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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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see 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 Airbag Diagnosis Sensor Unit or other Airbag 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 and wait at least three minutes before performing any service.

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SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location

INFOID:000000010340301



A. View right of steering column.

No.	Component	Function	
1.	Combination meter	Combination meter transmits the vehicle speed signal to BCM via CAN communication. BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM compares both signals to detect the vehicle speed. Security indicator lamp is located on combination meter. Security indicator lamp blinks when ignition switch is in any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] is on board. Refer to <u>MWI-6, "METER SYSTEM : Component Parts Location"</u> .	
2.	Push-button ignition switch	Push-button ignition switch has push switch inside which detects that push-button ignition switch is pressed, and then transmits ON/OFF signal to BCM. BCM changes the ignition switch position with the operation of push-button ignition switch. BCM maintains the ignition switch position status while push-button ignition switch is not operated.	
3.	NATS antenna amp.	Refer to SEC-8, "NATS Antenna Amp.".	
4.	Inside key antenna (instrument center)	Inside key antenna (instrument center) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-22, "Inside Key Antenna (Instrument Center)".	
5.	Horn	Horn is operated when the panic button on the Intelligent Key is pressed or the alarm is activated.	
6.	Hood switch	Hood switch inputs the hood position open/closed to the IPDM E/R.	

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

No.	Component	Function		
7.	Transmission range switch	Refer to TM-14, "CVT CONTROL SYSTEM : Transmission Range Switch".		
8.	IPDM E/R	Refer to PCS-4, "Component Parts Location".		
9.	Stop lamp switch	Refer to BRC-12. "Stop Lamp Switch".		
10.	ВСМ	BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNC- TION), NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] and VEHICLE SECURITY SYSTEM. BCM performs the ID verification between BCM and Intelligent Key when the Intelligent Key is carried into the detection area of inside key antenna, and push-button ignition switch is pressed. If the ID verification result is OK, ignition switch operation is available. Then, when the ignition switch is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine. Refer to <u>BCS-7, "BODY CONTROL SYSTEM : Component Parts Loca- tion"</u> for detailed installation location.		
11.	CVT shift selector	Refer to TM-20, "SHIFT LOCK SYSTEM : Component Parts Location".		
12.	Main power window and door lock/unlock switch (Front power window and door lock/ unlock switch RH similar)	Door lock and unlock switch is integrated into the power window main switch. Door lock and unlock switch transmits door lock/unlock operation signal to BCM. Refer to <u>PWC-7, "Power Window Main Switch"</u> .		
13.	Outside key antenna LH	Outside key antenna (LH) detects whether Intelligent Key is outside the vehicle or not, and then transmits the signal to the BCM. Refer to <u>DLK-23</u> , " <u>Outside Key Antenna (LH)</u> ".		
14.	Front door lock assembly LH	Door key cylinder switch is integrated into front door lock assembly (driver side). Door key cylinder switch detects door LOCK/UNLOCK operation using mechanical key, and then transmits the operation signal to BCM. Refer to <u>DLK-25</u> , "Front Door Lock Assembly (LH)".		
15.	Front door switch LH	Door switch detects door open/close condition and then transmits ON/ OFF signal to BCM.		
16.	Rear door switch LH (rear door switch RH similar)	Door switch detects door open/close condition and then transmits ON/ OFF signal to BCM.		
17.	Outside key antenna RH	Outside key antenna (RH) detects whether Intelligent Key is outside the vehicle or not, and then transmits the signal to the BCM. Refer to <u>DLK-23</u> , " <u>Outside Key Antenna (RH)</u> ".		
18.	Front door switch RH	Door switch detects door open/close condition and then transmits ON/ OFF signal to BCM.		
19.	Inside key antenna (console)	Inside key antenna (console) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to <u>DLK-23</u> , "Inside Key Antenna (Console)".		
20.	Back door lock assembly	Back door lock actuator locks/unlocks the back door latch assembly.		
21.	Outside key antenna (rear bumper)	Outside key antenna (Rear bumper) detects whether Intelligent Key is outside the vehicle or not, and then transmits the signal to the BCM. Refer to <u>DLK-23</u> , "Outside Key Antenna (Rear Bumper)".		

< SYSTEM DESCRIPTION >

NATS Antenna Amp.

The ID verification is performed between BCM and transponder integrated into Intelligent Key via NATS antenna amp. when Intelligent Key backside is contacted to push-button ignition switch in case that Intelligent Key battery is discharged. If the ID verification result is OK, the operation of ignition switch is available.

Hood Switch

Hood switch (1) detects that hood is open, and then transmits ON/ OFF signal to IPDM E/R. IPDM E/R transmits hood switch signal to BCM via CAN communication. Hood switch is integrated into hood lock assembly LH.





Revision: November 2013

INFOID:000000010340300



INFOID:000000010340299



INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

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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.



< SYSTEM DESCRIPTION >

NOTE:

Refer to <u>SEC-12, "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : 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 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		Puch 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	
$\begin{array}{l} LOCK \to START \\ ACC \to START \\ ON \to START \end{array}$	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-hutton 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.
- 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-62, "Work</u> Flow".
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-499, "Removal and Installation".

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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

- · 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. **NOTE:**

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

- 1. 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 between BCM and Intelligent Key (transponder built-in) via NATS antenna amp.
- 3. When the NVIS (NATS) ID verification result is OK, buzzer in combination meter sounds and BCM transmits the result to ECM.
- 4. BCM turns ACC relay ON and transmits ignition power supply ON signal to IPDM E/R.
- 5. IPDM E/R turns the ignition relay ON and starts the ignition power supply.
- 6. BCM detects that the selector lever position is P (Park) or N (Neutral).
- 7. BCM transmits 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.
- 10. When BCM receives feedback signal from ECM indicating that the engine is started, 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.)

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

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)

	Engine start/	- Push-button ignition switch operation frequency	
Power supply position Selector lever			
$LOCK \rightarrow ACC$	—	Not depressed	1
$LOCK \rightarrow ACC \rightarrow ON$	—	Not depressed	2
$LOCK\toACC\toON\toOFF$	—	Not depressed	3

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< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

	Engine start/s	- Push-button ignition switch operation frequency	
Power supply position Selector lever			
$LOCK \rightarrow START$ 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:000000010284332

INFOID 000000010284331

• 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	A	В
	PRE-ARMED	one condition of B is satis- 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 	
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			

В

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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		 UNLOCK 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>SEC-9</u>, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".
- 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>SEC-9</u>, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".

DISARMED Phase

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

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

PRE-ARMED Phase

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

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

ARMED Phase

The vehicle security system is set and BCM monitors all necessary inputs. If any door or 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 cond NOTE: If a battery terminal is disconnected during the ALARM phase terminal is reconnected, theft warning alarm is activated again	lition of No. 12 in the table above. se, theft warning alarm stops. But when the battery ain.	A
PRE-RESET Phase The PRE-RESET phase is the transient state between eac tion of hood is not satisfied, the system switches to the F changed, the system switches to the DISARMED phase or	h phase and DISARMED phase. If only the condi- PRE-RESET phase. Then, when any condition is PRE-ARMED phase.	B
 PANIC ALARM The panic alarm function activates horns and headlamps ALARM button of Intelligent Key outside the vehicle while When BCM receives panic alarm signal from Intelligent k signal and "High Beam Request" signal intermittently to I activation due to mis-operation of Intelligent Key by owner 	intermittently when the owner presses the PANIC the power supply position is OFF or LOCK. Key, BCM transmits "Theft Warning Horn Request" PDM E/R via CAN communication. To prevent the er, the panic alarm function is activated when BCM	D
 Panic alarm operation is maintained for 25 seconds. Panic alarm operation is cancelled when BCM receives of - 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 	ne of the following signals:	F
- · ·		G

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DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000010336412

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 Diagnostic 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			×	×			
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			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

INTELLIGENT KEY

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:000000010336413

SELF DIAGNOSTIC RESULT

Refer to BCS-48, "DTC Index".

DATA MONITOR

В

А

Monitor Item [Unit]	Main	Description	0
REQ SW -DR [On/Off]	×	Indicates condition of door request switch LH.	C
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.	D
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.	
BRAKE SW 1 [On/Off]	×	Indicates condition of brake pedal position switch.	_
BRAKE SW 2 [On/Off]		Indicates condition of stop lamp switch.	E
DETE/CANCL SW [On/Off]	×	Indicates condition of park position switch.	
PUSH SW -IPDM [On/Off]		Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line.	F
IGN RLY1 -F/B [On/Off]		Indicates condition of ignition relay 1 received from IPDM E/R on CAN commu- nication line.	G
NEUTRAL SW -IPDM [On/Off]		Indicates condition of transmission range switch received from IPDM E/R on CAN communication line.	0
SFT PN -IPDM [On/Off]		Indicates condition of P (park) or N (neutral) position from TCM on CAN com- munication line.	Н
STARTER RELAY -IPDM [On/Off]		Indicates condition of starter relay received from IPDM E/R on CAN communi- cation line.	I
ENGINE STATE [STOP/START/CRANK/ RUN]	×	Indicates condition of engine state from ECM on CAN communication line.	I
REVERSE SIGNAL -IPDM [On/Off]		Indicates condition of transmission range switch received from IPDM E/R on CAN communication line.	J
CRANKING PERMIT -ECM [PERMIT]		Indicates condition of engine start possibility from ECM on CAN communication line.	SEC
IS STATUS -ECM [On/Off]		Indicates IS status from ECM on CAN communication line.	OLC
STARTER CUT RELAY -ECM [On/Off]		Indicates condition of starter cut relay 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.	L
VEH SPEED 2 [mph/km/h]	×	Indicates condition of vehicle speed signal received from combination meter on CAN communication line.	M
IGN REQ -IPDM [On/Off]		Indicates condition of ignition request from IPDM E/R on CAN communication line.	
STARTER REQ -IPDM [On/Off]		Indicates condition of starter request received from IPDM E/R on CAN commu- nication line.	Ν
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.	0
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.	۲
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.	

Revision: November 2013

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	Main	Description
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.
AUTO CRNK TME [sec]		Indicates condition of automatic engine crank time from Intelligent Key.
CRANKING TME [sec]		Indicates condition of engine cranking time from Intelligent Key.
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 automatic back door signal from Intelligent Key.

ACTIVE TEST

Test Item	Description
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].
ENGINE SW ILLUMI	This test is able to check push-button ignition switch START indicator operation [On/Off].
IGNITION RELAY	This test is able to check ignition relay operation [On/Off].

