLOCK button of Intelligent Key: ON AUTO BACK DOOR button of Intelligent Key: ON Door request switch: ON Back door opener switch: ON
13	RE-ALARM	When one of the following conditions is satisfied after the ALARM operation is fin- ished.	Any door: OpenHood: 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 by operating remote controller button of Intelligent Key or door request switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to <u>DLK-21</u>, "INTELLIGENT KEY SYSTEM : <u>System Description</u>".
- To open back door by operating back door opener switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to <u>DLK-21, "INTELLIGENT KEY SYSTEM : System Description"</u>.

DISARMED Phase

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

When the vehicle security system is reset, each phase switches to the DISARMED phase directly.

PRE-ARMED Phase

The PRE-ARMED phase is the transient state between the DISARMED phase and the ARMED phase. This phase is maintained for 30 seconds so that the owner can reset the setting due to a mis-operation. This phase switches to the ARMED phase when vehicle conditions are not changed for 30 seconds. Security indicator lamp illuminates while being in this phase.

To reset the PRE-ARMED phase, refer to the switching condition of No. 10 in the table above.

ARMED Phase

The vehicle security system is set and BCM monitors all necessary inputs. If any door or hood is opened without using Intelligent Key, vehicle security system switches to the ALARM phase. Security indicator lamp blinks every 2.4 seconds.

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 timing of horns and headlamps are synchronized. After 50 seconds, the vehicle security system returns to the ARMED phase. At this time, if BCM still detects unauthorized access to the vehicle, the system is switched to the ALARM phase again. This RE-ALARM operation is carried out a maximum of 2 times.

To cancel the ALARM operation, refer to the switching condition of No. 12 in the table above.

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

NOTE:

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

PRE-RESET Phase

The PRE-RESET phase is the transient state between each phase and DISARMED phase. If only the condition of hood 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 power supply position is OFF or LOCK.
- When BCM receives panic alarm signal from Intelligent Key, BCM transmits "Theft Warning Horn Request" signal and "High Beam Request" signal intermittently to IPDM E/R via CAN communication. To prevent the activation due to mis-operation of Intelligent Key by owner, the panic alarm function is activated when BCM receives the signal for 0.4 0.6 seconds.
- Panic alarm operation is maintained for 25 seconds.
- Panic alarm operation is cancelled when BCM receives one of the following signals:
- LOCK button of Intelligent Key: ON
- UNLOCK button of Intelligent Key: ON
- PANIC ALARM button of Intelligent Key: Long pressed
- Any door request switch: ON

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< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000012958283

CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
ECU Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	The vehicle specification can be read and saved.The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions.

				Direct [Diagnosti	c Mode		
System	Sub System	ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×			
Back door open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) [WITH INTELLIGENT KEY SYSTEM]

				Direct [Diagnosti	c Mode			
System	Sub System	ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr	E
Signal buffer system	SIGNAL BUFFER			×	×				
TPMS	AIR PRESSURE MONITOR		×	×	×				

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:000000012958284

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CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

SELF DIAGNOSTIC RESULT

Refer to BCS-52, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main	Description	
REQ SW -DR [On/Off]	×	Indicates condition of door request switch LH.	
REQ SW -AS [On/Off]	×	Indicates condition of door request switch RH.	
REQ SW -BD/TR [On/Off]	×	Indicates condition of back door request switch.	.1
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.	0
SHFTLCK SLNID PWR SPLY [On/Off]	×	Indicates condition of power supply to shiftlock solenoid.	
BRAKE SW 1 [On/Off]	×	Indicates condition of brake switch.	SEC
BRAKE SW 2 [On/Off]		Indicates condition of brake switch.	
DETE/CANCL SW [On/Off]	×	Indicates condition of P (park) position.	
SFT PN/N SW [On/Off]	×	Indicates condition of P (park) or N (neutral) position.	L
UNLK SEN -DR [On/Off]	×	Indicates condition of door unlock sensor.	
PUSH SW -IPDM [On/Off]		Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line.	M
IGN RLY1 -F/B [On/Off]		Indicates condition of ignition relay 1 received from IPDM E/R on CAN commu- nication line.	N
DETE SW -IPDM [On/Off]		Indicates condition of detent switch received from TCM on CAN communication line.	1.4
SFT PN -IPDM [On/Off]		Indicates condition of P (park) or N (neutral) position from TCM on CAN com- munication line.	0
SFT P -MET [On/Off]		Indicates condition of P (park) position from TCM on CAN communication line.	
SFT N -MET [On/Off]		Indicates condition of N (neutral) position from IPDM E/R on CAN communica- tion line.	Ρ
ENGINE STATE [STOP/START/CRANK/ RUN]	×	Indicates condition of engine state from ECM on CAN communication line.	
VEH SPEED 1 [mph/km/h]	×	Indicates condition of vehicle speed signal received from ABS on CAN commu- nication line.	
VEH SPEED 2 [mph/km/h]	×	Indicates condition of vehicle speed signal received from combination meter on CAN communication line.	

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< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	Main	Description
DOOR STAT-DR [LOCK/READY/UNLK]	×	Indicates condition of driver side door status.
DOOR STAT-AS [LOCK/READY/UNLK]	×	Indicates condition of passenger side door status.
DOOR STAT-RR [LOCK/READY/UNLK]	×	Indicates condition of rear right side door status.
DOOR STAT-RL [LOCK/READY/UNLK]	×	Indicates condition of rear left side door status.
BK DOOR STATE [LOCK/READY/UNLK]	×	Indicates condition of back door status.
ID OK FLAG [Set/Reset]		Indicates condition of Intelligent Key ID.
PRMT ENG STRT [Set/Reset]		Indicates condition of engine start possibility.
PRMT RKE STRT [Set/Reset]		Indicates condition of engine start possibility from Intelligent Key.
I-KEY OK FLAG [Key ON/Key OFF]	×	Indicates condition of Intelligent Key OK flag.
PRBT ENG STRT [Set/Reset]		Indicates condition of engine start prohibit.
ID AUTHENT CANCEL TIMER [STOP]		Indicates condition of Intelligent Key ID authentication.
ACC BATTERY SAVER [STOP]		Indicates condition of battery saver.
CRNK PRBT TMR [On/Off]		Indicates condition of crank prohibit timer.
AUT CRNK TMR [On/Off]		Indicates condition of automatic engine crank timer from Intelligent Key.
CRNK PRBT TME [sec]		Indicates condition of engine crank prohibit time.
AUT CRNK TMR [sec]		Indicates condition of automatic engine crank time from Intelligent Key.
CRANKING TME [sec]		Indicates condition of engine cranking time from Intelligent Key.
DETE SW PWR [On/Off]		Indicates condition of detent switch voltage.
IGN RLY3 -REQ [On/Off]		Indicates condition of front blower motor relay control request.
ACC RLY -REQ [On/Off]		Indicates condition of accessory relay control request.
RKE OPE COUN1 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while oper- ating on Intelligent Key, the numerical value start changing.
RKE OPE COUN2 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while oper- ating on Intelligent Key, the numerical value start changing.
RKE-LOCK [On/Off]		Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]		Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]		Indicates condition of back door open signal from Intelligent Key.
RKE-PANIC [On/Off]		Indicates condition of panic signal from Intelligent Key.
RKE-MODE CHG [On/Off]		Indicates condition of mode change signal from Intelligent Key.
RKE PBD [On/Off]		Indicates condition of power back door signal from Intelligent Key.

ACTIVE TEST

Test Item	Description
INTELLIGENT KEY LINK (CAN)	This test is able to check Intelligent Key identification number [Off/ID No1/ID N02/ID No3/ID No4/ID No5].
INT LAMP	This test is able to check interior room lamp operation [On/Off].
FLASHER	This test is able to check hazard lamp operation [LH/RH/Off].
HORN	This test is able to check horn operation [On].
BATTERY SAVER	This test is able to check battery saver operation [On/Off].
TRUNK/BACK DOOR	This test is able to check back door actuator operation [Open].
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation [On/Off].
INSIDE BUZZER	This test is able to check combination meter warning chime operation [Take Out/Knob/Key/ Off].
INDICATOR	This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off].
IGN CONT2	This test is able to check ignition relay-2 control operation [On/Off].
ENGINE SW ILLUMI	This test is able to check push-button ignition switch START indicator operation [On/Off].

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2016 Pathfinder

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Test Item	Description	
PUSH SWITCH INDICATOR	This test is able to check push-button ignition switch indicator operation [On/Off].	А
ACC CONT	This test is able to check accessory relay control operation [On/Off].	
IGN CONT1	This test is able to check ignition relay-1 control operation [On/Off].	В
ST CONT LOW	This test is able to check starter control relay operation [On/Off].	
IGNITION RELAY	This test is able to check ignition relay operation [On/Off].	
REVERSE LAMP TEST	This test is able to check reverse lamp illumination operation [On/Off].	С
DOOR HANDLE LAMP TEST	This test is able to check door handle lamp illumination operation [On/Off].	
TRUNK/LUGGAGE LAMP TEST	This test is able to check cargo lamp illumination operation [On/Off].	D
KEYFOB P/W TEST	This test is able to check power window operation using the Intelligent Key [P/W up/down OFF/Send P/W down ON/Send P/W up ON].	
SHIFTLOCK SORENOID TEST	This test is able to check shift lock solenoid operation [On/Off].	Е

WORK SUPPORT

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Support Item	Setting		Description	F
	On*		Battery saver function ON.	
IGN/ACC BATTERT SAVER	Off		Battery saver function OFF.	G
	On*		Remote engine start function ON.	0
REMOTE ENGINE STARTER	Off		Remote engine start function OFF.	
	BUZZER*		Buzzer reminder function by door lock/unlock request switch ON.	Н
	HORN		Horn chirp reminder function by door lock request switch ON.	
ANSWER BACK I-RET LOCK UNLOCK	Off		No reminder function by door lock/unlock request switch.	
	INVALID		This mode is not used.	
ANSWERBACK KEYLESS LOCK UN-	On*		Buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key.	
LOCK	Off		No buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key.	9
	On*		Door handle lamp function from request switch ON.	SEC
WELCOME LIGHT OF SET	Off		Door handle lamp function from request switch OFF.	
	On*		Horn chirp reminder when doors are locked with Intelligent Key.	
ANSWER BACK	Off		No horn chirp reminder when doors are locked with Intelligent Key.	L
	On		Retractable mirror set ON.	
RETRACTABLE MIRROR SET	Off*		Retractable mirror set OFF.	Ъ.Л
CONFIRM KEY FOB ID	-	_	Intelligent Key ID code registration can be checked.	IVI
	On*		Door lock/unlock function from Intelligent Key ON.	
LOCK/UNLOCK BT I-KET	Off		Door lock/unlock function from Intelligent Key OFF.	Ν
	On*		Engine start function from Intelligent Key ON.	
ENGINE START BT I-RET	Off		Engine start function from Intelligent Key OFF.	
	On*		Buzzer reminder function by back door request switch ON.	- ()
TRUNNGLASS HATCH OPEN	Off		Buzzer reminder function by back door request switch OFF.	
	On		Intelligent Key link set ON.	Ρ
INTELLIGENT RET LINK SET	Off*		Intelligent Key link set OFF.	
SHORT CRANKING OUTPUT		70 msec		
	Start	100 msec	Starter motor operation duration times.	
		200 msec		
	End		_	

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< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Support Item	Setting		Description
INSIDE ANT DIAGNOSIS	_		This function allows inside key antenna self-diagnosis.
AUTO LOCK SET	MODE7	5 min	
	MODE6	4 min	
	MODE5	3 min	
	MODE4	2 min	Auto door lock time can be set in this mode.
	MODE3*	1 min	
	MODE2	30 sec	
	MODE1	Off	

*: Initial Setting

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT ALM)

INFOID:000000012958285

CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

DATA MONITOR

Monitored Item	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
REQ SW -BD/TR [On/Off]	Indicates condition of back door request switch.
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of door unlock sensor.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of back door switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
TR/BD OPEN SW [On/Off]	Indicates condition of back door opener switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]	Indicates condition of back door open signal from Intelligent Key.

ACTIVE TEST

Test Item	Description
FLASHER	This test is able to check turn signal lamp operation [LH/RH/Off].
THEFT IND	This test is able to check security indicator lamp operation [On/Off].
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].
HEAD LAMP(HI)	This test is able to check vehicle security lamp operation [On].

WORK SUPPORT



< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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Support Item	Setting	Description	А
SECURITY ALARM SET	On	Security alarm ON.	
	Off	Security alarm OFF.	
			В

IMMU

IMMU : CONSULT Function (BCM - IMMU)

CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

SELF DIAGNOSTIC RESULT

Refer to BCS-52, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description				
CONFRM ID ALL [Yet/DONE]		0			
CONFIRM ID4 [Yet/DONE]		G			
CONFIRM ID3 [Yet/DONE]	Switches to DONE when an Intelligent Key is registered.				
CONFIRM ID2 [Yet/DONE]		Н			
CONFIRM ID1 [Yet/DONE]					
TP 4 [Yet/DONE]					
TP 3 [Yet/DONE]	ONE indicates the number of Intelligent Key ID which has been registered				
TP 2 [Yet/DONE]	One indicates the number of intelligent key iD which has been registered.				
TP 1 [Yet/DONE]					
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.				
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.	SEC			

ACTIVE TEST

Test Item	Description	L
THEFT IND	This test is able to check security indicator operation [On/Off].	

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DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:000000012958287

[WITH INTELLIGENT KEY SYSTEM]

CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
ECU Identification	The IPDM E/R part number is displayed.
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.
Active Test	The IPDM E/R activates outputs to test components.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-20, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
RAD FAN REQ [%]	×	Indicates cooling fan speed signal received from ECM on CAN communication line
AC COMP REQ [On/Off]	×	Indicates A/C compressor request signal received from ECM on CAN commu- nication line
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communica- tion line
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communica- tion line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
IGN RLY1 -REQ [On/Off]		Indicates ignition switch ON signal received from BCM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay
PUSH SW [On/Off]		Indicates condition of push-button ignition switch
INTER/NP SW [On/Off]		Indicates condition of CVT shift position
ST RLY CONT [On/Off]		Indicates starter relay status signal received from BCM on CAN communication line
IHBT RLY -REQ [On/Off]		Indicates starter control relay signal received from BCM on CAN communication line

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	Main Signals	Description	A
ST/INHI RLY [Off/ ST /INHI]		Indicates condition of starter relay and starter control relay	
DETENT SW [On/Off]		Indicates condition of CVT shift selector (park position switch)	R
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communica- tion line	D
HOOD SW [On/Off]		Indicates condition of hood switch	С
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN commu- nication line	
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line	D
HOOD SW 2 [On/Off]		Indicates condition of hood switch	

ACTIVE TEST

Test item	Description	
HORN	This test is able to check horn operation [On].	
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].	— Г
MOTOR FAN	This test is able to check cooling fan operation [4/3/2/1].	
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/Tail/Off].	G

CAN DIAG SUPPORT MNTR Refer to LAN-18, "CAN Diagnostic Support Monitor".