WORK SUPPORT

Support Item	Se	tting	Description
		70 msec	
	Start	100 msec	Starter motor operation duration times.
		200 msec	
	End		
INSIDE ANT DIAGNOSIS	-		This function allows inside key antenna self-diagnosis.

	End	_
INSIDE ANT DIAGNOSIS	—	This function allows inside key antenna self-diagno
IMMU		

SELF DIAGNOSTIC RESULT

INFOID:000000010336415

IMMU : CONSULT Function (BCM - IMMU)

Refer to BCS-48, "DTC Index".

Monitor Item [Unit]

DATA MONITOR

PUSH SW [On/Off]

ACTIVE TEST

Indicates condition of push-button ignition switch.

Description

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Test Item			Description		А
THEFT IND	Т	his test is able to check	security indicator operation [On/Off].		
WORK SUPPORT					В
Support Item		Setting	Description		
CONFIRM DONGLE ID		_	Dongle ID can be checked.		С
THEFT ALM					0
THEFT ALM : CONS DATA MONITOR	ULT	Function (BCM	- THEFT ALM)	INFOID:000000010336414	D
Monitored Item			Description		Ε
REQ SW -DR [On/Off]	Indi	cates condition of door r	equest switch LH.		
REQ SW -AS [On/Off]	Indi	cates condition of door r	request switch RH.		F
REQ SW-BD/TR [On/Off]	Indi	cates condition of back	door request switch.		
PUSH SW [On/Off]	Indi	cates condition of push-	button ignition switch.		
DOOR SW-DR [On/Off]	Indi	cates condition of front of	door switch LH.		G
DOOR SW-AS [On/Off]	Indi	cates condition of front of	door switch RH.		
DOOR SW-RR [On/Off]	Indi	cates condition of rear d	loor switch RH.		Н
DOOR SW-RL [On/Off]	Indi	cates condition of rear d	loor switch LH.		
DOOR SW-BK [On/Off]	Indi	cates condition of back	door switch.		
CDL LOCK SW [On/Off]	Indi	cates condition of lock s	ignal from door lock and unlock switch.		
CDL UNLOCK SW [On/Off]	Indi	cates condition of unloc	k signal from door lock and unlock switch.		
KEY CYL LK-SW [On/Off]	Indi	cates condition of lock s	ignal from door key cylinder switch.		J
KEY CYL UN-SW [On/Off]	Indi	cates condition of unloc	k signal from door key cylinder switch.		
RKE-LOCK [On/Off]	Indi	cates condition of lock s	ignal from Intelligent Key.		
RKE-UNLOCK [On/Off]	Indi	cates condition of unloc	k signal from Intelligent Key.		SE
RKE-TR/BD [On/Off]	Indi	cates condition of back	door open signal from Intelligent Key.		
ACTIVE TEST					L
Test Item			Description		

Test Item	Description	
FLASHER	This test is able to check turn signal lamp operation [LH/RH/Off].	M
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].	N
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].	IN

WORK SUPPORT

			0
Support Item	Setting	Description	
	On	Security alarm ON.	
SECONTI ALANMISET	Off	Security alarm OFF.	Ρ

DIAGNOSIS SYSTEM (IPDM E/R) [WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:000000010336418

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]	Description
REVERSE SIGNAL [Open/Close]	Indicates condition of transmission range switch R (Reverse) po- sition.
IGN RELAY [Open/Close]	Indicates condition of ignition relay-1.
PUSH SW [Open/Close]	Indicates condition of push-button ignition switch.
INTERLOCK/PNP SW [Open/Close]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
OIL PRESSURE SW [Open/Close]	Indicates condition of oil pressure switch.
HOOD SW [Open/Close]	Indicates condition of hood switch.
COMPRESSOR [OFF/ON]	Indicates condition of A/C compressor.
HORN RELAY [OFF/ ON]	Indicates condition of horn relay.
COOLING FAN [OFF/ON]	Indicates condition of cooling fan relay-1.
FRONT WIPER HI/LO RELAY [OFF/ON]	Indicates condition of front wiper high relay.
FRONT WIPER RELAY [OFF/ON]	Indicates condition of front wiper relay.
IGN RELAY OFF STATUS [OFF/ON]	Indicates condition of ignition relay-1 OFF status.
IGN RELAY ON STATUS [OFF/ON]	Indicates condition of ignition relay-1 ON status.
COOLING FAN RELAY 1 [OFF/ON]	Indicates condition of cooling fan relay-1.
STARTER RELAY [OFF/ON]	Indicates condition of starter relay.
COMP ECV DUTY [%]	Indicates condition of A/C compressor.
COOLING FAN RELAY 2 [%]	Indicates condition of cooling fan relay-2.
FR FOG LAMP LH [%]	Indicates condition of front fog lamp LH.
FR FOG LAMP RH [%]	Indicates condition of front fog lamp RH.
PARKING LAMP [%]	Indicates condition of parking lamp.
TAIL LAMP LH [%]	Indicates condition of tail lamp LH.
TAIL LAMP RH [%]	Indicates condition of tail lamp RH.
DAYTIME RUNNING LIGHT LH [%]	Indicates condition of daytime running light LH.
DAYTIME RUNNING LIGHT RH [%]	Indicates condition of daytime running light RH.
HEADLAMP (HI) LH [%]	Indicates condition of headlamp high beam LH.

Revision: November 2013

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	Description	
HEADLAMP (HI) RH [%]	Indicates condition of headlamp high beam RH.	4
HEADLAMP (LO) LH [%]	Indicates condition of headlamp low beam LH.	
HEADLAMP (LO) RH [%]	Indicates condition of headlamp low beam RH.	З
A/C RELAY STUCK [NG/OK]	Indicates condition of A/C relay.	
A/C RELAY [Off/On]	Indicates condition of A/C relay.	
COMP ECV STATUS [NG/OK]	Indicates condition of A/C compressor.	С
VEHICLE SECURITY HORN [Off/On]	Indicates condition of horn relay.	
BATTERY CURRENT SENSOR [NG/OK]	Indicates condition of battery current sensor.	
FRONT FOG LAMP [Off/On]	Indicates condition of front fog lamps.	
COMP ECV CURRENT [A]	Indicates condition of A/C compressor current.	
BATTERY VOLTAGE [V]	Indicates condition of battery voltage.	_
COOLING FAN DUTY [%]	Indicates condition of cooling fans.	
HOOD SW (CAN) [OPEN/CLOSE]	Indicates condition of hood switch.	_
FRONT WIPER [STOP/LOW/HIGH]	Indicates condition of front wiper motor.	-
FR WIPER STOP POSITION [STOP P/ACTIVE P]	Indicates condition of front wiper motor stop.	
HEADLAMP (HI) [Off/On]	Indicates condition of headlamp high beams.	G
HEADLAMP (LO) [Off/On]	Indicates condition of headlamp low beams.	
IGNITION RELAY STATUS [Off/On]	Indicates condition of ignition relay-1.	
IGN RELAY MONITOR [Off/On]	Indicates condition of ignition relay-1 feedback.	-1
IGNITION POWER SUPPLY [Off/On]	Indicates condition of ignition relay-1.	
INTERLOCK/PNP SW (CAN) [Off/On]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.	
PUSH-BUTTON IGN SW (CAN) [Off/On]	Indicates condition of push-button ignition switch.	
TAIL LAMP [Off/On]	Indicates condition of tail lamps.	J
REVERSE SIGNAL (CAN) [Off/On]	Indicates condition of transmission range switch R (Reverse) po- sition.	
ST&ST CONT RELAY STATUS [Off/ST R On]	Indicates condition of starter cut and starter relays.	EC
STARTER MOTOR STATUS [Off/On]	Indicates condition of starter motor.	
STARTER RELAY (CAN) [LOW/HIGH]	Indicates condition of starter relay.	
IPDM NOT SLEEP [NO RDY/RDY]	Indicates condition of IPDM E/R sleep status.	-
AFTER COOLING TIME [No request/Request]	Indicates condition of cooling fan request.	
AFTER COOLING SPEED [%]	Indicates condition of cooling fans.	VI
COOLING FAN TYPE [NISSAN/RENAULT]	Indicates cooling fan type.	
COMPRESSOR REQ1 [Off/On]	Indicates condition of A/C compressor request.	
VHCL SECURITY HORN REQ [Off/On]	Indicates condition of horn relay request.	N
DTRL REQ [Off/On]	Indicates condition of daytime running light request.	
SLEEP/WAKE UP [WAKEUP/SLEEP]	Indicates condition of IPDM E/R sleep/wake.	С
CRANKING ENABLE-TCM [NG/OK]	Indicates condition of crank enable from TCM.	
CRANKING ENABLE-ECM [NG/OK]	Indicates condition of crank enable from ECM.	
CAN DIAGNOSIS [NG/OK]	Indicates condition of CAN diagnosis.	C
FRONT FOG LAMP REQ [Off/On]	Indicates condition of front fog lamp request.	
HIGH BEAM REQ [Off/On]	Indicates condition of headlamp high beam request.	
HORN CHIRP [Off/On]	Indicates condition of horn relay request.	
COOLING FAN REQ [%]	Indicates condition of cooling fan request.	
ENGINE STATUS [STOP/RUN/IDLING]	Indicates condition of engine status.	

Revision: November 2013

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Description
Indicates condition of turn signal request.
Indicates condition of front wiper motor request.
Indicates condition of transmission range switch positions.
Indicates condition of headlamp low beam request.
Indicates condition of parking lamp request.
Indicates condition of A/C compressor request.
Indicates condition of ignition switch.
Indicates vehicle speed.
Indicates condition of battery discharge.
Indicates battery status.

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [Off/On].
FRONT WIPER	This test is able to check wiper motor operation [Off/Low/High].
COMPRESSOR	This test is able to check A/C compressor operation [Off/On].
COOLING FAN (DUAL)	This test is able to check cooling fan operation [Off/LO/HI].
HEADLAMP (HI)	This test is able to check headlamp high beam operation [Off/3/5].
HEADLAMP (LO)	This test is able to check headlamp low beam operation [Off/3/5].
FRONT FOG LAMP	This test is able to check front fog lamp operation [Off/3/5].
DAYTIME RUNNING LAMP	This test is able to check daytime running lamp operation [Off/3/5].
PARKING LAMP	This test is able to check parking lamp operation [Off/3/5].
TAIL LAMP	This test is able to check tail lamp operation [Off/3/5].

CAN DIAG SUPPORT MNTR

Refer to LAN-14, "CAN Diagnostic Support Monitor".

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:000000010284338

А

	ECU	Reference	C
	Reference Value	EC-77, "Reference Value"	C
ECM	Fail-safe	EC-89. "Fail Safe"	
LOM	DTC Inspection Priority Chart	EC-92. "DTC Inspection Priority Chart"	D
	DTC Index	EC-93, "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-28, "Reference Value"	F
RCM	Fail-safe	BCS-47, "Fail Safe"	
BCIM	DTC Inspection Priority Chart	BCS-47, "DTC Inspection Priority Chart"	
	DTC Index	BCS-48, "DTC Index"	G

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WIRING DIAGRAM ENGINE START FUNCTION

Wiring Diagram

INFOID:000000010284339



INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

AAKWA0781GB



ENGINE START FUNCTION



AAKWA0783GB



Р

NNECTOR-M01 Connector No. M14 DNNECTOR-M01 Connector Name JOINT CONNECTOR-M30 Connector Name JOINT CONNECTOR-M30 Connector Name JOINT CONNECTOR-M30 Signal Name (1321) - (1321) </th <th>Connector No. M15 Connector Name INSIDE KEY ANTENNA Connector Name INSIDE KEY ANTENNA Connector Color GRAY Terminal No. Color of Wire Signal Name 2 BG -</th>	Connector No. M15 Connector Name INSIDE KEY ANTENNA Connector Name INSIDE KEY ANTENNA Connector Color GRAY Terminal No. Color of Wire Signal Name 2 BG -
Signal Name	Terminal No. Color of Signal Name
Signal Name - Color of Signal Name - V Signal Name 	Terminal No. Color of Write Signal Name 1 GR - 2 BG -
- 2 Y - - 3 Y - - - 4 Y - - - M18 Connector No. M18 ONTROL	2 BG I
	2 BG
Connector No. M18 Connector No. M18 Connector Name BCM (BODY CONTROL MODULE)	
Connector No. M18 Connector Name BCM (BODY CONTROL MODULE)	
JTTON IGNITION Connector Name BCM (BODY CONTROL MODULE)	
H.S.	
20 19 18 17 16 15 14 12 11 10 9 8 7 6 5 4 3 2 1 40 39 38 37 36 38 31 30 29 28 27 36 28 21 30 29 28 27 36 28 21 30 29 28 21 30 29 28 21 30 29 28 21 30 29 28 21 30 29 28 21 30 29 28 21 30 29 28 21 30 29 28 21 30 29 28 21 30 29 28 23 31 30 32 21 10 36 32 21 10 30 32 21 20 29 24 23 22 21 31 30 36	
Signal Name Terminal No. Color of Signal Name Vire	
- 17 L O PWR ATDVC	
- 27 Y Ο IGN1 RL	
- 35 BG O SECURITY LED	

ENGINE START FUNCTION

< WIRING DIAGRAM >

Terminal No. Color of Wire	94 G	100	116 BG	117 GR 84 83 82 81 84 83 82 81 84 85 82 81 84 85 82 81 84 85 82 81 84 85 85 85 84 85 85 85 85 85 85 85 85 85 85 85 85 85		119 P	SCL SW 120 BR	Terminal No. Color of		61J L	62J P		N 133 122 111 1 N 233 220	33.4 32.1 31.1 43.1 42.1	53J 52J 51J RR1 R2J		33/ 72/ 71/			
Signal Name	I AT LOCKED IN PARK SW	SES EXT DR ANTENNA A	SES INT FRONT ANTENNA B	SES INT FRONT ANTENNA A	SES EXT AS ANTENNA B	SES EXT AS ANTENNA A	SES EXT DR ANTENNA B	Signal Name		1	1									
Connector No. M20 Connector Name BCM (BODY CC	Connector Color BROWN		ULTIN 17611751174117317211711170169168 H.S.		Terminal No. Color of Signal Name	161 W I PWR ECU	171 B IGND2	Connector No. M43	Connector Name JOINT CONNECTOR-I	Connector Color BLUE		H.S. 2019 18 17 16 15 14 13 12 11 10		Terminal No. Color of Signal Name		- L		15 P -		

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< WIRING DIAGRAM >

ENGINE START FUNCTION

[WITH INTELLIGENT KEY SYSTEM]



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M68

Connector No.

M44

Connector No.



Signal Name	I	I	I	
Color of Wire	≻	LA/BR	LA/G	
Terminal No.	ЗР	8P	13P	





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TION METER		(4)
MBINAT	HTE	43 44 45 49 50 51
С в	_ ₩	41 42
Connector Name	Connector Color	强 H.S.

M77

Connector No.

Signal Name	CAN-H	CAN-L	BAT	IGN	GND2
Color of Wire	_	٩	LA/G	LA/BR	В
Terminal No.	41	42	45	46	52



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SECURITY GND1 В Terminal No. - \sim

AAKIA1830GB



ENGINE START FUNCTION

ENGINE START FUNCTION

< WIRING DIAGRAM >

Connector Name STOP LAMP SWITCH

E38

Connector No.

WHITE

Connector Color

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Terminal No.

125 139

nnector No.	E44
nnector Name	JOINT CONNECTOR-E01
nnector Color	WHITE
S. S.	4 2 1 8 7 6 7 10 11 10 1 10 16 1 1 2 2 1 1 1 2 10 16 1 1 2 2 2 1 1 2 2 2 1 1 2 2 2 2 1 1

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Connector No.

Signal Name	I	I	I	I	I	I	I
Color of Wire	_	٩	Γ	٩	>	ГG	ŋ
Terminal No.	5	9	6	10	19	23	27

Terminal No.

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AAKIA1832GB

[WITH INTELLIGENT KEY SYSTEM]

E28

Connector No.

[WITH INTELLIGENT KEY SYSTEM]



AAKIA1833GB



AAKIA1834GB

ENGINE START FUNCTION

< WIRING DIAGRAM >
< WIRING DIAGRAM >			[WITH INTELLIGENT KEY SYSTEM]	
Connector No. B71 Connector Name FRONT DOOR SWITCH LH Connector Color WHITE Connector Color MITE	Terminal No. Color of Signal Name 3 SB -	Connector No.B140Connector NameWIRE TO WIREConnector ColorWHITE	5 4 3 2 1 Terminal No. Color of Wire Signal Name 10 W 6 GR - - - - 10 W - - - -	A B C D
Connector No. B70 Connector Name REAR DOOR SWITCH LH Connector Color WHITE Connector Color WHITE	Terminal No. Color of Signal Name 3 R – –	Connector No. B77 Connector Name INSIDE KEY ANTENNA (CONSOLE) Connector Color GRAY	Connector Color I GRAY	F G H J
Connector No. B63 Connector Name JOINT CONNECTOR-B01 Connector Color GRAY Connector Color GRAY	Terminal No. Color of Wire Signal Name 3 P - 4 L - 7 P - 8 L -	Connector No. B76 Connector Name OUTSIDE KEY ANTENNA (REAR BUMPER) Connector Color GRAY	Terminal No. Color of Wire Signal Name 1 LG -	SE L N N

ENGINE START FUNCTION

AAKIA1835GB

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ENGINE START FUNCTION

< WIRING DIAGRAM >



AAKIA1836GB

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

< WIRING DIAGRAM > [W] NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram



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

88 87 86 85 84 83 82 81 108107106105104103102101 START WO ESCL SW Connector Name JOINT CONNECTOR-M30 O START SW BACKLIGHT LED O IMMOBILIZER KAZASHI B O IMMOBILIZER KAZASHI A I AT LOCKED IN PARK SW Connector Name BCM (BODY CONTROL MODULE) Signal Name Signal Name T ī I. 92 91 90 89 8 4321 Connector Color WHITE Connector Color BLACK M14 M19 Color of Wire Color of Wire 7 96 95 94 93 9 71161151141131 ≻ ≻ ≥ വ ≻ ≥ ≻ ≻ Connector No. Connector No. Terminal No. Terminal No. 97 100 99 98 5 120 119 118 1 115 114 88 89 ო 4 94 \sim H.S. H.S. E 佢
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 O SECURITY LED JOINT CONNECTOR-M01 DONGLE UART O PWR ATDVC Signal Name Connector Name BCM (BODY CONTROL MODULE) Signal Name O IGN1 RL I I Ť. I
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 Connector Color GRAY GRAY M18 Color of Wire Color of Wire M6 NVIS - WITH INTELLIGENT KEY SYSTEM CONNECTORS BG ٩ ۰ ۵. _ _ _ ≻ Connector Name Connector Color Connector No. Connector No. Terminal No. Terminal No. ω 16 17 27 35 ო 4 \sim H.S. H.S. E E Connector Name PUSH BUTTON IGNITION SWITCH Signal Name Signal Name I Т T I I Connector Name DONGLE UNIT - w Connector Color WHITE 6 2 Connector Color WHITE Color of Wire Color of Wire M17 M5 ٩ ш ≥ ш ≻ ۵ Connector No. Connector No. Terminal No. Terminal No. ß ω -4 4 H.S. H.S. E 佢

AAKIA1814GB



AAKIA1815GB

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

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 Connector Name CVT SHIFT SELECTOR Signal Name Signal Name T I ī T 6 Connector Name WIRE TO WIRE 10 ÷ 2 4 33 Connector Color WHITE Connector Color WHITE 8 7 6 (16 15 14 1 M107 M69 Color of Wire Color of Wire ٩ _ _ ശ Connector No. Connector No. Terminal No. Terminal No. 10 10 10 24 25 H.S. H.S. 佢 佢 Connector Name COMBINATION METER Signal Name Signal Name CAN-H CAN-L GND2 7R 6R 5R 4R 38 2R 1R 16R 15R 13R 13R 13R 13R 9R 8R BAT ßN Connector Name FUSE BLOCK (J/B) 1 46
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 Connector Color BROWN Connector Color WHITE M68 M77 Color of Wire Color of Wire LA/BR LA/G ≥ ٩ ш _ Connector No. Connector No. Terminal No. Terminal No. 14R 4 42 45 46 52 AHS. H.S. E Æ
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 Γ Connector Name COMBINATION METER Signal Name SECURITY GND1
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 6P
 5P
 4P
 3P
 2P
 1P

 16P
 15P
 14P
 13P
 12P
 1P
 8P
 Connector Name FUSE BLOCK (J/B) Connector Color WHITE Connector Color WHITE M44 M76 Color of Wire B ш Connector No. Connector No.