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< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

ECU DIAGNOSIS INFORMATION ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:000000012549537

	ECU	Reference					
	Reference Value	EC-84, "Reference Value"					
ECM	Fail-safe	EC-100, "Fail-safe"					
da)	DTC Inspection Priority Chart	EC-102, "DTC Inspection Priority Chart"					
	DTC Index	EC-104, "DTC Index"					
	Reference Value	EC-575, "Reference Value"					
ECM	Fail-safe	EC-589. "Fail-safe"					
(Mexico)	DTC Inspection Priority Chart	EC-590, "DTC Inspection Priority Chart"					
	DTC Index	EC-592, "DTC Index"					
	Reference Value	PCS-12, "Reference Value"					
IPDM E/R	Fail-safe	PCS-19. "Fail Safe"					
	DTC Index	PCS-20, "DTC Index"					
	Reference Value	BCS-31, "Reference Value"					
PCM	Fail-safe	BCS-50, "Fail Safe"					
BCM	DTC Inspection Priority Chart	BCS-51, "DTC Inspection Priority Chart"					
	DTC Index	BCS-52, "DTC Index"					

[WITH INTELLIGENT KEY SYSTEM]





ABKWA3144GB

[WITH INTELLIGENT KEY SYSTEM]



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ABKWA2798GB

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]





ABKIA7226GB

ENGINE START FUNCTION [WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

	A
Signal Name Signal Name	В
Image: Non-system Image: Non-system	С
M40 Ine WIRE 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 11 12 13 11 11 12 13 11 15 15 16 11 15 16 16 11 15 16 16 11 15 16 16 11 16 16 16 11 15 16 16 10 0 0 0 0	D
	E
	F
	G
TO WIRE E C D D D D D D D D D D D D D	Н
M31 M31 <	I
Connector Na Connector Na Connector Na Lierminal No. 10G 35G 63G 63G 64G 64G 67G 67G	J
	SE
	L
Signal Nar BBINATION ME Signal Nar CAN-L CAN-L	Μ
M24 Olor W24 Olor WHI Color WHI B B B B Color of Mire Mire	Ν
Connector N Connector C Connector C Connector C Connector C C Connector C C Connector C C C C C C C C C C C C C C C C C C C	0

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C

ector No. M41 ector Name JOINT CONNECTOR-M18 ector Color WHITE	Connector No. Connector Name Connector Color	M43 JOINT CONN WHITE	JECTOR-M17	Connect Connect Connect	or No. or Name or Color	M56 WIRE TO V WHITE	VIRE
	国 H.S.			品.S.H	1 2 3 13 14 15	4 5 6 7 16 17 18 19	8 9 10 11 12 20 21 22 23 24
inal No. Color of Signal Name Wire	Terminal No. Co	lor of Si Nire Si	gnal Name	Termina	No.	lor of /ire	Signal Name
2	- N		1 1	17		<u>س ج</u>	1 1
Actor No M68	Connector No	M78		Connect	or No	Man	
ector No. Mos ector Name FUSE BLOCK (J/B) ector Color BROWN	Connector No. Connector Name Connector Color	M/8 CVT SHIFT S WHITE	SELECTOR	Connect	or Name	MBU BCM (BOD MODULE)	Y CONTROL
7R 66 56 48 55 48 7 38 28 18 1681561481391591515161081 58 88							[
the line has been been been been been been been bee	H.S.	2 3 4 5 6 8 9 10 11 12		uhuh H.S.	11611511	26125124123122	0109108107106105 9121120119118117
inal No. Color of Signal Name	Terminal No.	olor of Si Mire Si	ignal Name	Termina	I No. Colo	r of re	signal Name
9R G -	ى	U	1	111	<u>۵</u>		ACC LED
0R W –	9	M	I	114	\$	/ AS	DOOR ANT A
				115		S AS	DOOR ANT B
				119			RE NIMOCO
				121	0	DR	DOOR ANT B
				122		DR	DOOR ANT A
							D TIM MOO

ENGINE START FUNCTION

< WIRING DIAGRAM >

ctor Name BCM (BODY CONTROL MODULE)	Connector No	o. M84		Connector N	lo. M86	
	Connector No	ame WIRE	TO WIRE	Connector N	ame REMC RECE	DTE KEYLESS ENTRI EIVER
ctor Color WHITE				Connector C	olor BLACI	×
12112121212121212121212121212121212121	S.H			四 日 の 日		2 3 4
	16 15 14 1 32 31 30 2	3 12 11 10 9 9 28 27 26 25	8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17			
ial No. Color of Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No	Color of Wire	Signal Name
1 W BAT BCM FUSE	17	_	1	-	BG	I
4 B GND 2	18	٩	1	5	œ	I
8 V BAT REAR DOOR	21	σ	1	r	GR	I
9 W BAT POWER F/L	22	æ	1			
2 Y BAT FRONT DOOR						
3 B GND 1						
ctor No. M91	Connector No	o. M168		Connector N	lo. M181	
stor Name WIRE TO WIRE	Connector Ne	ame WIRE	TO WIRE	Connector N	ame JOINT	T CONNECTOR-M36
stor Color WHITE	Connector Co	olor WHITI		Connector C	olor WHIT	ш
	。 明 S'H			E H.S.		2 1 []
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 8 19 20 21 22 23 24 25 26 27 28 29 30 31 32	1 2 3 4 5 21 22 23 24 25	6 7 8 9 1 26 27 28 29 3	0 11 12 13 14 15 16 17 18 1 30 31 32 33 34 35 36 37 38 3	9 20 9 40		
al No. Color of Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No	Color of Wire	Signal Name
BG I	11	σ	I	-	N	1
- M	12	٩	1	5	>	1
	Ş					
ו יו						

< WIRING DIAGRAM >

ENGINE START FUNCTION [WITH INTELLIGENT KEY SYSTEM]

Revision: November 2015

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E KEY ANTENNA SOLE)		Signal Name	BLOCK (J/B)	n ew 5M	Signal Name	I	I
M255 ne INSIDE (CONS	or GRAY	Wire B	E28 ne FUSE or WHITE	10M 9M 2M 7	Color of Wire	≻	щ
Connector No. Connector Nar	Connector Colo 태화	Terminal No. 1 2	Connector No. Connector Nar Connector Cold	H.S.	Terminal No.	5M	ΜĽ
	7						
E TO WIRE	8 7 8 9 10 11 12 8 19 20 21 22 23 24	Signal Name	- CONNECTOR-E05 K	7 6 5 4 3 2 1	Signal Name	I	I
me WIRE or WHIT	3 4 5 6	Color of Wire B	E14 The JOINT or BLACI		Color of Wire	N	8
Connector No. Connector Nar Connector Col	明 H.S. 13 14	Terminal No. 10 11	Connector No. Connector Nai Connector Col	H.S.	Terminal No.	2	e
TO WIRE E	7 6 5 4 3 13 16 15 14 13	Signal Name -	TO WIRE	7 6 5 4 3 9 18 17 16 15 14 13	Signal Name	1	I
M214 me WIRE or WHIT	23 22 21 20	Color of Wire B	me WIRE or WHITE	3 22 21 20 1	Color of Wire	×	в
Connector No. Connector Nat Connector Col	H.S.	Terminal No. 17 18	Connector No. Connector Nar Connector Col	H.S.	Terminal No.	10	=

ABKIA7230GB

< WIRING DIAGRAM >

ENGINE START FUNCTION

[WITH INTELLIGENT KEY SYSTEM]
NECTOR-E01 Connector No. E45 NECTOR-E01 JOINT CONNECTOR-E12 Connector Name JOINT CONNECTOR-E12 Connector Color BLUE 1311 121109876118	Signal Name Terminal No. Color of Signal Name	INECTOR-E15 Connector No. E119 INECTOR-E15 IPDM E/R (INTELLIGENT POWER DISTRIBUTION POWER DISTRIBUTION POWER DISTRIBUTION Connector Name POWER DISTRIBUTION Connector Name	Signal NameTerminal No.Color of WireSignal Name-28PCAN-L-29LCAN-H31BGDETENT SW33RSTART CONT37WCLUTCH I/L SW38PPUSH START SW41BGND (SIGNAL)43LIGN SIGNAL	A B C D E F G
Connector No. E38 Connector Name STOP LAMP SWITCH Connector Name STOP LAMP SWITCH Connector Name JOINT CON Jago Joint Point I Jago Joint Point Point I Jago Joint Point	Terminal No. Color of Wire Signal Name 1 Y - 2 R -	Connector No. E70 Connector Name JOINT CONNECTOR-E14 Connector Name JOINT CO Connector Name JOINT CO Connector Color BLACK Connector Color BLACK Image: State	Terminal No. Color of Wire Color of Wire 1 P - 2 P -	H J SEC L M N

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< WIRING DIAGRAM >

Revision: November 2015

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Terminal No. 51

H.S. E







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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector Name

E121

Connector No.

E120

Connector No.

	Signal Name	F/L IGNSW
I	Color of Wire	თ
	Terminal No.	ю



Connector Name Connector Color

Connector No.



ABKIA7232GB



[WITH INTELLIGENT KEY SYSTEM]



ABKIA7234GB





ABKIA7236GB

ENGINE START FUNCTION

< WIRING DIAGRAM >

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COLTSIDE HANDLE Signal Name 	L
me FRON ASSEA Mire ASSEA Mire ASSEA	NI
Connector No Connector Na Connector Co Terminal No.	0

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram

INFOID:000000012549539



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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >



< WIRING DIAGRAM >



ABKWA2801GB

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [WITH INTELLIGENT KEY SYSTEM] < WIRING DIAGRAM >





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NVIS CONNECTORS

Connector Name FUSE BLOCK (J/B) Connector Color WHITE бЩ Connector No.

7N 6N 5N 4N 3N 8N H.S. F

T T Color of Wire BG ≥ Terminal No. ۲ ۲ N0

Signal Name

Connector Name BCM (BODY CONTROL MODULE)

M18

Connector No.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS < WIRING DIAGRAM > [WITH INTELLIGENT KEY SYSTEM]

		[]						
D WIRE	3 / 14 / 86 / 96 / 106 156 / 166 / 176 / 186 / 196 / 200 / 216 256 / 266 / 276 / 286 / 296 / 206 / 16 256 / 376 / 286 / 386 / 396 / 416 / 16 456 / 476 / 486 / 486 / 406 / 416 / 16 456 / 476 / 486 / 486 / 486 / 506 / 175 / 1	856 867 877 866 877 866 877 866 876 776 786 776 786 776 786 776 786 776 786 776 786 786 776 786 796 876 986 <td>1 1</td> <td>1 1</td> <td>1</td> <td>1</td> <td>1 1</td> <td></td>	1 1	1 1	1	1	1 1	
· M31 me WIRE To lor WHITE	116 26 136 146 226 236 246 316 326 336 346 426 436 346 446	Color of Wire	≥ a	c	ა თ	٩	> >	-
Connector No Connector Col		Terminal No.	10G 35G	36G	62G	63G	64G 67G	
				1 1		1 1		-
	- Name							
ICLE UNIT ICLE	Signa							
lo. M29 Nolor WHI Solor WHI	. Color of Wire B							
Connector N Connector N Connector C H.S.	Terminal No							
	3 22 21							
E E	Signal Name GND7	SECURITY BAT CAN-L CAN-H						
M24 MECOME WHIT	B B B B B B B B B B B B B B B B B B B	> 3 0						
r No.	al No. C							

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS // > [WITH INTELLIGENT KEY SYSTEM]

Revision: November 2015

NISSAN \ < WIRING DIAGRAM >	VEHICLE IMMOBILIZER	SYSTEM-NATS [WITH INTELLIGENT KEY SYSTEM]
Connector No. M84 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE Connector Color WITE Connector Color WITE Connector Color WITE Connector Color WITE Connector Color MITE Color of Wire Signal Name	17 L - 18 P - Connector No. E28 Connector Name FUSE BLOCK (J/B) Connector Color WHITE	Terminal No. Color of 5M Signal Name 7M R -

					-			_
	M (BODY CONTROL DULE)	ITE	3415351251211311201289	Signal Name	BAT BCM FUSE	GND 2	BAT POWER F/L	GND 1
. M8	me MC	lor WH	137136135	Color of Wire	×	ш	≥	а
Connector No	Connector Na	Connector Co	。 S:H	Terminal No.	131	134	139	143

	M (BODY CONTROL DULE)	ICK	25 12 11 11 10 109 108 107 106 105 25 124 129 122 12 120 119 118 117	Signal Name	ACC LED	IMMO START BUTTON ANT B	IMMO START BUTTON ANT A	
M8	me MO	lor BL/	116 115 114	Color of Wire	٩.	٩	BG	
Connector No	Connector Na	Connector Co	田 H.S.	Terminal No.	111	126	127	

	T CONNECTOR-E05	X	7654321	Signal Name	-	I
E14	INIOL 91	I BLAC	10 0 0	Color of Wire	Μ	N
Connector No.	Connector Nam	Connector Colo	雨 H.S.	Terminal No.	2	ю
	-OR-M36			Name		
M181	JOINT CONNECT	WHITE	4 3 2 1	or of Signal		-
-	Vame ,	Color 1		Colc	5	5
ector 1	ector h	ector ((Å	iinal Nc	-	5

	Signal Name	I	I	
	Color of Wire	M	M	
H.S.	Terminal No.	1	2	

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[WITH INTELLIGENT KEY SYSTEM]

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 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Name JOINT CONNECTOR-E12 PUSH START SW **CLUTCH I/L SW** START CONT Signal Name DETENT SW Signal Name 12 11 10 9 8 7 6 5 4 3 2 1 CAN-H CAN-L I. Т Т Т Λ WHITE Connector Color BLUE E119 Color of Wire Connector No. E45 Color of Wire _ _ ۵ ۵ BG ٩ œ ≥ ٩ _ Connector Name Connector Color Connector No. Terminal No. Terminal No. 31 29 33 37 10 28 38 -4 \sim H.S. H.S.H F 悟 Connector Name JOINT CONNECTOR-E15 Connector Name JOINT CONNECTOR-E01 Signal Name Signal Name 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 11 10 9 8 7 6 5 4 3 2 ī T I Т 6 5 4 3 Connector Color BLACK Connector Color WHITE Color of Wire Color of Wire E44 E71 ≻ ≻ _ _ Connector No. Connector No. Terminal No. Terminal No. 12 13 -N H.S. H.S. F 佢 4 Signal Name Connector Name STOP LAMP SWITCH I. T 3 4 Connector Color WHITE E38 Color of Wire F70 œ ≻ Connector No.

ABKIA7238GB

GND (SIGNAL) IGN SIGNAL മ _ 43 4





Connector No.	E70
Connector Name	JOINT CONNECTOR-E
Connector Color	BLACK
	K
H.S.	6 5 4 3 2 1

Signal Name	I	I	
Color of Wire	Ч	Ъ	
Terminal No.	Ļ	2	

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS // > [WITH INTELLIGENT KEY SYSTEM]



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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS // > [WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM Wiring Diagram INFOID:000000012549540 с ω 4 <u>e</u>eee AB : WITH POWER BACK DOOR XB : WITHOUT POWER BACK DOOR ERONT DOOR SWITCH RH B108 2 ╢ B116 B116 B101 22 <u>___</u> MB1 B18 B18 B18 M20 COMBINATION METER M24 BCM (BODY CONTROL MODULE) (M18), (M4 65A <u>م</u> M3)(J/B) SECURITY 10A BB BB ŝ Ð ω 15A M40 Z 138 66A 0 15A 3 142 JOINT CONNECTOR-M36 M181 BACK DOOR LOCK ASSEMBLY (DOOR AJAR SWITCH) (D56) : 7PB VEHICLE SECURITY SYSTEM 10A B46 (69W (B41 B46 D507 D552 D552 D507 <u>[201</u> D501 -IB 3 E152 40A 143 BATTERY 134

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VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]





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VEHICLE SECURITY SYSTEM

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



Connector Color WHITE

H.S.

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Color of Wire

Terminal No.

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M43

Connector No.

137[136[135[134]133[132[131]1 143] 142] 141] 140 | 139

H.S.

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Color of Wire

Terminal No.

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134 131

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139 142 143

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Connector Color WHITE

M81

Connector No.

Connector Name

[WITH INTELLIGENT KEY SYSTEM]



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E45

Connector No.

E14

Connector No.

E5

Connector No.