AAKIA1816GB

Terminal No. - \sim

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Signal Name	I	Ι	T	
Color of Wire	≻	LA/BR	LA/G	
Terminal No.	ЗР	8P	13P	

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >



AAKIA1818GB



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Revision: November 2013

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AAKIA1820GB

Revision: November 2013

VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]



Revision: November 2013

< WIRING DIAGRAM >



AAKWA0776GB

JOINT CONNECTOR-E01 E44

JOINT CONNECTOR-M02 (M43)

JOINT CONNECTOR-M61 M6

JOINT CONNECTOR-B01 B63

B41 M69

M31 E152

61J







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< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]





VEHICLE SECURITY SYSTEM

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Revision: November 2013

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< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Revision: November 2013



AAKIA1810GB

[WITH INTELLIGENT KEY SYSTEM]

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	109-101		L L L L	I I Name	В
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No. B63	Color GR/		Vo. Color of Wire P	Name WIR Color WHH 10 Wire W	D
Connector	Connector	S.H	Terminal N 3 4 7 8	Connector Connector Terminal N 10	E
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			Name	Name Name	G
		- CO	Signal	Signal	Н
lo. B54	Color WHI		b. Color of Wire B	All B71 All B71 Solor WHI SB SB SB	I
Connector N	Connector 0	EF.S.H	Terminal No	Connector A Connector A Connector G Terminal No	J
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			al Name	al Name	L
		9 11 4 11 12 1	Sign	Sign Sign	M
No. B49	Color WH	1 2 3	o. Color of Wire SB W	In the second se	Ν
Connector	Connector	E H.S.	Terminal N 6 10	Connector Connector Connector A.S. 3 3	0
				AAKIA1811GB	

Revision: November 2013

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Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

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Connector No.	Connector Name	Connector Color V	研 H.S.	Terminal No. Color	16 B
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ector No. B	ector Name F	ector Color V		nal No. Color Wire	3 R
Conne	Conne	Conne	语 F	Termi	
-	NT DOOR SWITCH RH	TE	234	Signal Name	1
o. B14 ⁻	ame FRO	olor WHI		Color of Wire	GR
Connector N	Connector N	Connector C	E S.H	Terminal No.	e

Signal Name

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1					
	D6	MAIN POWER WINDOW	AND DOOH LOCK/UNLOCK SWITCH	WHITE	5 4 3 2 1 10 11 12 13 14 15 16
	inector No.	:	inector Name	inector Color	<u>8</u>
	Con		Lo Co	Con	倍 · E
		RE TO WIRE	IITE		8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13
	D3	e WIF	¥	Ľ	22 21

Signal Name	I	I	I	I
Color of Wire	BR	٩	_	BG
Terminal No.	20	21	23	24

AAKIA1812GB

Connector Name FRONT DOOR LOCK ASSEMBLY LH

Connector No. D23

GRAY

Connector Color

Connector Name Connector Color

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Connector No.

< WIRING DIAGRAM >

VEHICLE SECURITY SYSTEM [WITH INTELLIGENT KEY SYSTEM]

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WIRE Signal Name Signal Name Signal Name Signal Name Signal Name Signal Name	B
r No. D501 r Name WIRE TO r Color WHITE r No. Color of ww BACK DO	D
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	F
Signal Name Signal Name Signal Name	G
D112 FRONT PC WINDOW: V WHITE MHI	
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< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000010284342

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

1. GET INFORMATION FOR SYMPTOM	Δ
1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).	A
2. Check operation condition of the function that is malfunctioning.	В
>> GO TO 2	
2.CHECK DTC	С
1. Check DTC.	
2. Perform the following procedure if DTC is detected.	
- Erase DTC.	D
Study the relationship between the cause detected by DTC and the symptom described by the customer.Check related service bulletins for information.	Е
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.	F
Symptom is not described, DTC is detected>>GO TO 5.	F
3.CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer.	G
Verify relation between the symptom and the condition when the symptom is detected.	
	Η
> GO 10 5. A CONFIDM THE SYMPTOM	
Try to confirm the symptom described by the sustamer	
Verify relation between the symptom and the condition when the symptom is detected.	
	J
>> GO TO 6. 5 DEDECOM DTO CONFIDMATION DDOOEDUDE	
J. PERFORM DTC CONFIRMATION PROCEDURE	SEC
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-107, "DTC Inspection Priority Chart"</u> and determine trouble diagnosis order	
NOTE:	L
 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	Μ
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.	Ν
Is DTC detected?	
NO >> Check according to <u>GI-41, "Intermittent Incident"</u> .	0
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.	Ρ
Is the symptom described?	
YES >> GO TO 7.	
SULT.	
7	

1.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to <u>GI-41, "Intermittent Incident"</u>.

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9.FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.

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

Is DTC detected and does symptom remain?

- YES-1 >> DTC is detected: GO TO 7.
- YES-2 >> Symptom remains: GO TO 4.

NO >> Before returning the vehicle to the customer, always erase DTC.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT ASIC INSPECTION > [WITH INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION > [WITH INTELLIGENT RET STSTEM]
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT ECM
ECM : Description
Performing the following procedure can automatically activate recommunication of ECM and BCM, but only when the ECM is replaced with a new one*.
*: New one means 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
1.PERFORM ECM RECOMMUNICATING FUNCTION
 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.
 Turn ignition switch to OFF. Check that the engine starts.
>> GO TO 2.
2. PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM
Perform <u>EC-136, "Work Procedure"</u> .
>> Inspection End. BCM
BCM : Description
BEFORE REPLACEMENT
When replacing BCM, save or print current vehicle specification with CONSULT configuration before replace- ment.
NOTE: If "PEAD CONFIGURATION" can not be used use the "WRITE CONFIGURATION - Manual selection" after
replacing BCM.
AFTER REPLACEMENT
When replacing BCM, always perform "WRITE CONFIGURATION" with CONSULT. Or not doing so, BCM control function does not operate normally. • Complete the procedure of "WRITE CONFIGURATION" in order.
 Configuration is different for each vehicle model. Confirm configuration of each vehicle model. If you set incorrect "WRITE CONFIGURATION", incidents might occur. NOTE:
When replacing BCM, perform the system initialization (NATS). Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.
BCM : Work Procedure
1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to <u>BCS-121, "CON-</u><u>FIGURATION (BCM) : Description"</u>.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

NOTE:

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

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-135, "Removal and Installation".

>> GO TO 3.

 $3. {\sf writing vehicle specification}$

CONSULT Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to <u>BCS-121, "CONFIGURATION (BCM) : Work Procedure"</u>.

>> GO TO 4.

4.INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS) Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

< DTC/CIRCUIT DIAGNOSIS > DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE

Description

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

DTC DETECTION LOGIC

NOTE:

- If DTC B1610 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-64. "DTC Logic"</u>.
- If DTC B1610 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-65, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	F
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-67, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

1	
	CHECK ENGINE START FUNCTION

1.	Check that there are no DTC's except for DTC P1610 detected. If detected, erase the DTC after fixing.	SEC
2. 3. 4. 5.	Turn ignition switch OFF. Contact the registered Intelligent Key backside to push-button ignition switch and wait 5 seconds. Turn ignition switch ON. Turn ignition switch OFF and wait 5 seconds.	L
6. 7.	Repeat steps 3 and 5 twice (a total of 3 times). Check that engine can start.	Μ
	>> Inspection End.	Ν
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INFOID:000000010284347

INFOID:000000010284348

INFOID:000000010284349

P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000010284350

INFOID:000000010284351

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1611	ID DISCORD, IMMU-ECM	The ID verification results between BCM and ECM are NG.	 Harness or connectors (The CAN communication line is open or shorted.) BCM ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to SEC-68. "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

1.PERFORM INITIALIZATION

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

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

YES >> Inspection End.

NO >> GO TO 2.

2. CHECK SELF DIAGNOSTIC RESULT

- 1. Select "Self Diagnostic Result" mode of "ENGINE" using CONSULT.
- 2. Erase DTC.

3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-68, "DTC Logic".

Is DTC detected?

- YES >> GO TO 3.
- NO >> Inspection End.

3.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-75, "Removal and Installation"</u>.
- 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.

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

YES >> Inspection End.

NO >> GO TO 4.

4.REPLACE ECM

- 1. Replace ECM. Refer to <u>EC-499, "Removal and Installation"</u>.
- 2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM". Refer to EC-136, "Work Procedure".

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

P1612 CHAIN OF ECM-IMMU

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-64, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-65, "DTC Logic".

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
	RMATION PROCED		
2. Check DT	ION SWITCH ON. FC in "Self-Diagnostic	Result" mode of "BCM" using CON	ISULT.
Is DTC detect	ed?		
YES >> G	o to <u>SEC-69, "Diagno</u>	osis Procedure".	
NO >> In	spection End.		
Diagnosis I	Procedure		INFOID:000000010284353
NOTE:			
If DTC P16	12 is displayed with I	DTC U1000, first perform the trou	ble diagnosis for DTC U1000. Refer to
BCS-64, "D	<u>TC Logic"</u> . 12 is displayed with I	DTC 111010 first perform the trou	ble diagnosis for DTC 111010 Refer to
BCS-65, "D	TC Logic".		ble diagnosis for DTC 01010. Refer to
	-		
1. СНЕСК ВС	CM POWER SUPPLY	AND GROUND CIRCUIT.	
Check BCM p	ower supply and grou	ind circuit. Refer to BCS-68, "Diag	nosis Procedure".
Is the inspecti	ion result normal?		
YES >> G	60 TO 2.		
NO >> R	epair or replace the h	arness.	
2. CHECK EC	CM POWER SUPPLY	AND GROUND CIRCUIT.	
Check ECM p	ower supply and grou	ind circuit. Refer to EC-165, "Diagr	nosis Procedure".
Is the inspecti	ion result normal?		
YES >> G	GO TO 3.		

[WITH INTELLIGENT KEY SYSTEM]

Revision: November 2013

Does the DTC return?

>> Inspection End.

>> Repair or replace the harness. $\mathbf{3.}$ PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-69, "DTC Logic".

>> Replace BCM. Refer to BCS-75, "Removal and Installation"

NO

YES

NO

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INFOID:000000010284352

< DTC/CIRCUIT DIAGNOSIS >

P161D IMMOBILIZER

DTC Logic

INFOID:000000010374886

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161D	IMMOBILIZER	When immobilizer detects a malfunction, and prohibits the engine start.	ВСМ

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 >> Refer to <u>SEC-72, "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010374887

1.REPLACE BCM

Replace BCM. Refer to BCS-75. "Removal and Installation".

>> Inspection End.

P161E IMMOBILIZER [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

P161E IMMOBILIZER

DTC DETECTION LOGIC

DTC Logic

INFOID:000000010374888

DTC N	o. Trouble diagnosis name	DTC detecting condition	Possible cause	
P161	E IMMOBILIZER	After replacing the ECM, when the ECM is not registered to the vehicle by using the CONSULT.	• BCM • ECM	С
	NEIRMATION PROCEDU	IRF		
1 .PERFC	DRM DTC CONFIRMATION	I PROCEDURE		D
1. Turn i 2. Checl	gnition switch ON. < DTC in "Self Diagnostic R	esult" mode of "ENGINE" using CONSULT.		Е
<u>Is DTC de</u>	tected?	6		
YES > NO >	 Refer to <u>SEC-72, "Diagnose</u> Inspection End. 	osis Procedure".		F
Diagnos	sis Procedure		INFOID:000000010374889	
1.PERFC	ORM REGISTRATION OF E	ECM		G
Perform re	egistration of ECM using CO	DNSULT.		
<u>Is DTC de</u>	tected?			Н
YES > NO >	 > Inspection End. > GO TO 2. 			
2.REPLA	CE BCM			
Replace E	CM. Refer to <u>BCS-75, "Re</u>	moval and Installation".		
<u>Is DTC de</u>	tected?			.1
YES > NO >	 > GO TO 3. > Inspection End. 			0
3.REPLA	CE ECM			SEC

Replace ECM. Refer to EC-499, "Removal and Installation".

>> Inspection End.

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< DTC/CIRCUIT DIAGNOSIS >

P161F IMMOBILIZER

DTC Logic

INFOID:000000010374890

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161F	IMMOBILIZER	When immobilizer detects a malfunction, and prohibits the engine start.	ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

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

Is DTC detected?

YES >> Refer to <u>SEC-72, "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010374891

1.REPLACE ECM

Replace ECM. Refer to EC-499. "Removal and Installation".

>> Inspection End.
B2192 ID DISCORD, IMMU-ECM [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000010284380

DTC DETECT	FION LOGIC		
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
DTC CONFIR	MATION PROCEDUR	E	
1.PERFORM	DTC CONFIRMATION P	ROCEDURE	
1. Turn ignitic 2. Check DT Is DTC detecte YES >> GC NO >> Ins	on switch ON. C in "Self-Diagnostic Res ed? O TO <u>SEC-73. "Diagnosi</u> spection End.	ult" mode of "BCM" using CONS <u>s Procedure"</u> .	ULT.
Diagnosis F	Procedure		INFOID:000000010284381
1.PERFORM	INITIALIZATION		
Perform initializ Immobilizer mo	zation of BCM and reregis ode and follow the on-scr	stration of all Intelligent Keys usi een instructions.	ng CONSULT. Refer to the CONSULT
<u>Can the system</u> YES >> Ins	<u>n be initialized and can th</u> spection End	e engine be started with reregist	tered Intelligent Key?
NO >> G(D TO 2.		
2.CHECK SE	LF-DIAGNOSTIC RESUL	.T	
 Select "Se Erase DTC Perform D 	If Diagnostic Result" mod C. TC CONFIRMATION PR	e of "BCM" using CONSULT. OCEDURE for DTC B2192. Refe	er to <u>SEC-73, "DTC Logic"</u> .
Is DTC detecte	ed?		
YES >> G(NO >> Ins	D TO 3. spection End		
3.REPLACE	BCM		
 Replace B Perform in SULT Imm 	CM. Refer to <u>BCS-75. "R</u> itialization of BCM and re obilizer mode and follow	emoval and Installation". registration of all Intelligent Key the on-screen instructions.	s using CONSULT. Refer to the CON-
Can the system YES >> Ins NO >> GO	<u>n be initialized and can th</u> spection End. O TO 4.	e engine be started with register	red Intelligent Key?
4.REPLACE	ECM		
 Replace E Perform "A 	CM. Refer to <u>EC-499, "R</u> ADDITIONAL SERVICE V	emoval and Installation". VHEN REPLACING ECM". Refe	r to <u>EC-136, "Work Procedure"</u> .

>> Inspection End.

Revision: November 2013

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< DTC/CIRCUIT DIAGNOSIS >

B2193 CHAIN OF ECM-IMMU

DTC Logic

INFOID:000000010284382

[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-64, "DTC Logic"</u>.
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-65, "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-74, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010284383

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-64, "DTC Logic"</u>.
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-65, "DTC Logic"</u>.

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to <u>BCS-68, "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 EC-165. "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace ECM. Refer to <u>EC-499</u>, "Removal and Installation". GO TO 3.

NO >> Repair or replace the harness.

3. PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-74, "DTC Logic".

Does the DTC return?

- YES >> Replace BCM. Refer to <u>BCS-75. "Removal and Installation"</u>
- NO >> Inspection End.

B2196 DONGLE UNIT

< C	TC/CIR	CUIT DIAGNOSIS >	[JENT KEY SYSTEM]
B2	2196 E	ONGLE UNIT			
De	escriptio	on			INFOID:000000010284386
BC	M perfor	ms ID verification betwe	een BCM and dongle unit.		
			i permits cranking.		
DI	C Log	IC			INFOID:000000010284387
DT		ECTION LOGIC			
NC • If	DTE: DTC B2	2196 is displayed with	DTC U1000, first perform the troul	ole diagnosis for	DTC U1000. Refer to
• If	<u>CS-64, "</u> DTC B2	' <u>DTC Logic"</u> . 2196 is displayed with l	DTC U1010, first perform the troul	ole diagnosis for	DTC U1010. Refer to
E	<u>SCS-65, "</u>	<u>'DTC Logic"</u> .			
	DTC No.	Trouble diagnosis name	DTC detecting condition	Pos	sible cause
	B2196	DONGLE NG	The ID verification results between BCM and dongle unit is NG.	 Harness or cont (Dongle unit circle) Dongle unit 	nectors cuit is open or shorted.)
DT	C CON	FIRMATION PROCED	URE		
1.	PERFOF	RM DTC CONFIRMATIO	ON PROCEDURE		
2. 3. 4. <u>Is t</u> Y N	Turn igi Turn igi Check ⁶ <u>he DTC 0</u> ES >> O >>	nition switch OFF. nition switch ON. 'Self-diagnostic Result" <u>detected?</u> Refer to <u>SEC-75, "Diac</u> Inspection End.	of "BCM" using CONSULT. Inosis Procedure".		
Dia	agnosis	s Procedure			INFOID:000000010284388
Re 1 .	garding \ PERFOF	Wiring Diagram informat	tion, refer to <u>SEC-39. "Wiring Diagr</u>	<u>am"</u> .	
1.	Perform	n initialization of BCM a	nd reregistration of all Intelligent Ke	ys using CONSI	JLT. Refer to the CON-
S	SULT In	nmobilizer mode and fo	llow the on-screen instructions.		
Z. Do	Start the se the er	e engine. noine start?			
Y	ES >>	Inspection End.			
м 2	U >> CHECK	DONGLE UNIT CIRCU	Т		
1. 2. 3.	Turn igi Disconi Check	nition switch OFF. nect BCM connector and continuity between BCM	d dongle unit connector. I harness connector and dongle un	it harness conne	ctor.
-		BCM	Dongle unit		
-					Continuity

M18 16 M5 1

4. Check continuity between BCM harness connector and ground.

Terminal

Connector

Connector

Terminal

Yes

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B	CM		Continuity
Connector	Terminal	Ground	Continuity
M18	16		No

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dong	le unit		Continuity
Connector	Terminal	Ground	Continuity
M5	4		Yes

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

B2198 NATS ANTENNA AMP. [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:000000010284389

DTC DETE	CTION LOGIC					
DTC No.	Trouble diagnosis name		DTC detecting condition		Pos	ssible cause
B2198	NATS ANTENNA AMP	Inactive com amp. and B	munication between NATS an CM.	tenna	 Harness or (The NATS open or shot) NATS anter BCM 	connectors antenna amp. circuit is rted) ina amp.
TC CONF	IRMATION PROC	EDURE				
.PERFOR	M DTC CONFIRMA	TION PROC	EDURE 1			
1. Contact 2. Check D is DTC deteo	Intelligent Key back TC in "Self-Diagnos cted?	side to pus tic Result" r	n-button ignition switch. node of "BCM" using CC	NSULT.		
YES >> (NO >> (GO TO <u>SEC-77, "Di</u> GO TO 2.	agnosis Pro	<u>cedure"</u> .			
2.PERFOR	M DTC CONFIRMA	TION PROC	EDURE 2			
1. Press th 2. Check D Is DTC detect	e push-button ignitic TC in "Self-Diagnos sted?	on switch. tic Result" r	node of "BCM" using CC	NSULT.		
YES >> (NO >>	GO TO <u>SEC-77, "D</u> Inspection End.	iagnosis Pro	ocedure".			
Diagnosis	Procedure					INFOID:000000010284390
Regarding W	/iring Diagram inforr	nation, refer	to <u>SEC-39, "Wiring Dia</u>	<u>gram"</u> .		
1.connec	TOR INSPECTION					
1. Disconn 2. Check c	ect BCM and NATS onnectors and termi	antenna am nals for defe	p. prmation, disconnection,	loosene	ess or dama	ge.
s the inspec	tion result normal?					-
NO >> I	Repair or replace as	necessary.				
2.CHECK N	IATS ANTENNA AM	IP. CIRCUIT	-			
1. Disconn 2. Check c	ect BCM connector ontinuity between B	and NATS a CM harness	ntenna amp. connector. connector and NATS ar	ntenna a	mp. harnes	s connector.
	BCM		NATS antenna	a amp.		Continuity
Con	nector Te	rminal	Connector	Term	inal	Continuity

115 3. Check continuity between BCM harness connector and ground.

114

M19

M25

3

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Yes

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B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

В	CM		Continuity
Connector	Terminal	Cround	Continuity
M10	114	Ground	No
M19	115	No	INU

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK NATS ANTENNA AMP INPUT SIGNAL 1

1. Turn ignition switch ON.

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

В	(+) CM	(-)	Condition	Signal (Reference value)
Connector	Terminal			
M19	114 115	Ground	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB
in 19		Cround	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 5 0 1 5 1 5 JMKIA5951GB

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-75, "Removal and Installation"</u>.

NO >> Replace NATS antenna amp. Refer to <u>SEC-110, "Removal and Installation"</u>.