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	ELLIGENT	NE ROOM)		Γ	11]]	al Name	POWER)		-						al Name	1	I	1						В
21	DM E/R (INTE DWER DISTR		HITE		8 9 10 13 14 15 16 17	-	of Signe	GND (205	DOD SWITCH	NWOF			2 3	ľ	of Signa									С
No. E1	Vame PC	ž	Color W		12		D. Color o Wire	B	No.	Name Ho	Color BI		l	9		D. Color o Wire	ГG	٣	B						D
Connector I	Connector 1	,	Connector (ł		5	Terminal No	7	Connector 1	Connector I	Connector (悟	H.S.		Terminal No	-	2	ო						Е
																									F
Signal Name	HORN SW	CAN-L	CAN-H	GND (SIGNAL)	IGN SIGNAL				Cianol Nomo		1	I	I	I											G
color of	PIN PIN	٩		в					color of	Wire	<u>م</u> ر	<u>م</u>	_	_											Η
Terminal No.	23	28	29	41	43						10G	35G	36G	63G											Ι
			•								-														J
_			_		33 34 49 50							[[7]		5		 (5.)					SEC
		SINE ROOM)			27 28 29 30 31 32 3 44 45 46 47 48					щ				2G 1G	76 66	156146136126110 256246236226		135634613361326310 1456446436426	355G54G53G52G51C	8756746736726710 8856846836826	32G 91G	97G 96G			L
E119	POWER DIST		WHITE		22 23 24 25 26 2 38 30 40 41 42 4				E152	WIRE TO WIR	WHITE		[5G 4G 3G 1	10G 9G 8G	120G 19G 18G 17G 16C 30G 29G 28G 27G 26G		1400390380370300 506496486476466	160G 59G 58G 57G 56G	806796786776760 906896886876866	956 946 936 9	100G99G98G			\mathbb{M}
tor No.	tor Name		tor Color		19 20 21 35 36 37				tor No.	tor Name	tor Color					216		410	616	816					Ν
Connect	Connect	,	Connect	ł		5			Connect	Connect	Connect	[fe	H.S.											0



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VEHICLE SECURITY SYSTEM

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Revision: November 2015

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

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CONNECTOR-B10	Signal Name	OOR SWITCH LH	Signal Name
me JOINT G or WHITE	Color of Vitre	or WHITE	Solor of Wire SB
Connector No. Connector Nat Connector Col	Terminal No.	Connector No. Connector Nat Connector Col	Terminal No. 0
CONNECTOR-B09	Signal Name	CONNECTOR-B12	Signal Name
B11 me JOINT O or WHITE	Color of Vite P	B17 me JOINT C or WHITE	Color of Wite
Connector Na. Connector Col	Terminal No.	Connector No. Connector Nat Connector Col	Terminal No.
DOOR SWITCH LH	Signal Name	CONNECTOR-B11	Signal Name
MHITE	Mire L	B16 bin Uoint (MHITE	Color of Wire of
Intector No. Intector Nam Intector Cold	minal No. C	nnector No. nnector Nam nnector Cold	2 1 minal No.
Con	Ter		Terr



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95A 94A 93A 92A 91A 100A 99A 98A 97A 96A



Revision: November 2015

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		Connector INC	. U14		Connector No). D23	
nnector Name WI nnector Color WI	RE TO WIRE HITE	Connector Ne Connector Co	tme FRON ASSE for GRAY	IT DOOR LOCK MBLY LH	Connector Na	ame DOOI SWIT ONLY	I POWER WINDOW ANE R LOCK/UNLOCK CH (WITH LEFT FRONT AUTO DOWN)
		f.			Connector Co	olor WHIT	, ,
L.S. 19 18 17 16 15 14 13 39 38 37 36 35 34 33	12 11 10 9 8 7 6 5 4 3 2 32 31 30 29 28 27 26 25 24 23 22	H.S.	123	4 5 6	S:H	7 6 5 4	4 3 2 1 1 12 13 14 15 16
rminal No. Wire	f Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1 BR	1	4	в	1	-	в	GND
2 4	1	5	SB	1	e	~	LOCK CDL
3 BR	I	Q	BR	I	15	BR	UNLOCK CDL
nnector No. D2	5	Connector Nc	. D101		Connector No). D102	
MA AN AN AN AN AN	IN POWER WINDOW ID DOOR LOCK/UNLOCK ITCH (WITH LEFT AND	Connector Na Connector Cc	Ine WIRE	TO WIRE E	Connector Na Connector Co	ame WIRE Nor WHIT	e to wire 'e
ЯК U	3HT FRONT AUTO /DOWN)						
nnector Color WI-	HTE	H.S.		[H.S.	10 9	8 7 6 5
1.S.	5 4 3 2 1 0 11 12 13 14 15 16	16 15 14 13 12 32 31 30 29 28 28	27 26 25 24	7 6 5 4 3 2 1 23 22 21 20 19 18 17			
rminal No. Color of Wire	f Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1 B	GND	27	BR	1	∞	в	1
3 BR	KEY CYL LOCK	28	~	1			
11 ×	COM	31	~	1			
ц Ч							

ABKIA6396GB

Connector Name WIRE TO WIRE

D501

Connector No.

D129

Connector No.

WHITE

Connector Color

POWER WINDOW AND DOOR LOCKUNLOCK SWITCH RH (WITH LEFT AND RIGHT FRONT AUTO UP/DOWN)

Connector Name

WHITE

Connector Color

E

- (WITHOUT POWER BACK DOOR) BACK DOOR LOCK ASSEMBLY (WITH POWER BACK DOOR) - (WITH POWER BACK DOOR) 4 3 2 1 16 15 14 13 Signal Name Signal Name I. ī T 17 1 2 3 4 5 6 7 8 8 7 6 20 19 18 ⁻ WHITE D557 Color of Wire Color of Wire 12 11 10 9 24 23 22 21 2 ۵. ŋ ര ш ш Connector Name Connector Color Connector No. Terminal No. Terminal No. 23 Ξ Ξ ~ ω H.S. H.S. F Signal Name Signal Name COM GND I. ī 8 16 3 4 5 6 7 8 11 12 13 14 15 1 1 2 3 4 5 6 7 8 9 10 11 12 WIRE TO WIRE ~ WHITE D552 Color of Wire Color of Wire 2 10 ш ш വ ≻ - 6 Connector Color Connector Name

Terminal No.

Signal Name

Color of Wire

Terminal No.

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Connector No.

WIRE TO WIRE

Connector Name Connector Color

D507

Connector No.

WHITE



Terminal No.

H.S.

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ABKIA6397GB

- (WITHOUT POWER BACK DOOR) - (WITH POWER BACK DOOR)

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Signal Name	I	I
Color of Wire	J	В
Terminal No.	e	4

ABKIA7243GB
BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

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[WITH INTELLIGENT KEY SYSTEM]

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

Revision: November 2015

< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is detected.
- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to <u>BCS-51. "DTC Inspection Priority Chart"</u> and determine trouble diagnosis order.

NOTE:

- · Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to <u>GI-47, "Intermittent Incident"</u>.

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.

Is the symptom described?

YES >> GO TO 7.

NO >> Monitor input data from related sensors or check voltage of related module terminals using CON-SULT.

1.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >	[WITH INTELLIGENT KEY SYSTEM]
Inspect according to Diagnosis Procedure of the system.	
Is malfunctioning part detected?	A
YES >> GO TO 8.	
NO >> Check according to <u>GI-47, "Intermittent Incident"</u> .	F
${f \delta}$.REPAIR OR REPLACE THE MALFUNCTIONING PART	E
 Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnosis ment. 	Procedure again after repair and replace-
3. Check DTC. If DTC is detected, erase it.	
>> GO TO 9. 9.FINAL CHECK	Ε
When DTC is detected in step 2, perform DTC CONFIRMATION PRO malfunction is repaired securely.	OCEDURE again, and then check that the
When symptom is described by the customer, refer to confirmed sy symptom is not detected.	mptom in step 3 or 4, and check that the
Is DTC detected and does symptom remain?	
YES-1 >> DTC is detected: GO TO 7. YES-2 >> Symptom remains: GO TO 4. NO >> Before returning the vehicle to the customer, always era	se DTC.
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ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT < BASIC INSPECTION > [WITH INTELLIGENT KEY SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM : Description

INFOID:000000012549542

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

*: New one means an ECM that has never been energized on-board.

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

NOTE:

• If multiple keys are attached to the key holder, separate them before beginning work.

Distinguish keys with unregistered key IDs from those with registered IDs.

ECM : Work Procedure

INFOID:000000012549543

1.PERFORM ECM RECOMMUNICATING FUNCTION

- 1. Install ECM.
- Contact backside of registered Intelligent Key* to push-button ignition switch, then turn ignition switch to ON.

*: To perform this step, use the key that is used before performing ECM replacement.

- 3. Maintain ignition switch in the ON position for at least 5 seconds.
- 4. Turn ignition switch to OFF.
- 5. Check that the engine starts.

>> GO TO 2.

2. PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform EC-154, "Work Procedure" (USA and Canada) or EC-639, "Work Procedure" (Mexico).

>> END

BCM

BCM : Description

INFOID:000000012958288

BEFORE REPLACEMENT

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

NOTE:

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

AFTER REPLACEMENT

- When replacing BCM, you must perform "After Replace ECU" with CONSULT.
- Complete the procedure of "After Replace ECU" in order.
- If you set incorrect "After Replace ECU", incidents might occur.
- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- When replacing BCM, perform the system initialization (NATS).

BCM : Work Procedure

INFOID:000000012958289

1.SAVING VEHICLE SPECIFICATION

CONSULT

Enter "Re/Programming, Configuration" and perform "Before Replace ECU" to save or print current vehicle specification.

NOTE:

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

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[WITH INTELLIGENT KEY SYSTEM]

>> GO TO 2.	А
2.REPLACE BCM	
Replace BCM. Refer to BCS-81. "Removal and Installation".	В
>> GO TO 3.	
3. WRITING VEHICLE SPECIFICATION	С
 Enter "Re/Programming, Configuration". If "Before Replace ECU" operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press "Confirm" to write vehicle 	D
 specification. Refer to <u>BCS-65, "CONFIGURATION (BCM): Work Procedure"</u>. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configura- tion" to write vehicle specification. Refer to <u>BCS-65, "CONFIGURATION (BCM): Work Procedure"</u>. 	E
	_
	F
For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the on- screen instructions.	G
>> Work End.	Н
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[WITH INTELLIGENT KEY SYSTEM]

DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE

Description

INFOID:000000012549546

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

DTC Logic

INFOID:000000012549547

INFOID:000000012549548

DTC DETECTION LOGIC

NOTE:

- If DTC P1610 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC P1610 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	When ECM detects a communication malfunction between ECM 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 "ENGINE" using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-78, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

1.CHECK ENGINE START FUNCTION

- Check that there are no DTC's except for DTC P1610 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 engine can start.

>> Inspection End.

P1611 ID DISCORD, IMMU-ECM [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000012549549

DTC DETE	CTION LOGIC			В	
DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause		
P1611	ID DISCORD, IMMU-ECM	The ID verification results between BCM and ECM are NG.	 Harness or connectors (The CAN communication line is open or shorted.) BCM ECM 	C	
	IRMATION PROCEDU			E	
		I FROCEDORE			
2. Check D	TC in "Self-Diagnostic F	Result" mode of "ENGINE" using CC	DNSULT.	F	
Is DTC detection	<u>cted?</u> Go to SEC-79 "Diagnos	is Procedure"			
NO >>	Inspection End.	is i locedule.		G	
Diagnosis	Procedure		INFOID:000000012549550	0	
1 .PERFOR	M INITIALIZATION			Н	
Perform initia	alization of BCM and rere	egistration of all Intelligent Keys usi	ng CONSULT. Refer to the CONSULT		
Can the syst	em be initialized and car	the engine be started with reregist	tered Intelligent Kev?		
YES >>	Inspection End.				
		9 H T		J	
		ode of "ENGINE" using CONSULT			
2. Erase D	TC.			SE	
3. Perform	DIC CONFIRMATION I	PROCEDURE for DTC P1611. Refe	er to <u>SEC-79, "DTC Logic"</u> .		
YES >> (GO TO 3.			1	
NO >>	Inspection End.				
J. REPLACI	EBCM				
 Replace Perform SULT In 	 Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON- SULT Immobilizer mode and follow the on-screen instructions. 				
<u>Can the syst</u>	em be initialized and car	n the engine be started with register	red Intelligent Key?	Ν	
YES >> NO >>	Inspection End. GO TO 4				
4.REPLACI	E ECM			0	
1. Replace	ECM. Refer to EC-508.	"Removal and Installation" (USA ar	nd Canada) or <u>EC-885. "Removal and</u>		
2. Perform and Car	<u>on"</u> (Mexico). "ADDITIONAL SERVIC aada) or <u>EC-639, "Work I</u>	E WHEN REPLACING ECM". Refe <u>Procedure"</u> (Mexico).	er to <u>EC-154, "Work Procedure"</u> (USA	Ρ	

>> Inspection End.

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P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

P1612 CHAIN OF ECM-IMMU

DTC Logic

INFOID:000000012549551

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	CHAIN OF BCM-ECM	Inactive communication between BCM and ECM	 Harness or connectors (The CAN communication line is open or shorted.) ECM 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-80. "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549552

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to <u>BCS-74. "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the harness.

2.CHECK ECM POWER SUPPLY AND GROUND CIRCUIT.

Check ECM power supply and ground circuit. Refer to <u>EC-188, "Diagnosis Procedure"</u> (USA and Canada) or <u>EC-666, "Diagnosis Procedure"</u> (Mexico).

Is the inspection result normal?

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

3. PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-80, "DTC Logic".

Does the DTC return?

- YES >> Replace BCM. Refer to <u>BCS-81. "Removal and Installation"</u>
- NO >> Inspection End.

P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT DIAGNOSIS >

P1614 CHAIN OF IMMU-KEY

DTC Logic

INFOID:000000012549553

[WITH INTELLIGENT KEY SYSTEM]

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1614	CHAIN OF IMMU-KEY	Inactive communication between NATS antenna amp. and BCM	 Harness or connectors (NATS antenna amp. circuit is open or shorted.) NATS antenna amp. BCM Intellegent Key fob
DTC CONFI	RMATION PROCEDU	IRE	
1.PERFORM	M DTC CONFIRMATION	I PROCEDURE 1	
1. Contact I 2. Check D Is DTC detec	ntelligent Key back side TC in "Self-Diagnostic R <u>ted?</u>	to push-button ignition switch. esult" mode of "ENGINE" using CC	NSULT.
YES >> (NO >> (GO TO <u>SEC-81, "Diagne</u> GO TO 2.	osis Procedure".	
2.perform	M DTC CONFIRMATION	PROCEDURE 2	
1. Press the 2. Check D Is DTC detec	e push-button ignition sw TC in "Self-Diagnostic R <u>ted?</u>	<pre>ritch. esult" mode of "ENGINE" using CC</pre>	NSULT.
YES >> (NO >>	GO TO <u>SEC-81, "Diagno</u> n nspection End.	<u>osis Procedure"</u> .	
Diagnosis	Procedure		INFOID:00000001254955
-			
Regarding W	iring Diagram informatio	n, refer to SEC-44, "Wiring Diagrar	<u>n"</u> .
1.CONNEC	TOR INSPECTION		
1. Disconne 2. Check co	ect BCM and NATS ante onnectors and terminals	nna amp. for deformation disconnection loo	seness or damage
Is the inspect	tion result normal?		
YES >> (GO TO 2. Repair or replace as pac		
		essary. IRCLIIT	
	ect BCM connector and	NATS antenna amp. connector	
2. Check co	ontinuity between BCM h	arness connector and NATS anten	na amp. harness connector.
	5014		

В	BCM		NATS antenna amp.		0
Connector	Terminal	Connector	Terminal	Continuity	
Meo	126	M04	3	Vaa	P
IVIOU	127		1	- tes	

3. Check continuity between BCM harness connector and ground.

P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT DIAGNOSIS >

BCM			Continuity
Connector	Terminal	Ground	Continuity
M80	126		No
	127		INU

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK NATS ANTENNA AMP INPUT SIGNAL

1. Turn ignition switch ON.

2. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(–) Condition		Signal (Reference value)	
Connector	Terminal				
M80	126 127	Onural	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB	
MOO		Ground	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 1 1 5 10 10 5 0 11 1 5 10 10 5 0 10 15 10 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Replace NATS antenna amp. Refer to <u>SEC-152. "Removal and Installation"</u>.