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

< DTC/CIRCUIT DIAGNOSIS >

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

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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 shorted.) OTC CONFIRMATION PROCEDURE • Push-button ignition switch under the following condition: • BCM I. PERFORM DTC CONFIRMATION PROCEDURE • Brake pedal: Not depressed • BCM 2. Release push-button ignition switch and wait 100 seconds or more. • Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT. s DTC detected? YES >> GO TO SEC-79, "Diagnosis Procedure". NO NO >> Inspection End.	vitch circuit is
 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-79, "Diagnosis Procedure". NO >> Inspection End. 	
 PERFORM DTC CONFIRMATION PROCEDURE Press push-button ignition switch under the following condition: Brake pedal: Not depressed Release push-button ignition switch and wait 100 seconds or more. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT. <u>s DTC detected?</u> YES >> GO TO <u>SEC-79, "Diagnosis Procedure"</u>. NO >> Inspection End. 	
 Press push-button ignition switch under the following condition: Brake pedal: Not depressed Release push-button ignition switch and wait 100 seconds or more. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT. <u>Is DTC detected?</u> YES >> GO TO <u>SEC-79, "Diagnosis Procedure"</u>. NO >> Inspection End. 	
 Brake pedal: Not depressed Release push-button ignition switch and wait 100 seconds or more. Check DTC in "Self-Diagnostic Result" mode of "BCM" using CONSULT. <u>s DTC detected?</u> YES >> GO TO <u>SEC-79, "Diagnosis Procedure"</u>. NO >> Inspection End. 	
<u>s DTC detected?</u> YES >> GO TO <u>SEC-79, "Diagnosis Procedure"</u> . NO >> Inspection End.	
YES >> GO TO <u>SEC-79, "Diagnosis Procedure"</u> . NO >> Inspection End.	
Diagnosis Procedure	
	INFOID.000000010284395
Regarding Wiring Diagram information, refer to SEC-26, "Wiring Diagram"	
Cegarang winng Diagram merination, refer to <u>DEO 20, Winng Diagram</u> .	
1. CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL	
I. Turn ignition switch OFF.	
2. Disconnect push-button ignition switch connector.	

	(+) Push-button ignition switch		. (-)	Voltage (V)	
	Connector	Terminal	-	(//pp/0x.)	
	M17	5	Ground	Battery voltage	_
ls the	inspection result norm	al?	<u>.</u>		M

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	5	M19	89	Yes

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

Push-button	ignition switch		Continuity
Connector	Terminal	Ground	Continuity
M17	5		No

Revision: November 2013

B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.REPLACE BCM

1. Replace BCM. Refer to <u>BCS-75, "Removal and Installation"</u>.

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.

4.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-80, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace push-button ignition switch. Refer to <u>SEC-112, "Removal and Installation"</u>.

5.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:000000010284396

1. CHECK PUSH-BUTTON IGNITION SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect push-button ignition switch connector.

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

Push-button ignition switch Terminal		Condition		Continuity
+	5	switch	Not pressed	No

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace push-button ignition switch. Refer to <u>SEC-112, "Removal and Installation"</u>.

B2557 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

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 BCS-64. "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-65, "DTC Logic".

DTO	C No.	Trouble diagnosis name	DTC detecting condition	Possible causes	D	
B2	:557	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) 	E F	
DTC (CONF	FIRMATION PROCE	DURE		0	
1 .PE	RFOF	RM DTC CONFIRMATI	ON PROCEDURE			
1. St	art en	igine and wait 10 secor	nds or more.		П	
2. Di	rive th	ne vehicle at a vehicle s	speed of 10 km/h (6.2 MPH) or more for 10 s	seconds or more.		
		DTC III Sell-Diagnosii	Result mode of BCM using CONSOLT.			
YES	<u>- 10010</u> >>	GO TO SEC-81 "Dia	anosis Procedure"			
NO	>>	Inspection End.			J	
Diag	nosis	s Procedure		INFOID:000000010284398		
1 .сн	ECK	DTC OF "ABS ACTUA	TOR AND ELECTRIC UNIT (CONTROL UN	IT)"	SEC	
Check	DTC	in "Self-Diagnostic Re	sult" mode of "ABS" using CONSULT.			
<u>Is DTC</u>	<u>C dete</u>	ected?			L	
YES NO	YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>BRC-55. "DTC Index"</u> . NO >> GO TO 2.					
2. CHECK DTC OF "COMBINATION METER"					M	
Check	DTC	in "Self-Diagnostic Res	sult" mode of "METER/M&A" using CONSUL	_T.		
<u>Is DTC</u>	Is DTC detected?					
YES NO	>> >>	Perform the trouble dia GO TO 3.	agnosis related to the detected DTC. Refer t	o <u>MWI-30, "DTC Index"</u> .	Ν	
З.сн	3. CHECK INTERMITTENT INCIDENT					

Refer to GI-41, "Intermittent Incident" .

>> Inspection End.

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B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

B2602 SHIFT POSITION

DTC Logic

INFOID:000000010284405

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-64, "DTC Logic"</u>.
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-65, "DTC Logic"</u>.

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

Is DTC detected?

- YES >> Go to SEC-82, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010284406

Regarding Wiring Diagram information, refer to SEC-26, "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.
- 3. Check "DETE/CANCEL SW" and "VEH SPEED 1" indication under the following conditions.

Monitor item	Condition		Indication
	CV/T Shift selector	In any position other than P (Park)	OFF
DETE/CANCEL SW	CVI Shint Selector	P (Park)	ON
	Vehicle not moving		0
VEHSFELDT	Vehicle moving		Varies

Is the inspection result normal?

- YES >> Refer to <u>GI-41, "Intermittent Incident"</u>.
- 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

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

	B26(12 SHIFT PUSIT	ION	
< DTC/CIRCUIT DIA	GNOSIS >		[WITH INTELL	IGENT KEY SYSTEM]
Is DTC detected?				
YES >> Perform t NO >> GO TO 3	ne trouble diagnosis re	lated to the detected	DTC. Refer to MWI	<u>-30, "DTC Index"</u> .
3.CHECK DTC OF A	BS ACTUATOR AND I	ELECTRIC UNIT (CC	NTROL UNIT)	
Check DTC in "Self-D	agnostic Result" mode	of "ABS" using CON	ISULT.	
is DTC detected?				
YES >> Perform t	ne trouble diagnosis re	lated to the detected	DTC. Refer to BRC	<u>-55, "DTC Index"</u> .
		-		
+.CHECK CVT SHIF	I SELECTOR CIRCUI			
 Disconnect BCM Check continuity connector. 	connector and CVT shi between CVT shift sele	It selector connector. Sector (park position sector)	witch) harness conr	nector and BCM harness
CVT shift selector	(park position switch)	BC	CM	
Connector	Terminal	Connector	Terminal	- Continuity
M107	13	M19	94	Yes
CVT shift s	etween CVT shift sele	ctor (park position sv	vitch) harness conn	Continuity
Connector		11	Ground	
	1.2			No
M107				No
M107 <u>Is the inspection resul</u> YES >> GO TO 5 NO >> Repair or 5.CHECK CVT SHIF	t normal? replace harness. T SELECTOR CIRCUI	 T		No
M107 <u>Is the inspection resul</u> YES >> GO TO 5 NO >> Repair or 5. CHECK CVT SHIF 1. Disconnect BCM 2. Check continuity connector.	t normal? replace harness. T SELECTOR CIRCUI connector and CVT shi between CVT shift sele	T ift selector connector. ector (park position s	witch) harness conr	No
M107 S the inspection result YES >> GO TO 5 NO >> Repair or 5.CHECK CVT SHIF 1. Disconnect BCM 2. Check continuity connector. CVT shift selector	t normal? replace harness. T SELECTOR CIRCUI connector and CVT shi petween CVT shift sele	T ift selector connector. ector (park position sector)	witch) harness conr	No nector and BCM harness
M107 Is the inspection result YES >> GO TO 5. NO >> Repair or 5.CHECK CVT SHIF 1. Disconnect BCM 2. Check continuity connector. CVT shift selector CVT shift selector	t normal? replace harness. T SELECTOR CIRCUI connector and CVT shi between CVT shift sele (park position switch)	T ift selector connector. ctor (park position so BC Connector	witch) harness conr CM Terminal	No nector and BCM harness — Continuity

	CVI shift selector (park position switch)		Continuity	ЪЛ	
	Connector	Terminal	Ground	Continuity	IVI	
	M107	12		No	—	
Is the inspe	ection result norma	al?			N	
YES >:	> GO TO 6.					
NO >:	Repair or replace	e harness.				
6.CHECK	6. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)					
Refer to SI	EC-84, "Compone	nt Inspection".				
Is the inspe	ection result norma	al?			Р	
YES >:	> GO TO 7.					
_NO >:	Replace CVT sh	ift selector. Refer to TM-19	4, "Removal and Installa	ation".		
7.СНЕСК	INTERMITTENT	INCIDENT				

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

Component Inspection

[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000010284407

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
Terr	minal	Con		Continuity
12	13	Selector lever	P (Park) position	No
12	10	Selector level	Other than above	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace CVT shift selector. Refer to TM-194, "Removal and Installation".

B260F ENGINE STATUS

< DTC/CIRCUIT DIAGNOSIS >

B260F ENGINE STATUS

Description

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

DTC Description

INFOID:000000010336849

INFOID:000000010336848

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition
B260F	ENG STATE SIG LOST (Engine state signal lost)	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.
POSSIBLE CAL • Harness or con (The CAN comr • ECM	ISE nectors munication line is open or s	horted.)
FAIL-SAFE	nking	
DTC CONFIRM	ATION PROCEDURE	
1. снеск	PRIORITY	
If DTC B260F is U1010.	displayed with DTC U1000) or U1010, first perform the trouble diagnosis for DTC U1000 o
Is applicable DTC YES >> Perfo "DTC NO >> GO 1	<u>C detected?</u> rm diagnosis of applicable. <u>C Logic"</u> . O 2.	. U1000: Refer to <u>BCS-64, "DTC Logic"</u> . U1010: Refer to <u>BCS-65</u>
2.PERFORM D	C CONFIRMATION PROC	CEDURE
1. Turn ignition 2. Check DTC i	switch ON and wait 2 seco n "Self Diagnostic Result" r	nds or more. node of "BCM" using CONSULT.
YES >> Refe NO-1 >> To ch NO-2 >> Conf	r to <u>SEC-85, "Diagnosis Pro</u> leck malfunction symptom l irmation after repair: Inspec	<u>ocedure"</u> . before repair: Refer to <u>GI-41, "Intermittent Incident"</u> . ction End.
Diagnosis Pro	ocedure	INFOID:0000000103368:
1.снеск отс і	PRIORITY	
If DTC B260F is U1010.	displayed with DTC U1000) or U1010, first perform the trouble diagnosis for DTC U1000 o
Is applicable DTC YES >> Perfo <u>"DTC</u> NO >> GO 1	<u>> detected?</u> rm diagnosis of applicable. <u>> Logic"</u> . TO 2.	. U1000: Refer to <u>BCS-64, "DTC Logic"</u> . U1010: Refer to <u>BCS-65</u>
2.INSPECTION	START	
 Turn ignition Select "Self I Touch "ERAS Perform DTC 	switch ON. Diagnostic Result" mode of EE". CONFIRMATION PROCE	"BCM" using CONSULT. DURE for DTC B260F. Refer to <u>SEC-85, "DTC Description"</u> .