B210B STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B210B STARTER CONTROL RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B210B is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	—
_	B210B	START CONT RLY ON	 When comparing the following items, IPDM E/R detects that starter control relay is stuck in the ON position for 1 second or more: Starter control relay signal (CAN) from BCM. Starter relay status signal (CAN) from BCM. Starter control relay and starter relay status signal (IPDM E/R input). Starter control relay control signal (IPDM E/R output). 	• IPDM E/R	
DT(RMATION PROC	EDURE		
1.	PERFORM	M DTC CONFIRMA	TION PROCEDURE		
1. - 2. <u>Is C</u>	Turn the CVT sele Depress Check "S	power supply positi ector lever is in the I the brake pedal. Self Diagnostic Resu ted?	on to start under the following conditions ar ^D (Park) or N (Neutral) position. Ilt" using CONSULT.	nd wait for at least 1 second:	
YE N(ES >> F D >> I	Refer to <u>SEC-83, "D</u> nspection End.	iagnosis Procedure".		
Dia	agnosis	Procedure		INFOID:00000001	12549556
1.	NSPECT	ION START			
Per	form "Self	f Diagnostic Result"	of "IPDM E/R" using CONSULT.		
<u>ls d</u>	isplay his	tory of DTC B210B	<u>CRNT?</u>		
YE N(ES >> F D >> F	Replace IPDM E/R. Refer to GI-47, "Inte	Refer to PCS-32, "Removal and Installation rmittent Incident".	<u>)"</u> .	

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[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000012549555

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B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B210C STARTER CONTROL RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B210C is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210C may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210C	START CONT RLY OFF CIRC	 When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 1 second or more: Starter control relay signal (CAN) from BCM. Starter relay status signal (CAN) from BCM. Starter control relay and starter relay status signal (IPDM E/R input). Starter control relay control signal (IPDM E/R output). 	 IPDM E/R BCM Battery

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn the power supply position to start under the following conditions and wait for at least 1 second:
- CVT selector lever is in the P (Park) or N (Neutral) position.
- Depress the brake pedal.
- 2. Check "Self Diagnostic Result" using CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-84, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549558

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1.PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is display history of DTC B210C CRNT?

YES >> GO TO 2.

NO >> Refer to <u>GI-47, "Intermittent Incident"</u>.

2.CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDN	/I E/R	Ground	Voltage	
Connector Terminal		Croand	(Approx.)	
E119	33	—	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-32</u>, "Removal and Installation".

NO >> GO TO 3.

INFOID:000000012549557

B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E119 and BCM connector M19.

2. Check continuity between IPDM E/R connector E119 and BCM connector M19.

IPDM E/R BCM				Continuity	_ '
Connector	Terminal	Connector	Terminal	Continuity	
E119	33	M19	62	Yes	(
		1 5440 1			-

3. Check continuity between IPDM E/R connector E119 and ground.

IPD	M E/R	Cround	Continuity	D
Connector Terminal		Ground	Continuity	
E119	33	—	No	E

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

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B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

B210D STARTER RELAY

INFOID:000000012549559

[WITH INTELLIGENT KEY SYSTEM]

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B210D is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.
- If DTC B210D is displayed with DTC B2617, first perform the trouble diagnosis for DTC B2617. Refer to <u>SEC-130, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210D	STARTER RELAY ON CIRC	 When comparing the following items, IPDM E/R detects that starter control relay is stuck in the ON position for 5 second or more: Starter control relay signal (CAN) from BCM. Starter relay status signal (CAN) from BCM. Starter control relay and starter relay status signal (IPDM E/R input). Starter control relay control signal (IPDM E/R output). 	 Harness or connectors (starter mo- tor relay control circuit open or short). IPDM E/R BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Ignition switch ON under the following conditions and wait for at least 1 second:
- CVT selector lever is in the P (Park) or N (Neutral) position.
- Do not depress the brake pedal.
- 2. Check "Self Diagnostic Result" using CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-86, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549560

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is display history of DTC B210D CRNT?

YES >> GO TO 2.

NO >> Refer to <u>GI-47, "Intermittent Incident"</u>.

2.CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDN	/IE/R	Ground	Voltage	
Connector Terminal		Croand	(Approx.)	
E119	33	—	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> GO TO 3.

3. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connectors E119 and BCM connector M19.

2. Check continuity between IPDM E/R connector E119 and ground.

				В
IPD	M E/R	Ground	Continuity	
Connector	Terminal	Ground	Continuity	
E119	33	—	No	С

Is the inspection result normal?

YES >> Refer to <u>SEC-128, "Diagnosis Procedure"</u>.

NO >> Repair or replace harness or connectors.

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B210E STARTER RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B210E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210F may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210E	STARTER RELAY OFF	 When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 5 second or more: Starter control relay signal (CAN) from BCM. Starter relay status signal (CAN) from BCM. Starter control relay and starter relay status signal (IPDM E/R input). Starter control relay control signal (IPDM E/R output). 	IPDM E/RBCMBattery

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait for at least 1 second:
- CVT selector lever is in the P (Park) or N (Neutral) position.
- Do not depress the brake pedal.
- 2. Check "Self Diagnostic Result" using CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-88</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549562

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is display history of DTC B210E CRNT?

YES >> GO TO 2.

NO >> Refer to <u>GI-47, "Intermittent Incident"</u>.

2.CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDN	/IE/R	Ground	Voltage	
Connector Terminal		Ground	(Approx.)	
E119	33	—	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-32</u>, "Removal and Installation".

NO >> GO TO 3.

[WITH INTELLIGENT KEY SYSTEM]

$\overline{\mathbf{3}}$. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E119 and BCM connector M19

2. Check continuity between IPDM E/R connector E119 and BCM connector M19.

					В
IPDI	M E/R	B	CM	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E119	33	M19	62	Yes	С

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Repair or replace harness or connectors.

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B210F TRANSMISSION RANGE SWITCH

Description

IPDM E/R confirms the shift position with the following signals.

- Transmission range switch
- Shift position signal from BCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>
- If DTC B210F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	TRANSMISSION RANGE SWITCH	IPDM E/R detects a mismatch between the signals below for 1 second or more.Transmission range switch input signalShift position signal from BCM (CAN)	 Harness or connectors Transmission range switch circuit is open or shorted Transmission range switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P (Park) or N (Neutral) position
- Do not depress the brake pedal
- 2. Check "Self-diagnostic result" with CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-90, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549565

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram" or PCS-21, "Wiring Diagram".

1.CHECK DTC WITH BCM

Refer to BCS-52, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning parts.

2. CHECK TRANSMISSION RANGE SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R harness connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between IPDM E/R harness connector E119 terminal 37 and ground under following condition.

INFOID:000000012549563

INEOID:000000012549564

B210F TRANSMISSION RANGE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

IPDM	F/R					A
Connector	Terminal	Ground	Conc	dition	Voltage (V)	
E119	37	Ground	CVT selector	P (Park) or N (Neutral)	Battery voltage	В
LIIS	51	Ground	lever	Other than above	0	
Is the insp	ection res	sult norm	nal?	L		С
YES >	> Replac	e IPDM	E/R. Refer to	<u>PCS-32, "Re</u>	moval and Inst	allation".
NO >:	> GO TO	3.				D
J.CHECK	(TRANS	MISSIO	N RANGE SW	ITCH CIRCL	JIT FOR CONT	INUITY
1. Turn iç	gnition sw	itch OF	F.		(
2. Check	continuit	ty betwe	en IPDM E/R	harness con	nector terminal	s 63 and 66.
Connector	DIVI E/R		Condi	tion	Continuity	F
Connector	Terrini	lais		DorN	Vaa	
F24	63	66	I ransmission	Othor	No	
la tha inan				Other	NO	G
			<u>lai :</u>			
	> GO TO > GO TO	4. 5.				H
4 CHECK		MISSIO	N RANGE SW			2
Спеск соп	itinuity be	tween if	DIVI E/R nam	less connect	or terminals 63	, 66 and ground.
Connecto		arminal	Ground	Cont	tinuity	
Connecti		62				J
F24		63	Ground	Ν	10	
·		66				SE
Is the insp	ection res	<u>sult norm</u>	<u>nal?</u> DM E/D Defe	. to DOO 00	"Demonstration of	
YES >	> Repiac > Repair	e the IPL or replac	JM E/R. Refei ce harness	r to <u>PCS-32,</u>	Removal and	Installation".
5 CHECK			N PANCE SW			
			INANGE SW			
1. DISCOR	nect trar	ISMISSIO	n range switci en transmissio	n narness co on range swit	nnector. tch and IPDM F	-/R harness connectors
2. 011001	Continuit	ly betwe		on range own		
Transmis	sion range	switch	IPDM	I E/R		
Connecto	or Tei	rminal	Connector	Terminal	Continuity	Ν
		7		63		
F36		10	F24	66	Yes	
2 Chaol		10				0
J. Uneck	Continui	ly netwe		in range swi	ion namess col	
Tran	emission ro	nae switch	1			
		Termin	Gi	round	Continuity	P
	5.01					
F36		1	G	round	No	
<u> </u>		10				
is the insp	ection res	sult norm	<u>nal?</u>			

YES >> GO TO 6.

NO >> Repair harness or connector.

[WITH INTELLIGENT KEY SYSTEM]

6. CHECK INTERMITTENT INCIDENT

Refer to <u>GI-47, "Intermittent Incident"</u>.

>> Inspection End.

B2110 TRANSMISSION RANGE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Revision: November 2015

B2110 TRANSMISSION RANGE SWITCH

Description

IPDM E/R confirms the shift position with the following signals.

- Transmission range switch
- Shift position signal from BCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

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- If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B2110 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	F
B2110	TRANSMISSION RANGE SWITCH	IPDM E/R detects mismatch between the signal below for 1 second or more. • Transmission range switch input signal	 Harness or connectors Transmission range switch circuit is open or shorted Transmission range switch 	G
TC CONF	IRMATION PRO	CEDURE		Н

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn the ignition switch ON under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P (Park) or N (Neutral) position
- Do not depress the brake pedal
- 2. Check "Self-diagnostic result" with CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-93, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>SEC-27. "Wiring Diagram"</u> or <u>PCS-21. "Wiring Diagram"</u>.

1.снеск отс with всм	M
Refer to BCS-52, "DTC Index".	
Is the inspection result normal?	
YES >> GO TO 2.	Ν
NO >> Repair or replace malfunctioning parts.	
2. CHECK TRANSMISSION RANGE SWITCH INPUT SIGNAL	\circ
1. Turn ignition switch OFF.	0
2. Disconnect IPDM E/R harness connector.	
3. Turn ignition switch ON.	
4. Check voltage between IPDM E/R harness connector E119 terminal 37 and ground under following condi-	Ρ
tion.	

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INFOID:000000012549568

INFOID:000000012549566

INFOID:000000012549567

B2110 TRANSMISSION RANGE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

IPDM E/R		Ground	Condition		Voltage (V/)	
Connector	Terminal	Ground	Condition		voltage (v)	
E110	37	37 Ground CV/T selector lever		P (Park) or N (Neutral)	Battery voltage	
LIIS	57	Ground		Other than above	0	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> GO TO 3.

$\mathbf{3}$. CHECK TRANSMISSION RANGE SWITCH CIRCUIT FOR CONTINUITY

1. Turn ignition switch OFF.

2. Check continuity between IPDM E/R harness connector terminals 63 and 66.

IPDM E/R		Condition		Continuity	
Connector	Tern	ninals	Condition		Continuity
E24	63	66	Transmission	P or N	Yes
1 24	05	00	range switch	Other	No

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 5.

4.CHECK TRANSMISSION RANGE SWITCH CIRCUIT FOR SHORT

Check continuity between IPDM E/R harness connector terminals 63, 66 and ground.

IPDN	ME/R	Cround	Continuity	
Connector	Terminal	Ground	Continuity	
F24	63	Ground	No	
124	66	Ground	INU	

Is the inspection result normal?

YES >> Replace the IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> Repair or replace harness.

5.CHECK TRANSMISSION RANGE SWITCH INPUT SIGNAL CIRCUIT

1. Disconnect transmission range switch harness connector.

2. Check continuity between transmission range switch and IPDM E/R harness connectors.

Transmission range switch		IPDM E/R		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E36	7	E24	63	Vec	
1 30	10	124	66	165	

3. Check continuity between transmission range switch harness connector and ground.

Transmissior	n range switch	Ground	Continuity	
Connector	Terminal	Ground	Continuity	
E36	7	Ground	No	
1.00	10	Ground	NO	

Is the inspection result normal?

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

Ó.CHECK INTERMITTENT INCIDENT

D2440 TDANEMICCION DANCE CM/ITCU

< DTC/CIRCUIT DIAGNOSIS >	[WITH INTELLIGENT KEY SYSTEM]
Refer to GI-47, "Intermittent Incident".	
>> Inspection End.	

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B2190 NATS ANTENNA AMP.

Description

INFOID:000000012549569

[WITH INTELLIGENT KEY SYSTEM]

Performs ID verification through BCM and Intelligent Key when push-button ignition switch is pressed. Prohibits starting of the engine when an unregistered ID of Intelligent Key is used.

DTC Logic

INFOID:000000012549570

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

- 1. Contact Intelligent Key back side to push-button ignition switch.
- 2. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

YES >> GO TO SEC-96, "Diagnosis Procedure".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Press the push-button ignition switch.

2. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

YES >> GO TO SEC-96, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549571

Regarding Wiring Diagram information, refer to <u>SEC-44, "Wiring Diagram"</u>.

1.CONNECTOR INSPECTION

1. Disconnect BCM and NATS antenna amp.

2. Check connectors and terminals for deformation, disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace as necessary.

2. CHECK NATS ANTENNA AMP. CIRCUIT

1. Disconnect BCM connector and NATS antenna amp. connector.

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

BCM		NATS antenna amp.		Continuity
Connector	Terminal	Connector Terminal		Continuity
Meo	126	M21	3	Voc
INIOU	127	1012 1	1	165

3. Check continuity between BCM harness connector and ground.

B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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BCM			Continuity	ļ
Connector	Terminal	Cround	Continuity	
MgO	126	Giouna	No	
MOO	127		INU	Ŀ

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

\mathbf{3}. CHECK NATS ANTENNA AMP INPUT SIGNAL

1. Turn ignition switch ON.

2. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM				
		(-)	Condition	Signal (Reference value)
Connector	Terminal			
			When Intelligent Key is in the antenna detection area	(V) 15 0 0 1 s JJKKIA3839GB
M80	126, 127	Ground		(V)
			When Intelligent Key is not in the antenna detection area	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Replace NATS antenna amp. Refer to <u>SEC-152, "Removal and Installation"</u>.

B2191, P1615 DIFFERENCE OF KEY

Description

Performs ID verification through BCM and Intelligent Key when push-button ignition switch is pressed. Prohibits starting of the engine when an unregistered ID of Intelligent Key is used.

DTC Logic

INFOID:000000012549573

INFOID:000000012549574

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2191	DIFFERENCE OF	The ID verification results between BCM and Intel-	Intelligent Key
P1615	KEY	ligent Key are NG. The registration is necessary.	intelligent Key

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- Place the back side of the Intelligent Key up to the push-button ignition switch. 1.
- 2. Press the push-button ignition switch.
- Check "Self-Diagnostic Result" with CONSULT. 3.

Is DTC detected?

- YES >> Refer to SEC-98, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

1.PERFORM INITIALIZATION

Perform initialization with CONSULT. Re-register all Intelligent Keys. For initialization and registration of Intelligent Key, refer to CONSULT Immobilizer mode and follow the onscreen instructions.

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

- YES >> Intelligent Key was unregistered. NO
 - >> Intelligent Key fob is malfunctioning.
 - Replace Intelligent Key fob.
 - Perform initialization again.

INFOID:000000012549572

B2192 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000012549575

DTC DETEC	TION LOGIC			В
DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2192	ID DISCORD BCM-ECM	The ID verification results between BCM and ECM are NG.	 Harness or connectors (The CAN communication line is open or shorted.) BCM ECM 	C
DTC CONFIF 1 .PERFORM	RMATION PROCEDUR DTC CONFIRMATION P	E ROCEDURE		E
1.Turn ignition2.Check DT1s DTC detectedYES>> GoNO>> Inst	on switch ON. C in "Self-Diagnostic Res ed? O TO <u>SEC-99. "Diagnosi</u> spection End.	ult" mode of "BCM" using CONS <u>s Procedure"</u> .	ULT.	F
Diagnosis F	Procedure		INFOID:000000012549576	G
1.PERFORM	INITIALIZATION			Н
Perform initiali Immobilizer me	zation of BCM and reregi ode and follow the on-scr	stration of all Intelligent Keys usi een instructions.	ng CONSULT. Refer to the CONSULT	
Can the system YES >> Ins NO >> Go	<u>m be initialized and can th</u> spection End. O TO 2.	e engine be started with reregist	tered Intelligent Key?	I
2.CHECK SE	LF-DIAGNOSIS RESULT			J
1.Select "Set2.Erase DTG3.Perform DIs DTC detectedYES>> GeNO>> Instant	elf Diagnostic Result" moc C. TC CONFIRMATION PR ed? O TO 3. spection End.	le of "BCM" using CONSULT. OCEDURE for DTC B2192. Refe	er to <u>SEC-99, "DTC Logic"</u> .	SE
3.REPLACE	BCM			
 Replace B Perform in SULT Imm 	CM. Refer to <u>BCS-81, "R</u> itialization of BCM and re nobilizer mode and follow	emoval and Installation". registration of all Intelligent Keys the on-screen instructions.	s using CONSULT. Refer to the CON-	M
Can the system	n be initialized and can th	e engine be started with register	red Intelligent Key?	Ν
YES >> In: NO >> G	Spection End. O TO 4.			
4. REPLACE	ECM			0
 Replace E Installation Perform "A and Canad 	CM. Refer to <u>EC-508, "R</u> <u>1"</u> (Mexico). ADDITIONAL SERVICE \ da) or <u>EC-639, "Work Pro</u>	emoval and Installation" (USA ar VHEN REPLACING ECM". Refe <u>cedure"</u> (Mexico).	nd Canada) or <u>EC-885, "Removal and</u> er to <u>EC-154, "Work Procedure"</u> (USA	Ρ

>> Inspection End.

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B2193 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

B2193 CHAIN OF ECM-IMMU

DTC Logic

INFOID:000000012549577

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193	CHAIN OF BCM-ECM	Inactive communication between BCM and ECM	 Harness or connectors (The CAN communication line is open or shorted.) ECM 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-100, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549578

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to <u>BCS-74. "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the harness.

2.CHECK ECM POWER SUPPLY AND GROUND CIRCUIT.

Check ECM power supply and ground circuit. Refer to <u>EC-188</u>, "Diagnosis Procedure" (USA and Canada) or <u>EC-666</u>, "Diagnosis Procedure" (Mexico).

Is the inspection result normal?

- YES >> Replace ECM. Refer to <u>EC-508</u>, "<u>Removal and Installation</u>" (USA and Canada) or <u>EC-885</u>, <u>"Removal and Installation"</u>(Mexico). GO TO 3.
- NO >> Repair or replace the harness.

3. PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to <u>SEC-100, "DTC Logic"</u>.

Does the DTC return?

- YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>
- NO >> Inspection End.

B2195 ANTI-SCANNING

< DTC/CIRCUIT DIAGNOSIS >

B2195 ANTI-SCANNING

DTC Logic

INFOID:000000012549579

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[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC В DTC No. DTC detecting condition Possible cause Trouble diagnosis name ID verification between BCM and ECM that is ID verification request out of the des-B2195 ANTI-SCANNING out of the designated specification is detected. ignated specification DTC CONFIRMATION PROCEDURE D **1.**PERFORM DTC CONFIRMATION PROCEDURE Turn ignition switch ON. Ε 2. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT. Is DTC detected? YES >> Refer to SEC-101, "Diagnosis Procedure". NO >> Inspection End. Diagnosis Procedure INFOID:000000012549580 1.CHECK SELF-DIAGNOSTIC RESULT 1 1. Select "Self-Diagnostic Result" mode of "BCM" using CONSULT. Erase DTC. 2. Н Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-101, "DTC Logic". 3. Is DTC detected? YES >> GO TO 2. NO >> Inspection End. 2.CHECK EQUIPMENT OF THE VEHICLE Check that unspecified accessory part related to engine start is not installed. Is unspecified accessory part related to engine start installed? YES >> GO TO 3. SEC NO >> GO TO 4. 3.CHECK SELF DIAGNOSTIC RESULT 2 1. Obtain the customers approval to remove unspecified accessory part related to engine start, and then remove it. Select "Self-Diagnostic Result" of "BCM" using CONSULT. 2. Erase DTC. M Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to <u>SEC-101, "DTC Logic"</u>. Is DTC detected? YES >> GO TO 4. Ν NO >> Inspection End. **4.**REPLACE BCM Replace BCM. Refer to BCS-81, "Removal and Installation". 1. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-2. SULT Immobilizer mode and follow the on-screen instructions. Ρ >> Inspection End.

B2196 DONGLE UNIT

Description

BCM performs ID verification between BCM and dongle unit.

When verification result is OK, BCM permits cranking.

DTC Logic

INFOID:000000012549582

INFOID:000000012549581

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "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.
- Turn ignition switch ON. 3.
- Check "Self-diagnosis result" using CONSULT. 4.
- Is the DTC detected?
- YES >> Refer to SEC-102, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549583

Regarding Wiring Diagram information, refer to SEC-44, "Wiring Diagram".

1.PERFORM INITIALIZATION

- Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT. Refer to the CON-1. SULT Immobilizer mode and follow the on-screen instructions.
- Start the engine 2.

Dose the engine start?

YES >> Inspection End. 2.

- 2. CHECK DONGLE UNIT CIRCUIT
- 1. Turn ignition switch OFF.
- Disconnect BCM connector and dongle unit connector. 2.
- Check continuity between BCM harness connector and dongle unit harness connector. 3.

-	BCM		Dong	Continuity	
-	Connector Terminal		Connector	Terminal	Continuity
-	M19	52	M29	1	Yes

Check continuity between BCM harness connector and ground. 4.

B2196 DONGLE UNIT

WITH INTELLIGENT KEY SYSTEMI

< DTC/CIRCUIT DIAGNOSIS	;>		ELLIGENT KET STSTE
BCN	1		Continuity
Connector	Terminal	Ground	Continuity
M19	52		No
Is the inspection result normal	<u>?</u>		
YES >> GO TO 3. NO >> Repair or replace	harness.		
3.CHECK DONGLE UNIT GF	ROUND CIRCUIT		
Check continuity between don	gle unit harness connector	and ground.	
Dongle	unit		Continuity
Connector	Terminal	Ground	
M29	4		Yes
Is the inspection result normal	<u>?</u>		
YES >> Replace dongle un NO >> Repair or replace	nit. harness.		

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B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:000000012549584

[WITH INTELLIGENT KEY SYSTEM]

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.	 Harness or connectors (The NATS antenna amp. circuit is open or shorted) NATS antenna amp. BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

- 1. Contact Intelligent Key back side to push-button ignition switch.
- 2. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> GO TO SEC-104, "Diagnosis Procedure".
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

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

Is DTC detected?

- YES >> GO TO <u>SEC-104</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549585

Regarding Wiring Diagram information, refer to SEC-44, "Wiring Diagram".

1.CONNECTOR INSPECTION

- 1. Disconnect BCM and NATS antenna amp.
- 2. Check connectors and terminals for deformation, disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace as necessary.

2. CHECK NATS ANTENNA AMP. CIRCUIT

1. Disconnect BCM connector and NATS antenna amp. connector.

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

B	СМ	NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M80	126	M21	3	Vec
WOO	127	IVIZ I	1	165

3. Check continuity between BCM harness connector and ground.

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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BCM			Continuity	ļ
Connector	Terminal	Cround	Continuity	
MgO	126	Giouna	No	
MOO	127		INU	Ŀ

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

\mathbf{3}. CHECK NATS ANTENNA AMP INPUT SIGNAL

1. Turn ignition switch ON.

2. Check signal between BCM harness connector and ground using oscilloscope.

(+	-)			
BCM		(–) Condition		Signal (Reference value)
Connector	Terminal			
MOO	400 407	Oraund	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB
M80	126, 127	Ground		(V)
			When Intelligent Key is not in the antenna detection area	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Replace NATS antenna amp. Refer to <u>SEC-152, "Removal and Installation"</u>.

B2555 STOP LAMP

DTC Logic

INFOID:000000012549586

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to SEC-106, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549587

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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

(+)				
Stop lamp sw	itch	(-)	(Approx.)	
Connector	Terminal			
E38 1		Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

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

NO-2 >> Check harness for open or short between stop lamp switch and fuse.

2.CHECK STOP LAMP SWITCH INPUT SIGNAL

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

(+)		•	Condition		Voltage (V)	
BCM		(-)			(Approx.)	
Connector	Terminal				V FF - 7	
M18	27	Ground	Brake pedal	Depressed	Battery voltage	
IVI IO	21	Ground	Diake pedal	Not depressed	0	

Is the inspecting result normal?

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

NO >> GO TO 4.

B2555 STOP LAMP

[WITH INTELLIGENT KEY SYSTEM]

3.REPLACE BCM				
 Replace BCM. Refer to <u>BCS-8</u> Perform initialization of BCM a 	1. "Removal and I nd registration of a	nstallation". all Intelligent Key	s using CONSULT.	
>> Inspection End. 4. CHECK STOP LAMP SWITCH	CIRCUIT			
 Disconnect stop lamp switch c Check continuity between stop 	onnector. lamp switch harn	ess connector ar	nd BCM harness co	onnector.
Stop lamp switch			BCM	
Connector	Terminal	Connector	Terminal	- Continuity
E38	2	M18	27	Yes
3. Check continuity between stop	lamp switch harn	ess connector ar	nd ground.	
Stop lamp swi	tch			Continuity
Connector	Terminal	G	Ground	Continuity
E38	2			No
YES >> GO TO 6. NO >> Replace stop lamp swi CHECK INTERMITTENT INCID	tch. Refer to <u>BR-2</u> ENT	0, "Exploded Vie	<u>ew"</u> .	
Refer to <u>GI-47, "Intermittent Inciden</u> >> Inspection End. Component Inspection	<u>nt"</u> .			INFCID:000000012549588
1.CHECK STOP LAMP SWITCH				
 Turn ignition switch OFF. Disconnect stop lamp switch c Check continuity between stop 	onnector. lamp switch termi	inals.		
Stop lamp switch		Condition		Continuity
Terminal				
1 2	Bra	ke pedal	Not depressed Depressed	No Yes
s the inspection result normal? YES >> Inspection End.				

< DTC/CIRCUIT DIAGNOSIS >

B2556 PUSH-BUTTON IGNITION SWITCH DSIS > [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:000000012549589

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-108, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549590

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1. CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

(+) Push-button ignition switch		()	Voltage (V)	
Connector	Terminal		(Approx.)	
M17	8	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	Continuity
M17	8	M18	1	Yes

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

Push-button ignition switch			Continuity
Connector	Terminal	Ground	Continuity
M17	8		No

	B2556 PL	JSH-BUITON IGN		
< DTC/CIRCUIT DIA	DTC/CIRCUIT DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]			
Is the inspection resu	t normal?			
YES >> GO TO 3	rankaaa harnaaa			
	replace namess.			
 Replace BCM. Re Perform initialization SULT Immobilizer 	eter to <u>BCS-81, "I</u> ion of BCM and mode and follow	Removal and Installation registration of all Intellig the on-screen instruction	<u>.</u> ent Keys using CONS ns.	SULT. Refer to the CON
>> Inspection	n End.			
4.CHECK PUSH-BU	TTON IGNITION	SWITCH		
Refer to <u>SEC-109, "C</u>	omponent Inspec	tion".		
Is the inspection resul	t normal?			
YES >> GO TO 5				
NO >> Replace	oush-button ignition	on switch. Refer to <u>SEC</u> .	153, "Removal and In	<u>stallation"</u> .
D. CHECK INTERMIT	TENT INCIDEN	Γ		
Refer to <u>GI-47, "Interr</u>	nittent Incident".			
>> Inspection	n End.			
Component Inspe	ection			INFOID:00000001254959
1. CHECK PUSH-BU	TTON IGNITION	SWITCH		
1 Turn ignition swite				
2. Disconnect push-	button ignition sw	vitch connector.		
3. Check continuity	petween push-bu	tton ignition switch term	nals.	
Push-button	gnition switch			
Terr	ninal	— Con	dition	Continuity
	0	Push-button ignition	Pressed	Yes
4	o	switch	Not pressed	No
s the inspection resu	t normal?			
YES >> Inspection	n End.			
NO >> Replace	oush-button ignition	on switch. Refer to <u>SEC</u>	153, "Removal and In	stallation".

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B2557 VEHICLE SPEED

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

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

Is DTC detected?

- YES >> GO TO <u>SEC-110</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549593

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 <u>BRC-47, "DTC Index"</u> (Type 1) or <u>BRC-206, "DTC Index"</u> (Type 2).

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 <u>MWI-29, "DTC Index"</u>. NO >> GO TO 3.

NO >> GO 10 3.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident" .

>> Inspection End.

INFOID:000000012549592

B2560 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B2560 STARTER CONTROL RELAY

Description

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in N (Neutral) or P (Park) position.

DTC Logic

INFOID:000000012549595

INFOID:000000012549594

DTC DETECTION LOGIC

NOTE:

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

DTC	Self-diagnosis name	DTC detecting condition	Possible causes	
B2560	STARTER CONTROL RELAY	BCM detects a mismatch between the OFF re- quest of starter control relay to IPDM E/R and the feedback. (The feedback is ON instead of OFF.)	• IPDM E/R	F
DTC CONFIRMA	FION PROCEDUR	E		G
1.PERFORM DTC	CONFIRMATION P	ROCEDURE		0
 Turn ignition sv CVT selector le Depress the br 	vitch ON under the fo ever is in the P (Park ake pedal.	blowing conditions and wait for at least 2) position.	seconds:	Н
2. Check "Self-Dia Is DTC detected? YES >> Refer to NO >> Inspect	agnostic Result" with o <u>SEC-111, "Diagnos</u> tion End.	sis Procedure".		I
Diagnosis Proc	edure		INFOID:000000012549596	J
1.CHECK DTC W	ITH IPDM E/R			850
Check "Self Diagno	stic Result" with CO	NSULT. Refer to <u>PCS-20, "DTC_Index"</u> .		SEC
Is the inspection re-	sult normal?			
YES >> GO TO NO >> Repair) 2. or replace malfunction	oning parts		L
2.CHECK INTERN	AITTENT INCIDENT			
Refer to GI-47, "Inte	ermittent Incident".			M
>> Inspect	tion End.			Ν

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[WITH INTELLIGENT KEY SYSTEM]

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B2601 SHIFT POSITION

DTC Logic

INFOID:000000012549597

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to <u>SEC-112</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549598

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1. CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

- 1. Turn ignition switch ON.
- 2. Select "DETE/CANCEL SW" and "DETENT SW IPDM" in DATA MONITOR mode with CONSULT.
- 3. Check "DETE/CANCEL SW" and "DETENT SW IPDM" indication under the following conditions.

Monitor item	Condition		Indication
DETE/CANCEL	CVT Shift se-	In any position oth- er than P (Park)	OFF
310	lector	P (Park)	ON
DETENT SW -	CVT Shift se-	In any position oth- er than P (Park)	OFF
IF DM	lector	P (Park)	ON

Is the inspection result normal?

YES >> Refer to <u>GI-47</u>, "Intermittent Incident".

NO-1 >> If DETE/CANCEL SW function is incorrect. GO TO 2.

NO-2 >> If DETENT SW - IPDM function is incorrect. GO TO 5.

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

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CHECK CVT SHIFT SELECTOR CIRCU	IT (BCM)
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- 1. Disconnect BCM connector and IPDM E/R connector.
- 2. Check continuity between CVT shift selector (park position switch) harness connector and BCM harness connector.

CVT shift selector (park position switch)	B	CM	Continuity	1
Connector	Terminal	Connector	Terminal	Continuity	C
M78	6	M18	20	Yes	

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

				D
CVT shift selector (park position switch)		Continuity	
Connector	Terminal	Ground	Continuity	
M78	6		No	E

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.connector inspection

1. Disconnect BCM.

2. Check connectors and terminals for deformation, disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace as necessary.