YES >> GO TO 3. NO >> Inspection End.

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< DTC/CIRCUIT DIAGNOSIS >

3.REPLACE ECM

Replace ECM. Refer EC-499, "Removal and Installation".

>> Inspection End

< DTC/CIRCUIT DIAGN	OSIS >	[WITH INTE	LLIGENT KEY SYSTEM]	
B261E VEHICLE	TYPE			Λ
Description			INFOID:000000010284420	A
There are two types of ve • HEV • Conventional	ehicles.			В
DTC Logic			INFOID:000000010284421	С
 DTC DETECTION LOC NOTE: If DTC B261E is displa <u>BCS-64, "DTC Logic"</u>. If DTC B261E is displa <u>BCS-65, "DTC Logic"</u>. 	GIC ayed with DTC U1000, first ayed with DTC U1010, first	t perform the trouble diagnosi t perform the trouble diagnosi	s for DTC U1000. Refer to s for DTC U1010. Refer to	D
DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	F
B261E	VEHICLE TYPE	Difference of BCM configuration.	BCM mis-configuration Wrong ECM installed	
DTC CONFIRMATION 1 . PERFORM DTC CON	PROCEDURE	E		G
 Turn ignition switch C Shift selector lever is Do not depress brake Check "Self-Diagnos <u>Is DTC detected?</u> YES >> GO TO <u>SEC</u> NO >> Inspection E 	DN under the following cond in the P (Park) or N (Neutr e pedal tic Result" of "BCM" using (C-87, "Diagnosis Procedure nd.	ditions. 'al) position CONSULT. <u>"</u> .		H
Diagnosis Procedur	e		INFOID:000000010284422	J
1.INSPECTION START				SEC
 Turn ignition switch 0 Check "Self-diagnost Touch "ERASE". Perform DTC Confirm Is the 1st trip DTC B261E 	DN. tic result" of "BCM" using C nation Procedure. Refer to Edisplayed again?	ONSULT. <u>SEC-87, "DTC Logic"</u> .		L
NO >> Inspection E	nd.			Μ
2.PERFORM BCM CON	IFIGURATION.			
Perform the BCM configu UNIT (BCM) : Work Proc	uration. Refer to <u>BCS-60, "</u> <u>edure"</u> .	ADDITIONAL SERVICE WHE	N REPLACING CONTROL	Ν
>> GO TO 3.				0
3. INSPECTION START				
 Turn ignition switch 0 Check "Self-diagnost Touch "ERASE". Perform DTC Confirm Refer to <u>SEC-87, "I</u> Is the 1st trip DTC B261E YES >> GO TO 4. 	ON. tic result" of "BCM" using C nation Procedure. <u>DTC Logic"</u> . <u>E displayed again?</u>	ONSULT.		Ρ
ino inspection El	nu.			

< DTC/CIRCUIT DIAGNOSIS >

4.CONFIRM ECM PART NUMBER.

Confirm the part number of the installed ECM is correct.

Is the ECM part number correct?

YES >> Replace BCM. Refer to <u>BCS-75. "Removal and Installation"</u>.

NO >> Replace ECM. Refer to EC-499, "Removal and Installation".

B26FC KEY REGISTRATION

< DTC/CIRCUIT DIAGNOSIS >

B26FC KEY REGISTRATION

DTC Logic

INFOID:000000010336845

DTC DETE	CTION LOGIC		
DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26FC	KEY REGISTRATION	Intelligent Key that does not match the vehicle is registered.	Improper registration operationIntelligent KeyBCM
DTC CONF	IRMATION PROCED	DURE	
1.PERFOR	M DTC CONFIRMATIO	ON PROCEDURE	
 Perform SULT Im Check D 	initialization of BCM a mobilizer mode and fo DTC in "Self Diagnostic	nd registration of all Intelligent Keys usi Ilow the on-screen instructions. Result" mode of "BCM" using CONSULT	ng CONSULT. Refer to the CON-
Is DTC detection	cted?		
YES >>	Go to <u>SEC-89, "Diagno</u>	osis Procedure"	
	Descention End.		
Diagnosis	Procedure		INFOID:000000010336846
1.REPLACE	E INTELLIGENT KEY		
1. Prepare	Intelligent Key that ma	tches the vehicle.	
2. Perform	initialization of BCM a	nd registration of all Intelligent Keys usi	ng CONSULT. Refer to the CON-
SULT In 3 Check D	mobilizer mode and fo TC in "Self Diagnostic	llow the on-screen instructions. Result" mode of "BCM" using CONSULT	
Is DTC detec	cted?		
YES >> (GO TO 2.		
NO >>	Inspection End.		
Z. REPLACE	EBCM		
 Replace Perform SULT Im 	BCM. Refer to <u>BCS-7</u> initialization of BCM a mobilizer mode and fo	<u>5. "Removal and Installation"</u> . Ind registration of all Intelligent Keys usi Ilow the on-screen instructions.	ng CONSULT. Refer to the CON-
>>	Inspection End.		
	'		
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B27D1 START CUT RELAY OFF

< DTC/CIRCUIT DIAGNOSIS >

B27D1 START CUT RELAY OFF

DTC Logic

INFOID:000000010338519

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B27D1 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-64, "DTC Logic".
- If DTC B27D1 is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to <u>BCS-65, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B27D1	STARTER CUT RELAY OFF	When comparing the starter cut relay signal (CAN) from IPDM E/R, BCM detects that starter cut relay is stuck in the OFF position for 1 second or more.	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connector (Starter cut relay circuit is open or short- ed.) IPDM E/R BCM Starter cut relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:000000010338520

Regarding Wiring Diagram information, refer to SEC-26, "Wiring Diagram".

1. CHECK STARTER CUT RELAY POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect starter cut relay.
- 3. Check voltage between starter cut relay harness connector and ground.

(Starter	+) cut relay	(-)	Voltage (V) (Approx.)	
Connector	Terminal		(
F55	1 3	Ground	Battery voltage	

Is the inspection result normal?

- YES >> GO TO 2.
- NO-1 >> Check 30 A fusible link [M, located in the fuse block (J/B)].
- NO-2 >> Check harness for open or short between starter cut relay and fusible link.

2. CHECK STARTER CUT RELAY CONTROL

1. Reconnect starter cut relay.

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< D	TC/CIRCU	IT DIAGNO	B27D SIS >	1 S	TART CUT REL	AY OFF	TELLIGEN	
2.	Check volt	age between	BCM harnes	SS C	onnector and ground			
_	(+) BCM		(-)		Conc	lition		Voltage (V) (Approx.)
	E29	139	Ground	CV	T shift selector lever	N or P po	sition	Battery voltage
Is th YE NO 3. 0	ne inspectio ES >> GC D >> GC CHECK STA	n result norn) TO 4.) TO 3. \RTER CUT	nal? RELAY CON	ITR	OL CIRCUIT			
1. 2. 3. 4.	Turn ignitic Disconnec Disconnec Check con	on switch OF t BCM conne t starter cut r tinuity betwe	F. ector. elay. en BCM harr	ness	connector and starte	er cut relay ha	rness conne	ctor.
_	Canna	BCM	Terminal		Starter	cut relay	1	Continuity
_	F29	ctor	139		F55	2		Yes
4. (1. 2. 3.	CHECK STA Turn ignitic Disconnec Check con	ARTER CUT on switch OF t IPDM E/R o tinuity betwe	RELAY CIRC F. connector. en IPDM E/R	CUIT R ha	rness connector and	starter cut rela	ay harness c	onnector.
	0		IPDM E/R		Tamainal	Starter	cut relay	
	Cor	F41			86	E55	Ierminal 5	Yes
4.	Check con	tinuity betwe	en BCM harr	ness	connector and grour	nd.	0	100
-			IPDM E/R					Operationsity
_	Connec	tor		Ter	minal	Groun	d	Continuity
	F41				36			No
<u>Is th</u> YE NO 5. 0	<u>ne inspectio</u> ES >> GC D >> Re CHECK ST/	<u>n result norn</u>) TO 5. pair or replac \RTER CUT	<u>nal?</u> ce harness. RELAY					
Refe Is th YE NC 6.F	er to <u>SEC-9</u> ne inspectio ES >> GC D >> Re REPLACE E	02. "Component n result norn O TO 6. place starter 3CM	ent Inspection nal? • cut relay.	<u>n"</u> .				
1. 2. 3. <u>Is th</u> YE	Replace B Perform ini Perform D ne inspectio	CM. Refer to itialization of TC CONFIRI n result norn spection End	BCS-75, "Re BCM and reg MATION PRC nal?	emo gistr DCE	val and Installation". ation of all Intelligent DURE for DTC B27D	Keys using C 01. Refer to <u>SI</u>	ONSULT. EC-90. "DTC	<u>; Logic"</u> .

>> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation". NO

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B27D1 START CUT RELAY OFF [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Component Inspection

INFOID:000000010338521

1.CHECK STARTER CUT RELAY

- 1. Turn ignition switch OFF.
- 2. Disconnect starter cut relay.

3. Check continuity between starter cut relay terminals.

Starter cut relay		Condition	Continuity	
Terminal		Condition		
3	5	12 V direct current supply between terminals 1 and 2	Yes	
5		No current supply	No	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace starter cut relay.

B27D2 START CUT RELAY ON

< DTC/CIRCUIT DIAGNOSIS >

B27D2 START CUT RELAY ON

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B27D2 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-64. "DTC Logic".
- If DTC B27D2 is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to <u>BCS-65, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B27D2	STARTER CUT RELAY ON	When comparing the starter cut relay signal (CAN) from IPDM E/R, BCM detects that starter cut relay is stuck in the ON position for 1 second or more.	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connector (Starter cut relay circuit is open or short- ed.) IPDM E/R BCM Starter cut relay 	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1.	Press push-button ignition switch under the following conditions to start engine, and wait 1 second or more.	H			
- - 2.	Selector lever: In the P position Brake pedal: Depressed Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.	I			
<u>ls [</u> YI N	<u>DTC detected?</u> ES >> Go to <u>SEC-93. "Diagnosis Procedure"</u> . O >> Inspection End.	J			
Dia	agnosis Procedure	SEC			
Regarding Wiring Diagram information, refer to <u>SEC-26, "Wiring Diagram"</u> .					