4.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-SULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

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

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

CVT shift selector (park position switch)	IPDI	M E/R	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M78	6	E119	31	Yes	M

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6.CONNECTOR INSPECTION

1. Disconnect IPDM E/R.

2. Check connectors and terminals for deformation, disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace as necessary.

7.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

>> Inspection End.

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

Component Inspection

[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000012549599

1. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

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

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

CVT shift selector (CVT shift selector (park position switch)		Condition	
Ter	minal	Condition		Continuity
5	6	Selector lever	P (Park) position	No
5	0		Other than above	Yes

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Replace CVT shift selector. Refer to <u>TM-198</u>, "<u>Removal and Installation</u>" (RE0F10E) or <u>TM-416</u>, "<u>Removal and Installation</u>" (RE0F10J).

B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

B2602 SHIFT POSITION

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "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 (Park) position Vehicle speed is 4 km/h (2.5 MPH) or more Ignition switch is in the ON position 	 Harness or connectors (CAN communication line is open or shorted.) Harness or connectors [CVT shift selector (park position switch) circuit is open or shorted.] CVT shift selector (park position switch) Combination meter BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to SEC-115, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1. CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

- 1. Turn ignition switch ON.
- 2. Select "DETE/CANCEL SW" and "VEH SPEED 1" in DATA MONITOR mode with CONSULT.
- Check "DETE/CANCEL SW" and "VEH SPEED 1" indication under the following conditions. 3.

Monitor item	Сс	Indication	
DETE/CANCEL SW	CVT Shift se-	In any position oth- er than P (Park)	OFF
	lector	P (Park)	ON
	Vehicle not moving		0
VEN SPEED I	Vehicle moving		Varies

Is the inspection result normal?

YES >> Refer to GI-47, "Intermittent Incident".

NO-1 >> If DETE/CANCEL SW is incorrect. GO TO 4.

- NO-2 >> If VEH SPEED 1 is incorrect. GO TO 2.
- 2.CHECK DTC OF COMBINATION METER

[WITH INTELLIGENT KEY SYSTEM]

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B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

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 <u>MWI-29, "DTC Index"</u>.

NO >> GO TO 3.

 $\mathbf{3}$. 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 <u>BRC-47, "DTC Index"</u> (Type 1) or <u>BRC-206, "DTC Index"</u> (Type 2).
- NO >> GO TO 6.

4.CHECK CVT SHIFT SELECTOR CIRCUIT

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

CVT shift selector (CVT shift selector (park position switch)		BCM		
Connector	Terminal	Connector	Terminal	Continuity	
M78	6	M18	20	Yes	

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

CVT shift selector (park position switch)			Continuity
Connector	Terminal	Ground	Continuity
M78	6		No

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to SEC-116, "Component Inspection".

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Replace CVT shift selector. Refer to <u>TM-198</u>, "<u>Removal and Installation</u>" (RE0F10E) or <u>TM-416</u>, "<u>Removal and Installation</u>" (RE0F10J).

6. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:000000012549602

1. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

1. Turn ignition switch OFF.

2. Disconnect CVT shift selector connector.

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

CVT shift selector (park position switch)		Condition		Continuity
Terminal				Continuity
E	6	Soloctor lovor	P (Park) position	No
	0	Selector level	Other than above	Yes

Is the inspection result normal?

YES >> Inspection End.

B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NO >> Replace CVT shift selector. Refer to <u>TM-198</u>, "<u>Removal and Installation</u>" (RE0F10E) or <u>TM-416</u>, <u>"Removal and Installation"</u> (RE0F10J).

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B2603 SHIFT POSITION

DTC Logic

INFOID:000000012549603

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

• If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to <u>SEC-112. "DTC Logic"</u>.

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 (Park) position signal from TCM: approx. 0 V CVT shift selector (park position switch) signal: approx. 0 V 	 Harness or connector [CVT shift selector (park position switch) circuit is open or shorted.] Harness or connectors (TCM circuit is open or shorted.) CVT shift selector (park position switch) CVT assembly (TCM) BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

- YES >> Go to <u>SEC-118, "Diagnosis Procedure"</u>.
- NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE 2

- 1. Shift the selector lever to any position other than P (Park) and wait 1 second or more.
- 2. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-118</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549604

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

- 1. Turn ignition switch ON.
- 2. Select "DETE/CANCEL SW" and "SFT PN/N SW" in DATA MONITOR mode with CONSULT.
- 3. Check "DETE/CANCEL SW" and "SFT PN/N SW" indication under the following conditions.

Monitor item	Monitor item Condition		Indication
DETE/CANCEL	CVT Shift se-	In any position oth- er than P (Park)	OFF
500	lector	P (Park)	ON
SFT PN/N SW	CVT Shift se-	In any position oth- er than P (Park)	OFF
	lector	P (Park)	ON

Is the inspection result normal?

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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- YES >> Refer to <u>GI-47, "Intermittent Incident"</u>.
- NO-1 >> If DETE/CANCEL SW is incorrect. GO TO 6.
- NO-2 >> If SFT PN/N SW is incorrect. GO TO 2.

2.CHECK BCM INPUT SIGNAL

1. Turn ignition switch ON.

2. Check voltage between BCM harness connector and ground.

(+) CM	(-)	Condition		Condition		Voltage (V) (Approx.)	
Connector	Terminal				()			
M18	30	Ground	Selector lever	P or N position	12			
IVI I O	39	Ground	Selector level	Other than above	0			

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3.CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connector.

- 3. Disconnect transmission range switch connector.
- 4. Check continuity between transmission range switch harness connector and BCM harness connector.

Transmissior	n range switch	BCM		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
F36	10	M18	39	Yes	

5. Check continuity between transmission range switch harness connector and ground.

Transmission range switch			Continuity	
Connector	Terminal	Ground	Continuity	0
F36	10		No	

Is the inspection result normal?

YES >> Refer to <u>GI-47, "Intermittent Incident"</u>.

NO >> GOT TO 5.

4.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-SULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

5.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 <u>TM-65</u>, "<u>DTC Index</u>" (RE0F10E) or <u>TM-286</u>, "<u>DTC Index</u>" (RE0F10J).
- NO >> Perform the trouble diagnosis related to the TCM power and ground circuits. Refer to <u>TM-176</u>, P <u>"Diagnosis Procedure"</u> (RE0F10E) or <u>TM-394</u>, <u>"Diagnosis Procedure"</u> (RE0F10J).

6.CHECK CVT SHIFT SELECTOR POWER SUPPLY

1. Turn ignition switch OFF.

- 2. Disconnect CVT shift selector (park position switch) connector.
- 3. Check voltage between CVT shift selector (park position switch) harness connector and ground.

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

(+) CVT shift selector (park positionswitch)		()	Voltage (V) (Approx.)	
Connector	Terminal		(FF -)	
M78	5	Ground	12	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

- 1. Disconnect BCM connector.
- Check continuity between CVT shift selector (park position switch) harness connector and BCM harness connector.

CVT shift selector (park position switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M78	5	M19	69	Yes

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

CVT shift selector (park position switch)			Continuity
Connector	Terminal	Ground	Continuity
M78	5		No

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8. CHECK CVT SHIFT SELECTOR CIRCUIT

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

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

CVT shift selector (park position switch)	BCM		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M78	6	M18	20	Yes	

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

CVT shift selector (park position switch)		Continuity
Connector Terminal		Ground	Continuity
M78	6		No

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

9.CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to SEC-121. "Component Inspection".

Is the inspection result normal?

- YES >> GO TO 10.
- NO >> Replace CVT shift selector. Refer to <u>TM-198</u>, "Removal and Installation" (RE0F10E) or <u>TM-416</u>, "Removal and Installation" (RE0F10J).

10.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".

 Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-SULT Immobilizer mode and follow the on-screen instructions.

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

	>> Inspection	End.				A
С	omponent Inspe	ction			INFOID:000000012549605	
1	CHECK CVT SHIFT	SELECTOR (PARK I	POSITION SWITCH)		В
1. 2. 3.	Turn ignition switcl Disconnect CVT sl Check continuity b	h OFF. hift selector connector etween CVT shift sele	ctor (park position s	witch) terminals.		С
	CVT shift selector	(park position switch)				_
	Ter	minal	Cor	ndition	Continuity	D
	E	e	Solostor lovor	P (Park) position	No	
	5	0	Selector level	Other than above	Yes	Ε
<u>ls</u> 1	the inspection result (ES >> Inspection IO >> Replace C <u>"Removal</u>	<u>normal?</u> End. VT shift selector. Refe and Installation" (RE0	er to <u>TM-198, "Rem</u> F10J).	oval and Installation" ((RE0F10E) or <u>TM-416.</u>	F
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B2604 SHIFT POSITION

DTC Logic

INFOID:000000012549606

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "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 (Park) and N (Neutral) P/N position signal is not sent from TCM but shift position signal input (CAN) from TCM is P (Park) or N (Neutral) 	 Harness or connectors (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 (Park) position.
- 2. Turn ignition switch ON and wait 5 seconds or more.
- 3. Shift the selector lever to the N (Neutral) position and wait 5 seconds or more.
- Shift the selector lever to any position other than P (Park) and N (Neutral) and wait 5 seconds or more. 4.
- 5. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-122, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549607

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

1. CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

- 1. Turn ignition switch ON.
- Select "SFT P -MET", "SFT N -MET" and "SFT PN/N SW" in DATA MONITOR mode with CONSULT. Check "SFT P -MET", "SFT N -MET" and "SFT PN/N SW" indication under the following conditions. 2.
- 3.

Monitor item	Condition		Indication
SFT P -MET	CVT Shift se-	Selector lever is in any position except the P (Park) posi- tion	OFF
	lector	Selector lever is in the P (Park) posi- tion	ON

B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Co	ondition	Indication
SET N -MET	CVT Shift se-	Selector lever is in any position except the N (Neutral) po- sition	OFF
	Selec the N sition	Selector lever is in the N (Neutral) po- sition	ON
SFT PN/N SW	CVT Shift se-	Selector lever is in and position except the P (Park) or N (Neutral) position	OFF
		Selector lever is in the P (Park) or N (Neutral) position	ON

Is the inspection result normal?

YES >> Refer to <u>GI-47, "Intermittent Incident"</u>.

- NO-1 >> If SFT N -MET or SFT P -MET is incorrect. GO TO 7.
- NO-2 >> If SFT PN/N SW is incorrect. GO TO 2.

2. CHECK DTC OF TCM

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>TM-65. "DTC Index"</u> (RE0F10E) or <u>TM-286. "DTC Index"</u> (RE0F10J).

NO >> ĜO TO 3.

3.CHECK BCM INPUT SIGNAL

1. Turn ignition switch ON.

2. Check voltage between BCM harness connector and ground.

	(B(+) CM	()	Condition		Condition Voltage (V)	
С	onnector	Terminal	-			(Approx.)	
	M18	39	Ground	Selector lever	P (Park) or N (Neu- tral) position	12	L
					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-81, "Removal and Installation".

2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-SULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

5. CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect transmission range switch connector.
- 3. Disconnect BCM connector.
- 4. Check continuity between transmission range switch harness connector and BCM harness connector.

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B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

Transmission range switch		B	Continuity	
Connector	Terminal	Connector Terminal		Continuity
F36	10	M18	39	Yes

5. Check continuity between transmission range switch harness connector and ground.

Transmission	range switch		Continuity
Connector Terminal		Ground	Continuity
F36	10		No

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

7. CHECK CVT SHIFT SELECTOR RANGE SWITCH FUNCTION (METER)

1. Turn ignition switch ON.

2. Select "SHIFT IND" in DATA MONITOR mode (METER) with CONSULT.

3. Check "SHIFT IND" indication under the following conditions.

Monitor item	Co	Indication	
SHIFT IND	CVT Shift se-	P (Park) position	Р
	lector	N (Neutral) position	Ν

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to <u>TM-111, "Component Inspection"</u> (RE0F10E) or <u>TM-331, "Component Inspection"</u> (RE0F10J).

B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

B2605 SHIFT POSITION

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2605	PNP/CLUTCH SW	When ignition switch is ON, P/N position signal input from TCM and P/N position signal (CAN) input from IPDM E/R do not match.	 Harness or connectors (CAN communication line is open or shorted.) Harness or connectors (TCM circuit is open or shorted.) IPDM E/R BCM 	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to <u>SEC-125</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-27. "Wiring Diagram".

1. CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

- 1. Turn ignition switch ON.
- 2. Select "SFT PN-IPDM" and "SFT PN/N SW" in DATA MONITOR mode with CONSULT.
- 3. Check "SFT PN-IPDM" and "SFT PN/N SW" indication under the following conditions.

Monitor item	Co	ondition	Indication
SFT PN-IPDM	CVT Shift se-	Any position other than P (Park) or N (Neutral) position	OFF
		P (Park) or N (Neu- tral) position	ON
SFT PN/N SW	CVT Shift se-	Any position other than P (Park) or N (Neutral) position	OFF
		P (Park) or N (Neu- tral) position	ON

Is the inspection result normal?

YES >> Refer to <u>GI-47, "Intermittent Incident"</u>.

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B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

NO-1 >> If SFT PN-IPDM is incorrect. GO TO 2.

NO-2 >> If SFT PN/N SW is incorrect. GO TO 5.

2. CHECK IPDM E/R INPUT SIGNAL

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

3. Turn ignition switch ON.

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

(+) IPDM E/R		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(
F24	66	Ground	Selector lever	P (Park) or N (Neu- tral) position	12
				Other than above	0

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> GO TO 3.

3.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

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

-	IPDN	M E/R	Transmissior	Continuity	
-	Connector Terminal		Connector	Terminal	Continuity
-	E119	37	F36	10	Yes

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

IPDN	/I E/R		Continuity
Connector	Connector Terminal		Continuity
E119	37		No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-32. "Removal and Installation".

>> Inspection End.

5. CHECK BCM INPUT SIGNAL

1. Turn ignition switch ON.

2. Check voltage between BCM harness connector and ground.

(+) BCM		(–) Cond		dition	Voltage (V) (Approx)
Connector	Terminal	-			(
M18	39	Ground	Selector lever	P (Park) or N (Neu- tral) position	12
				Other than above	0

Is the inspection result normal?

YES >> GO TO 6.

B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

) >> GO TO 7.				
REPLACE BCM				
Replace BCM. Refe Perform initializatio SULT Immobilizer n	er to <u>BCS-81, "Remo</u> n of BCM and regist node and follow the o	val and Installation". ration of all Intellige on-screen instruction	nt Keys using CON s.	SULT. Refer to the CON-
>> Inspection I	End.			
CHECK BCM INPUT	SIGNAL CIRCUIT			
Turn ignition switch Disconnect transmi Disconnect BCM co Check continuity be	OFF. ssion range switch co onnector. etween transmission	onnector. range switch harnes	s connector and BC	M harness connector.
Transmission	range switch	E	BCM	2 <i>H H</i>
Connector	Terminal	Connector	Terminal	- Continuity
F36	10	M18	39	Yes
Transmission range switch		connector and grou	nd.	Continuity
Connector	Termina 10	al	Ground	No
ne inspection result r	normal?			110
ES >> GO TO 8. D >> Repair or re CHECK INTERMITT	eplace harness. ENT INCIDENT			
er to <u>GI-47, "Intermit</u>	ttent Incident".			
>> Inspection I	End.			
	 >> GO TO 7. REPLACE BCM Replace BCM. Reference Perform initializations SULT Immobilizer not support to support the support of the supp	>> GO TO 7. REPLACE BCM Replace BCM. Refer to BCS-81, "Remo Perform initialization of BCM and regist SULT Immobilizer mode and follow the composition of BCM and regist SULT Immobilizer mode and follow the composition of BCM and regist SULT Immobilizer mode and follow the composition of BCM and regist SULT Immobilizer mode and follow the composition of BCM and regist SULT Immobilizer mode and follow the composition of BCM and regist CHECK BCM INPUT SIGNAL CIRCUIT Turn ignition switch OFF. Disconnect transmission range switch composition between transmission Check continuity between transmission Transmission range switch Connector Terminal F36 10 Check continuity between TCM harness Transmission range switch Connector Terminal F36 10 Check continuity between TCM harness S >> GO TO 8. 10 D >> Repair or replace harness. CHECK INTERMITTENT INCIDENT fer to GI-47, "Intermittent Incident". >> Inspection End.	>> GO TO 7. REPLACE BCM Replace BCM. Refer to BCS-81, "Removal and Installation". Perform initialization of BCM and registration of all Intellige SULT Immobilizer mode and follow the on-screen instruction >> Inspection End. CHECK BCM INPUT SIGNAL CIRCUIT Turn ignition switch OFF. Disconnect transmission range switch connector. Disconnect BCM connector. Check continuity between transmission range switch harnes Transmission range switch E Connector F36 10 M18 Check continuity between TCM harness connector and grouter F36 10 M18 Connector Transmission range switch Connector F36 10 M18 Check continuity between TCM harness connector and grouter F36 10 Painspection result normal? ES >> GO TO 8. >> >> Repair or replace harness. CHECK INTERMITTENT INCIDENT ier to GI-47, "Intermittent Incident". <	Connector Terminal Goroud Terminal Goroud Terminal Ground Ground F36 10 M18 39 Check continuity between TCM harness connector and ground. Transmission range switch Ground F36 10 M18 39 Check continuity between TCM harness connector and ground. Transmission range switch Ground F36 10 M18 39 Check continuity between TCM harness connector and ground. Transmission range switch Ground F36 10 B2 S S S GO TO 8. S > S Repair or replace harness. CHECK INTERMITTENT INCIDENT er to GI-47, "Intermittent Incident". >>> Inspection End.

Revision: November 2015

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[WITH INTELLIGENT KEY SYSTEM]

B2608 STARTER RELAY

DTC Logic

INFOID:000000012549610

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2608	STARTER RELAY	BCM outputs starter motor relay OFF signal but BCM receives starter motor relay ON signal from IPDM E/R (CAN).	 Harness or connectors (CAN communication line is open or shorted.) Harness or connectors (Starter relay circuit is open or shorted.) IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch under the following conditions to start engine.
- Shift selector lever: In the P (Park) position
- Brake pedal: Depressed
- 2. Wait 1 second after engine started.
- 3. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-128</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549611

Regarding Wiring Diagram information, refer to SEC-27. "Wiring Diagram".

1.CHECK DTC OF IPDM E/R

Check DTC in "Self-Diagnostic Result" mode of "IPDM E/R" using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>PCS-20. "DTC Index"</u>. NO >> GO TO 2.

2. CHECK BCM POWER SUPPLY CIRCUIT

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

(+) BCM		(–) Cond		ondition	Voltage (V) (Approx)
Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
M19	62	Ground	Selector lever	N (Neutral) or P (Park) position	12
				Other than above	0

Is the inspection result normal?

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

B2608 STARTER RELAY

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< DTC/CIRCUIT DIAG			[WITH INTI	ELLIGENT KEY SYSTE	
3. CHECK STARTER R	RELAY CIRCUIT				
 Turn ignition switch Disconnect IPDM E Disconnect BCM cc Check continuity be 	OFF. /R connector. onnector. otween IPDM E/R har	ness conn	ector and B	CM harness co	onnector.
IPDM	1 E/R		BC	N	Continuity
Connector	Terminal	Conn	ector	Terminal	Continuity
E119	33	M	19	62	Yes
5. Check continuity between IPDM E/R harness connector and ground.					
	IPDM E/R			Continuity	
Connector	Termina	al	Ground		Continuity
E119	33				No
Is the inspection result r YES >> Replace IPI NO >> Repair or re 4.CHECK INTERMITT	Is the inspection result normal? YES >> Replace IPDM E/R. Refer to <u>PCS-32, "Removal and Installation"</u> . NO >> Repair or replace harness. 4. CHECK INTERMITTENT INCIDENT				
>> Inspection E	End.				

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B2617 STARTER RELAY CIRCUIT

Description

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[WITH INTELLIGENT KEY SYSTEM]

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:000000012549613

DTC DETECTION LOGIC

NOTE:

- If DTC B2617 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B2617 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2617	STARTER RELAY CIRCUIT	 An immediate operation of starter relay is requested by BCM, but there is no response for more than 1 second BCM is not commanding starter relay activation, but BCM detects starter relay output is active 	 Harness or connectors (Starter relay circuit is open or short- ed.) IPDM E/R BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P (Park) position.
- Do not depress the brake pedal.
- 2. Check "Self-Diagnostic Result" with CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-130, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549614

Regarding Wiring Diagram information, refer to <u>SEC-27, "Wiring Diagram"</u>.

1.CHECK STARTER RELAY

- 1. Turn ignition switch ON.
- 2. Check voltage between BCM harness connector and ground under the following condition.

BCM		Ground	Condition	Voltage (V/)
Connector	Terminal	Ground	Condition	voltage (v)
			Ignition switch cranking	0
M19	62 Ground	Ground	Ignition switch ON (Park or Neutral)	Battery voltage
			Other than above	0

Is the measurement value within the specification.

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK STARTER RELAY CIRCUIT

B2617 STARTER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

IPDM E/R		B	BCM	
Connector	Terminal	Connector	Terminal	Continuity
E119	33	M19	62	Yes

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

Ground	Continuity
nal	Continuity
Ground	No
;	Ground Ground Ground

Is the inspection result normal?

YES	>> Replace BCM. I	Refer to <u>BCS-81.</u>	"Removal and	Installation"
	-			

NO >> Repair harness or connector.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

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B261E VEHICLE TYPE

Description

There are two types of vehicles.

• HEV

Conventional

DTC Logic

DTC DETECTION LOGIC

- NOTE:
- If DTC B261E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B261E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261E	VEHICLE TYPE	Difference of BCM configuration.	BCM mis-configurationWrong ECM installed

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- Shift selector lever is in the P (Park) or N (Neutral) position
- Do not depress brake pedal
- 2. Check "Self-Diagnostic Result" using CONSULT.

Is DTC detected?

- YES >> GO TO SEC-132. "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

- **1.**INSPECTION START
- 1. Turn ignition switch ON.
- 2. Check "Self-diagnostic result" using CONSULT.
- 3. Touch "ERASE".
- Perform DTC Confirmation Procedure. Refer to <u>SEC-132, "DTC Logic"</u>.

Is the 1st trip DTC B261E displayed again?

YES >> GO TO 2.

NO >> Inspection End.

2. PERFORM BCM CONFIGURATION.

Perform the BCM configuration. Refer to <u>BCS-65, "CONFIGURATION (BCM) : Work Procedure"</u>.

>> GO TO 3.

3.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnostic result" using CONSULT.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. Refer to <u>SEC-132, "DTC Logic"</u>.

Is the 1st trip DTC B261E displayed again?

YES >> GO TO 4.

NO >> Inspection End.

INFOID:000000012549615

INFOID:000000012549616

INFOID:000000012549617

4.CONFIRM ECM PART NUMBER. А Confirm the part number of the installed ECM is correct. Is the ECM part number correct? YES >> Replace BCM. Refer to BCS-81, "Removal and Installation". В >> Replace ECM. Refer to EC-508, "Removal and Installation" (USA and Canada) or EC-885, NO "Removal and Installation" (Mexico). С D Е F Н J SEC Μ Ν

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B26F3 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B26F3 STARTER CONTROL RELAY

DTC Logic

INFOID:000000012549618

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-68, "DTC Logic"</u>.
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F3	START CONT RLY ON	BCM requests IPDM E/R to turn starter control relay OFF, but BCM cannot receive starter control relay OFF state signal from IPDM E/R (CAN).	 Harness or connectors (CAN communication line is open or shorted.) IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch under the following conditions to start engine:
- Shift selector lever: In the P (Park) position
- Brake pedal: Depressed
- 2. Wait 2 seconds after engine started.
- 3. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> GO TO SEC-134, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549619

1.CHECK DTC OF IPDM E/R

Check DTC in "Self-Diagnostic Result" mode of "IPDM E/R" using CONSULT.

Is DTC detected?

YES >> Perform the diagnosis procedure related to the detected DTC. Refer to <u>PCS-20, "DTC Index"</u>. NO >> GO TO 2.

2. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

B26F4 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B26F4 STARTER CONTROL RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-69, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	D
B26F4	START CONT RELAY OFF	BCM requests IPDM E/R to turn starter control relay ON, but BCM cannot receive starter control relay ON state signal from IPDM E/R.	 Harness or connectors (CAN communication line is open or shorted.) IPDM E/R 	E
DTC CONF 1.PERFOR	FIRMATION PROCED	OURE ON PROCEDURE		F
 Press p more. Shift sel 	ush-button ignition swi	tch under the following conditions to stants	art engine, and wait 1 second or	G
2. Check I Is DTC dete	CO TO SEC 125 "Dia	Result" mode of "BCM" using CONSULT	:	Η
NO >>	Inspection End.	<u>gnosis Procedure</u> .	INFC/ID-000000012549621	I
1. снески	DTC OF IPDM E/R		## CL2.000000 (2000)	J
Check DTC Is DTC dete YES >> NO >> 2.CHECK I	in "Self-Diagnostic Res <u>cted?</u> Perform the diagnosis GO TO 2. NTERMITTENT INCID	ult" mode of "IPDM E/R" using CONSUL procedure related to the detected DTC. F	T. Refer to <u>PCS-20, "DTC_Index"</u> .	SEC
Refer to <u>GI-</u>	47. "Intermittent Incider	<u>t"</u> .		L
>>	Inspection End.			M
				Ν
				0

[WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000012549620

B26F7 BCM

DTC Logic

INFOID:000000012549622

[WITH INTELLIGENT KEY SYSTEM]

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 <u>SEC-136</u>, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012549623

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select "Self-Diagnostic Result" mode of "BCM" using CONSULT.
- 3. Touch "ERASE".
- Perform DTC CONFIRMATION PROCEDURE for DTC B26F7. Refer to <u>SEC-136</u>, "DTC Logic".

Is DTC detected?

- YES >> GO TO 2.
- NO >> Inspection End.

2.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-SULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

< DTC/CIRCUIT DIAGNOSIS > B26F8 BCM

DTC Logic

DTC DETECTION LOGIC

NOTE:

DTC B26F8 can be detected even though the related circuit is not used in this vehicle.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F8	BCM	Starter control replay control signal and feedback circuit signal (inside BCM) does not match.	ВСМ
DTC CONF	IRMATION PROCED	URE	
1.PERFOR	M DTC CONFIRMATIO	ON PROCEDURE	
I. Turn ign	ition switch ON and wa	it 1 second.	
2. Check D	TC in "Self-Diagnostic	Result" mode of "BCM" using CONSULT.	
s DTC dete			
YES >> NO >>	GO TO <u>SEC-137, "Dia</u> Inspection End	ignosis Procedure".	
Jiagnosis			
, ,			INFOID:000000012549625
1.INSPECT	ION START		
I. Turn ign	ition switch ON.		
2. Select "S	Self-Diagnostic Result"	mode of "BCM" using CONSULT.	
1. Perform	DTC CONFIRMATION	PROCEDURE for DTC B26F8.	
Refer to	SEC-137, "DTC Logic"	<u>.</u>	
s DTC dete	cted?		
YES >>	GO TO 2.		
	Inspection End.		,
Z .REPLAC	EBCM		
 Replace Perform 	BCM. Refer to <u>BCS-8</u>	<u>1, "Removal and Installation"</u> .	NSULT Refer to the CON-
SULT In	mobilizer mode and fo	llow the on-screen instructions.	
>>	Inspection End.		

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INFOID:000000012549624

HEADLAMP FUNCTION

Component Function Check

INFOID:000000012549626

[WITH INTELLIGENT KEY SYSTEM]

1.CHECK FUNCTION

1. Perform HEAD LAMP(HI) in ACTIVE TEST mode of THEFT ALM of BCM using CONSULT.

2. Check headlamps operation.

Test	item	Description	
	ON	Headlamps (Hi)	Light
	OFF		Does not light

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to <u>SEC-138, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:000000012549627

1.CHECK HEADLAMP FUNCTION

Refer to SEC-138, "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-47, "Intermittent Incident".

>> Inspection End.

[WITH INTELLIGENT KEY SYSTEM]

					INFOID:00000
CHECK FUNCTION	1				
Select HOOD SW	in Data Monitor mo	ode of IPDM I	E/R using	CONSULT.	
Monitor ite	m		Conditi	on	Indication
HOOD SV	N	Hood	_	Open	ON
he indication normal	?			Close	011
ES >> Hood switc	ch is OK.				
O >> Go to <u>SEC</u>	<u>2-139, "Diagnosis"</u>	Procedure".			
gnosis Proced	lure				INFOID:00000
arding Wiring Diag	ram information, re	efer to <u>SEC-5</u>	<u>6. "Wiring</u>	<u>Diagram"</u> .	
CHECK HOOD SW	ITCH SIGNAL CIR	CUITS			
Turn ignition switch	ו OFF. witch connector				
Check voltage bet	ween hood switch	harness conn	ector and	ground.	
	(+)				
	Hood switch		-	(-)	Voltage (V)
Connector	Ter	minal			
E205		1	=	Ground	Battery voltage
he inspection result	normal?	2			
ES >> GO TO 3.	<u>normar.</u>				
0 >> GO TO 2.					
		CUITS			
Check continuity b	etween IPDM E/R	harness conr	nector and	hood switch harne	ess connector.
IPDI	M F/R		Hoods	switch	
Connector	Terminal	Conn	ector	Terminal	Continuity
E218	94	ED	05	1	Vec
EZIO	96	E2	00	2	ies
	etween IPDM E/R	harness conr	nector and	ground.	
Check continuity b					0
Check continuity b	IPDM E/R				Continuity
Check continuity b	IPDM E/R	inal		Ground	
Check continuity b Connector	IPDM E/R Term 94	ninal 4		Ground	No

< DTC/CIRCUIT DIAGNOSIS >

3. CHECK HOOD SWITCH GROUND CIRCUIT

Check continuity between hood switch harness connector and ground.

Hood	switch	Ground	Continuity
Connector	Terminal		
E205	3	_	Yes
the inspection result norm	nal?		
YES >> GO TO 4.			

NO >> Repair or replace harness.

4.CHECK HOOD SWITCH

Refer to SEC-140, "Component Inspection" .

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace hood switch. Refer to DLK-269, "HOOD LOCK : Removal and Installation".

5.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:000000012549630

1. CHECK HOOD SWITCH

1. Turn ignition switch OFF.

2. Disconnect hood switch connector.

3. Check continuity between hood switch terminals.

Hood switch		Condition		Continuity	
Terr	ninal		altion	Continuity	
1			Press	Yes	
I	3	Hood switch	Release	No	
2	5		Press	No	
2			Release	Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace hood switch. Refer to <u>DLK-269, "HOOD LOCK : Removal and Installation"</u>.

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >	[WIT	H INTELLIGENT KEY SYSTEM
HORN FUNCTION		
Component Function Check		INFOID:0000000125496
1.CHECK FUNCTION		
 Perform VEHICLE SECURITY HORN in ACTIVE TES Check the horn operation. 	ST mode of THEF	T ALM of BCM using CONSULT.
Test item		Description
VEHICLE SECURITY HORN ON	Horn	Sounds (for 0.5 sec)
Diagnosis Procedure Regarding Wiring Diagram information, refer to <u>SEC-56</u> , " 1. CHECK HORN FUNCTION	Wiring Diagram".	INFOID:0000000130278
Check horn function with horn switch.		
Does the horn sound?		
YES >> GO TO 2.		
2. CHECK HORN RELAY POWER SUPPLY		
 Turn ignition switch ON. Perform "Active Test" of "HORN" using CONSULT. Using an oscilloscope or analog voltmeter to check voltmeter to check voltmeter. 	oltage between IF	PDM E/R connector and ground.

IPDI	M E/R	Ground	Test item		Voltage (V)	SE
Connector	Terminal	Ciouna		lest item	(Approx.)	
E110	23	Ground	HORN	ON	Battery voltage $\rightarrow 0 \rightarrow$ Battery voltage	L
E113	23	Orodina	HORN	Other than above	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3.CHECK HORN RELAY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R and horn relay connector.

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

IPDI	IPDM E/R		Horn relay		
Connector	Terminal	Connector Terminal		Continuity	F
E119	23	H-1	1	Yes	

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

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HORN FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

IPD	DM E/R	Ground	Continuity	
Connector	Terminal	Croana	Continuity	
E119	23	Ground	No	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

SECURITY INDICATOR LAMP

1.check function	Check			
 Perform THEFT IND in Check security indicato 	ACTIVE TEST mode of IM r lamp operation.	MU of BCM using CONSUL	.т.	
Tes	st item	Descri	escription	
THEFT IND	ON OFF	Security indicator lamp	Illuminates	
s the inspection result norn	nal?			
YES >> Inspection End. NO >> Go to <u>SEC-143</u>	, "Diagnosis Procedure".			
Diagnosis Procedure			INFOID:0000000125	
egarding Wiring Diagram i	nformation, refer to <u>SEC-50</u>	<u>6, "Wiring Diagram"</u> .		
CHECK SECURITY IND	ICATOR LAMP POWER SU F. 1 meter connector.	UPPLY CIRCUIT		
CHECK SECURITY IND Turn ignition switch OF Disconnect combination Check voltage between	ICATOR LAMP POWER SU F. n meter connector. combination meter harnes	UPPLY CIRCUIT		
CHECK SECURITY IND Turn ignition switch OF Disconnect combination Check voltage between Combin	ICATOR LAMP POWER SU F. n meter connector. combination meter harnes (+) ation meter	UPPLY CIRCUIT as connector and ground.	Voltage (V)	
1. CHECK SECURITY IND 1. Turn ignition switch OF 2. Disconnect combination 3. Check voltage between	ICATOR LAMP POWER SU F. n meter connector. combination meter harnes (+) ation meter Terminal 22	UPPLY CIRCUIT as connector and ground.	Voltage (V) Battery voltage	
1. CHECK SECURITY IND 1. Turn ignition switch OF 2. Disconnect combination 3. Check voltage between	ICATOR LAMP POWER SU F. n meter connector. combination meter harnes (+) ation meter (+) ation meter (+) (+) ation meter (+) (+) (+) (+) (+) (+) (+) (+)	UPPLY CIRCUIT as connector and ground. (-) Ground se block (J/B)]. combination meter and fuse	Voltage (V) Battery voltage	
1. CHECK SECURITY IND 1. Turn ignition switch OF 2. Disconnect combination 3. Check voltage between	ICATOR LAMP POWER SU F. n meter connector. combination meter harnes (+) ation meter (+) ation meter (+) ation meter (22 nal? e [No. 13, located in the fus for open or short between ICATOR LAMP SIGNAL meter connector. actor. BCM harness connector a	UPPLY CIRCUIT ss connector and ground. (-) Ground se block (J/B)]. combination meter and fuse	Voltage (V) Battery voltage	
CHECK SECURITY IND Turn ignition switch OF Disconnect combination Check voltage between Combin Connector M24 sthe inspection result norn YES >> GO TO 2. NO-1 >> Check 10 A fus NO-2 >> Check harness CHECK SECURITY IND Connect combination m Disconnect BCM conne Check voltage between Check voltage between	ICATOR LAMP POWER SU F. n meter connector. combination meter harnes (+) ation meter (+) ation meter (+) (+) ation meter (+) (+) (+) (+) (+) (+) (+) (+)	UPPLY CIRCUIT s connector and ground. (-) Ground se block (J/B)]. combination meter and fuse	Voltage (V) Battery voltage	
1. CHECK SECURITY IND 1. Turn ignition switch OF 2. Disconnect combination 3. Check voltage between	ICATOR LAMP POWER SI F. n meter connector. combination meter harnes (+) ation meter (+) ation open or short between (+) ation meter (+) ation meter (+) ation open or short between (+) ation meter (+) ation meter (+) (+) (-) (-) (-) (-) (-) (-) (-) (-	UPPLY CIRCUIT ss connector and ground. (-) Ground se block (J/B)]. combination meter and fuse and ground. (-)	Voltage (V) Battery voltage	
1.CHECK SECURITY IND 1. Turn ignition switch OF 2. Disconnect combination 3. Check voltage between Combin Connector M24 Is the inspection result norm YES > GO TO 2. NO-1 >> Check 10 A fus NO-2 >> Check harness 2.CHECK SECURITY IND 1. Connect combination m 2. Disconnect BCM connet 3. Check voltage between E Connector	ICATOR LAMP POWER SU F. n meter connector. combination meter harnes (+) ation meter (+) ation meter (+) ation meter (+) ation meter (+) ation meter (+) ation meter (+) CATOR LAMP SIGNAL meter connector. ation. BCM harness connector a (+) CATOR LAMP SIGNAL meter connector. ation. BCM harness connector a (+) CATOR LAMP SIGNAL meter connector. ation. CATOR LAMP SIGNAL meter connector. CATOR LAMP SIGNAL CATOR LAMP SIGNAL	UPPLY CIRCUIT as connector and ground. (-) Ground se block (J/B)]. combination meter and fuse and ground. (-)	Voltage (V) Battery voltage e. Voltage (V)	

1. Replace BCM. Refer to BCS-81, "Removal and Installation".

2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-SULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

4. CHECK SECURITY INDICATOR LAMP CIRCUIT

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

Combination meter		BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M24	6	M18	18	Yes

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

Combina	tion meter		Continuity
Connector	Terminal	Ground	Continuity
M24	6		No

Is the inspection result normal?

YES >> Replace combination meter. Refer to <u>MWI-85, "Removal and Installation"</u>.

NO >> Repair or replace harness.
INTELLIGENT KEY SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS INTELLIGENT KEY SYSTEM SYMPTOMS

Diagnosis Procedure

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INFOID:000000013320665

NOTE:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

SYMPTOM TABLE 1 (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)

No.	Door lock operation (remote keyless en- try)	Door lock operation (request switch) or back door open oper- ation (opener switch of back door panel)	Engine started with push-button ignition switch operation (reg- istered Intelligent Key is within the detection area of inside key an- tenna)	Engine started with push-button ignition switch operation (reg- istered Intelligent Key placed next to push- button ignition switch)	Symptom	E
1	OK	OK	No start	No start	<u>SEC-146</u>	
2	OK	NG	OK	OK	DLK-229	
3	OK	NG	No crank, No start	OK	DLK-231	G
4	NG	NG	No crank, No start	OK	DLK-233	
5	NG	NG	No start	No start	DLK-234	L
6	OK	OK	No crank, No start	OK	<u>SEC-147</u>	1
7	NG	OK	OK	OK	DLK-236	
8	NG	NG	OK	OK	DLK-237	I
9	Poor range	OK	OK	OK	<u>DLK-238</u>	

SYMPTOM TABLE 2 (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NORMALLY)

No.	Door lock operation (remote keyless en- try)	Door lock operation (request switch) or back door open oper- ation (opener switch of back door panel)	Engine started with push-button ignition switch operation (In- telligent Key is within the detection area of inside key antenna)	Engine started with push-button ignition switch operation (reg- istered Intelligent Key placed next to push- button ignition switch)	Symptom	SEC
1	NG	OK	OK	OK	DLK-240	
2	NG	NG	No crank, No start	OK	DLK-241	M
3	NG	NG	No crank, No start	No crank, No start	DLK-243	
4	OK	OK	No crank, No start	No crank, No start	<u>SEC-149</u>	N
5	OK	NG	No crank, No start	OK	<u>SEC-150</u>	IN
6	Poor range	OK	OK	OK	DLK-245	

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ENGINE CAN NOT START

Description

INFOID:000000013320666

[WITH INTELLIGENT KEY SYSTEM]

Engine does not start when push-button ignition switch is pressed.

SYMPTOM TABLE (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)

Door lock operation (remote keyless entry)	Door lock operation (request switch) or back door open op- eration (opener switch of back door panel)	Engine started with push-but- ton ignition switch operation (registered Intelligent Key is within the detection area of in- side key antenna)	Engine started with push-but- ton ignition switch operation (registered Intelligent Key placed next to push-button ig- nition switch)
ОК	OK	No start	No start

CONDITIONS OF VEHICLE (OPERATING CONDITIONS) "ENGINE START BY I-KEY" setting in "Work support" mode of "INTELLIGENT KEY" of "BCM" is ON.

DIAGNOSIS PROCEDURE

Refer to <u>SEC-146, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:000000013320667

1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table. Refer to <u>DLK-228, "Diagnosis Procedure"</u>.

>> GO TO 2.

2.PERFORM SELF-DIAGNOSIS RESULT

Select "Self Diagnostic Result" mode of all systems, and check if DTC is detected.

>> Follow troubleshooting for each DTC.

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

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VE-HICLE

Description

INFOID:000000013320668

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INFOID:000000013320669

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

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

SYMPTOM TABLE (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)

Door lock operation (remote keyless entry)	Door lock operation (request switch) or back door open op- eration (opener switch of back door panel)	Engine started with push-but- ton ignition switch operation (registered Intelligent Key is within the detection area of in- side key antenna)	Engine started with push-but- ton ignition switch operation (registered Intelligent Key placed next to push-button ig- nition switch)
OK	OK	No crank, No start	ОК

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

• "ENGINE START BY I-KEY" setting in "Work support" mode of "INTELLIGENT KEY" of "BCM" is ON.

One or more Intelligent Keys with a registered Intelligent Key ID are in the vehicle.

DIAGNOSIS PROCEDURE

Refer to SEC-147, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table. Refer to <u>DLK-228</u>, "Diagnosis Procedure".

>> GO TO 2.

2. PERFORM SELF-DIAGNOSIS RESULT

Select "Self Diagnostic Result" mode of "BCM", and check if DTC is detected.
Is DTC detected?
YES >> Perform the trouble diagnosis for the detected DTC.
NO >> GO TO 3.

- Select "INTELLIGENT KEY" of "BCM" using CONSULT.
 Select "ENGINE START BY I-KEY" of "Work support" mode.
- Select ENGINE START BY I-REF OF Work support fill
 Check "ENGINE START BY I-KEY" in "Work support".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Set "On" in "ENGINE START BY I-KEY".

4.CHECK INSIDE KEY ANTENNA

Use SIGNAL TECH II to check each inside key antenna. For the inspection method and how to use SIGNAL TECH II, refer to "NISSAN/INFINITI SIGNAL TECH II USER GUIDE".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace malfunctioning parts.

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

5.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- 2. Check operation after replacement.

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Check intermittent incident. Refer to <u>GI-47, "Intermittent Incident"</u>.

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE (ONE KEY)

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VE-HICLE (ONE KEY)

Description

INFOID:000000013320670

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Engine does not start when push-button ignition switch is pressed. (One Intelligent Key has the symptom, other keys operate normally.)

SYMPTOM TABLE (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NOR-CMALLY)

_	Door lock operation (remote keyless entry) OK	Door lock operation (request switch) or back door open op- eration (opener switch of back door panel) OK	Engine started with push-but- ton ignition switch operation (Intelligent Key is within the detection area of inside key antenna) No crank, No start	Engine started with push-but- ton ignition switch operation (registered Intelligent Key placed next to push-button ig- nition switch) No crank, No start
DIA Ref	GNOSIS PROCEDUR fer to <u>SEC-149, "Diagnos</u>	E <u>is Procedure"</u> .		
Dia	agnosis Procedure			INFOID:000000013320671
1.	CHECK INTELLIGENT K	EY SYSTEM SYMPTOM 1	ABLE	
Che Ref	eck Intelligent Key syster er to <u>DLK-228, "Diagnos</u>	n symptom table. is Procedure".		
~	>> GO TO 2.			
2.	REGISTER INTELLIGEN	IT KEY		
1. 2.	Register the Intelligent k Check operation after re	Key. eplacement.		
YE N	ES >> Inspection End. D >> GO TO 3.	<u>iai :</u>		
3.	REPLACE INTELLIGEN	[KEY		
1. 2.	Replace the Intelligent k Check operation after re	Key and perform registratio eplacement.	n again.	
<u>is ti</u> Ye N(Te inspection result norm ES >> Inspection End. D >> GO TO 4.	<u>ar /</u>		
4.	REPLACE BCM			
1. 2.	Replace BCM. Refer to Check operation after re	BCS-81, "Removal and Inseptacement.	stallation".	
<u>Is t</u> YE	ne inspection result norm	al?	11	
N	>> Check intermitte	ent incident. Refer to GI-47	<u>, "Intermittent Incident"</u> .	

DOOR DOES NOT LOCK/UNLOCK AND ENGINE DOES NOT START (REQ SW/ PUSH SW) (ONE KEY)

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

DOOR DOES NOT LOCK/UNLOCK AND ENGINE DOES NOT START (REQ SW/PUSH SW) (ONE KEY)

Description

INFOID:000000013320672

INFOID:000000013320673

Door does not lock/unlock with door request switch, and engine does not start when push-button ignition switch is pressed while carrying Intelligent Key. (One Intelligent Key has the symptom, other keys operate normally.)

SYMPTOM TABLE (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NOR-MALLY)

Door lock operation (remote keyless entry)	Door lock operation (request switch) or back door open op- eration (opener switch of back door panel)	Engine started with push-but- ton ignition switch operation (Intelligent Key is within the detection area of inside key antenna)	Engine started with push-but- ton ignition switch operation (registered Intelligent Key placed next to push-button ig- nition switch)
OK	NG	No crank, No start	OK

DIAGNOSIS PROCEDURE

Refer to SEC-150, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table. Refer to <u>DLK-228</u>, "<u>Diagnosis Procedure</u>".

>> GO TO 2.

2. CHECK INTELLIGENT KEY LOW BATTERY WARNING

Check that the Intelligent Key low battery warning operates.

Is the Intelligent Key low battery warning operated?

YES >> Replace Intelligent Key battery. Refer to <u>DLK-291, "Removal and Installation"</u>.

NO >> GO TO 3.

3.CHECK INTELLIGENT KEY BATTERY

Check the Intelligent Key battery.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace Intelligent Key battery. Refer to <u>DLK-291, "Removal and Installation"</u>.

4.REGISTER INTELLIGENT KEY

1. Register the Intelligent Key.

2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 5.

5.REPLACE INTELLIGENT KEY

- 1. Replace the Intelligent Key and perform registration again.
- 2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 6.

6.REPLACE BCM

DOOR DOES NOT LOCK/UNLOCK AND ENGINE DOES NOT START (REQ SW/ PUSH SW) (ONE KEY)

PUSH SW) (ONE KE	EY)	
< SYMPTOM DIAGNOSIS >	[WITH INTELLIGENT KEY SYSTEM]	
 Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>. Check operation after replacement. 		А
Is the inspection result normal?		
YES >> Inspection End. NO >> Check intermittent incident. Refer to <u>GI-47, "Intermitter</u>	<u>nt Incident"</u> .	В
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< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

REMOVAL AND INSTALLATION NATS ANTENNA AMP.

Exploded View

INFOID:000000012549649



- 1. NATS antenna amp.
- 2. Push-button ignition switch

Removal and Installation

INFOID:000000012549650

REMOVAL

- 1. Remove the instrument lower panel LH. Refer to <u>IP-25, "Removal and Installation"</u>.
- 2. Disconnect the harness connector from the NATS antenna amp and the push button ignition switch.
- 3. Release the pawl on each side of NATS antenna amp and remove from the instrument pad (LH).
- 4. Release the pawl on each side and remove the NATS antenna amp from the push-button ignition switch.

INSTALLATION

Installation is in the reverse order of removal.

PUSH-BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

PUSH-BUTTON IGNITION SWITCH

Exploded View

INFOID:000000012549651



REMOVAL

- 1. Remove the instrument lower panel LH. Refer to IP-25. "Removal and Installation".
- 2. Disconnect the harness connector from the NATS antenna amp and the push button ignition switch.
- 3. Release the pawl on each side of NATS antenna amp and remove from the instrument pad (LH).
- 4. Release the pawl on each side and remove the NATS antenna amp from the push-button ignition switch.

INSTALLATION

Installation is in the reverse order of removal.

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IMMOBILIZER CONTROL MODULE

Removal and Installation

The immobilizer control module is integrated into the body control module (BCM). For removal and installation, refer to <u>BCS-81, "Removal and Installation"</u>.

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