1. CHECK STARTER CUT RELAY POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect starter cut relay.
- 3. Check voltage between starter cut relay harness connector and ground.

(+)			
Starter	cut relay	()	Voltage (V) (Approx.)	
Connector	Terminal		(, , , , , , , , , , , , , , , , , , ,	0
E55	1	Cround	Patton voltago	-
60,1	3	Giouna	Ballery Vollage	D

Is the inspection result normal?

YES >> GO TO 2.

NO-1 >> Check 30 A fusible link [M, located in the fuse block (J/B)].

NO-2 >> Check harness for open or short between starter cut relay and fusible link.

2. CHECK STARTER CUT RELAY CONTROL

1. Reconnect starter cut relay.

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INFOID:000000010339843

B27D2 START CUT RELAY ON

< DTC/CIRCUIT DIAGNOSIS >

2. Check voltage between BCM harness connector and ground.

(+) BCM		(-)	Condition		Voltage (V) (Approx.)	
Connector	Terminal				([[])	
E20	120	Ground	CV/T shift salastar layar	N or P position	Battery voltage	
229	139 Ground			Other than above	0	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

$\mathbf{3}$.check starter cut relay control circuit

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector.
- 3. Disconnect starter cut relay.

4. Check continuity between BCM harness connector and starter cut relay harness connector.

B	СМ	Starter	Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
E29	139	F55	2	Yes	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK STARTER CUT RELAY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

	Starter	Continuity		
Connector	Terminal	Connector	Terminal	Continuity
F41	86	F55	5	Yes

4. Check continuity between BCM harness connector and ground.

	IPDM E/R		Continuity
Connector	Terminal	Ground	Continuity
F41	86		No

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK STARTER CUT RELAY

Refer to SEC-95. "Component Inspection".

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Replace starter cut relay.

6.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-75, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
- Perform DTC CONFIRMATION PROCEDURE for DTC B27D2. Refer to <u>SEC-93, "DTC Logic"</u>.

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace IPDM E/R. Refer to PCS-35. "Removal and Installation".

B27D2 START CUT RELAY ON [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Component Inspection

INFOID:000000010339845

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1.CHECK STARTER CUT RELAY

- 1. Turn ignition switch OFF.
- 2. Disconnect starter cut relay.

3. Check continuity between starter cut relay terminals.

Starter cut relay		Condition	Continuity	С		
Terminal		Condition	Continuity			
2	E	12 V direct current supply between terminals 1 and 2	Yes	D		
5 5		No current supply	No			
le the inequestion result permet?						

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace starter cut relay.

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Revision: November 2013

B20DF STARTER RELAY OFF CIRCUIT SIS > [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B20DF STARTER RELAY OFF CIRCUIT

DTC Logic

INFOID:000000010351311

DTC DETECTION LOGIC

NOTE:

- If DTC B20DF is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-64, "DTC Logic"</u>.
- If DTC B20DF is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-65, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B20DF	STARTER RELAY OFF	When comparing the starter relay signal (CAN) from BCM, IPDM E/R detects that starter relay is stuck in the OFF position for 1 second or more.	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connector (Starter relay circuit is open or shorted.) IPDM E/R BCM Starter relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch under the following conditions to start engine, and wait 1 second or more.
- Selector lever: In the P position
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-96. "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010351312

Regarding Wiring Diagram information, refer to SEC-26, "Wiring Diagram".

1. CHECK STARTER RELAY POWER SUPPLY CIRCUIT (SWITCH SIDE)

- 1. Turn ignition switch ON.
- 2. Brake pedal pressed.
- 3. Place transmission in park or neutral.
- 4. Check voltage between IPDM E/R harness connector and ground.

	+) / F/R	(-)	Voltage (V) (Approx.)	
Connector	Terminal			
F41	86	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

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

2.CHECK STARTER RELAY POWER SUPPLY CIRCUIT (COIL SIDE)

1. Turn ignition switch ON.

2. Place transmission in park or neutral.

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

B20DF STARTER RELAY OFF CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

	(+))		
	IPDM	IPDM E/R		Voltage (V) (Approx.)
_	Connector	Terminal		
	F42	92	Ground	Battery voltage
s the i	nspection result norma	<u> ?</u>		
YES NO	>> Replace IPDM E/ >> Refer to <u>SEC-82.</u>	R. Refer to <u>PCS-35, "Ren</u> "Diagnosis Procedure".	noval and Installation".	

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HEADLAMP FUNCTION

Component Function Check

INFOID:000000010284431

[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-98, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:000000010284432

1.CHECK HEADLAMP FUNCTION

Refer to SEC-98. "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-41, "Intermittent Incident".

>> Inspection End.

[WITH INTELLIGENT KEY SYSTEM]

CHECK FUNCTION			
Select "HOOD SW" in "Data M Check "HOOD SW" indication	Ionitor" mode of "IPD under the following o	OM E/R" using CONSULT. condition.	
Monitor item		Condition	Indication
HOOD SW	Hood	Open Close	ON OFF
<u>the indication normal?</u> ′ES >> Hood switch is OK. IO >> Go to <u>SEC-99, "Diag</u> r	nosis Procedure".		
agnosis Procedure			INFOID:0000000
egarding Wiring Diagram information	ation, refer to <u>SEC-49</u>), "Wiring Diagram".	
CHECK HOOD SWITCH SIGN			
Turn ignition switch OFF. Disconnect hood switch conne Check voltage between hood	ector. switch harness conne	ector and ground.	
(+)			
Hood switch		()	Voltage (V)
Connector	Terminal		
E223	2	Ground	Battery voltage
the inspection result normal? 'ES >> GO TO 3. IO >> GO TO 2.			
	AL CIRCUITS		
CHECK HOOD SWITCH SIGN			
CHECK HOOD SWITCH SIGN Disconnect IPDM E/R connect Check continuity between IPD	tor. M E/R harness conn	ector and hood switch ha	rness connector.
CHECK HOOD SWITCH SIGN. Disconnect IPDM E/R connec Check continuity between IPD IPDM E/R	tor. M E/R harness conn	ector and hood switch ha	continuity
CHECK HOOD SWITCH SIGN Disconnect IPDM E/R connec Check continuity between IPD IPDM E/R Connector Termi	tor. M E/R harness conn inal Conne	ector and hood switch ha Hood switch ector Terminal	Continuity
CHECK HOOD SWITCH SIGN Disconnect IPDM E/R connect Check continuity between IPD IPDM E/R Connector Termi E217 52	tor. M E/R harness conn inal Conne 2 E22	ector and hood switch ha Hood switch ector Terminal 23 2	Continuity
CHECK HOOD SWITCH SIGN Disconnect IPDM E/R connec Check continuity between IPD IPDM E/R Connector Termi E217 52 Check continuity between IPD	tor. M E/R harness conn inal Conne 2 E22 M E/R harness conn	ector and hood switch ha Hood switch ector Terminal 3 2 ector and ground.	Continuity
CHECK HOOD SWITCH SIGN Disconnect IPDM E/R connec Check continuity between IPD IPDM E/R Connector Termi E217 52 Check continuity between IPD IPDM E/R	tor. M E/R harness conn inal Conne 2 E22 M E/R harness conn	ector and hood switch ha Hood switch ector Terminal 3 2 ector and ground.	Continuity
CHECK HOOD SWITCH SIGN Disconnect IPDM E/R connec Check continuity between IPD IPDM E/R Connector Term E217 52 Check continuity between IPD IPDM E/R Connector	tor. M E/R harness conn inal Conne 2 E22 M E/R harness conn Terminal	ector and hood switch ha Hood switch ctor Terminal 3 2 ector and ground. Ground	Continuity Continuity Continuity Continuity
CHECK HOOD SWITCH SIGN Disconnect IPDM E/R connec Check continuity between IPD IPDM E/R Connector Term E217 52 Check continuity between IPD IPDM E/R Connector E217 E217	tor. M E/R harness conn inal Conne 2 E22 M E/R harness conn Terminal 52	ector and hood switch ha Hood switch ector Terminal 23 2 ector and ground. Ground	Continuity Continuity Continuity No

< DTC/CIRCUIT DIAGNOSIS >

HOOD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Ноо	d switch	Ground	Continuity
Connector	Terminal		Continuity
E223	1		Yes
			•

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK HOOD SWITCH

Refer to SEC-100, "Component Inspection" .

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace hood switch. Refer to <u>DLK-253, "HOOD LOCK : Removal and Installation"</u>.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

Component Inspection

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	
	Terminal		Condition		Continuity	
	2	1	Hood switch	Press	No	
	2	I		Release	Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace hood switch. Refer to <u>DLK-253, "HOOD LOCK : Removal and Installation"</u>.

INFOID:000000010284435

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGN	OSIS >	[WITH INTE	LLIGENT KEY SYSTEM
HORN FUNCTION	٧		
Component Functio	n Check		INFOID:00000001028443
1.CHECK FUNCTION 1			
1. Perform "VEHICLE S	ECURITY HO	DRN" in "Active Test" mode of "THEFT ALM"	of "BCM" using CONSULT.
2. Check the norm opera	ition.		
	Test item	Desc	ription
VEHICLE SECURITY HOP	RN ON	Horn	Sounds (for 0.5 sec)
YES >> Inspection En NO >> Go to <u>SEC-49</u>	id. 9, "Wiring Dia	igram".	
Component Inspecti	on		INFOID:000000010284437
1.CHECK ANTI-THEFT	HORN RELA	Y	
 Turn ignition switch O Disconnect anti-theft Check voltage betwee 	PFF. horn relay. en anti-theft h	norn relay terminal and ground under the foll	owing conditions.
(+)			
Anti-theft horn relay	(-)	Condition	(Approx.)
Terminal			
3	Ground	12 V direct current supply between terminals 1 and	3 12
		No current supply	0
Is the inspection result no YES >> Inspection En NO >> Replace anti-	<u>rmal?</u> Id. theft horn rela	ay.	

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SECURITY INDICATOR LAMP

Component Function Check

1.CHECK FUNCTION

1. Perform "THEFT IND" in "Active Test" mode of "IMMU" of "BCM" using CONSULT.

2. Check security indicator lamp operation.

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

Is the inspection result normal?

YES >> Inspection End.

NO >> Go to <u>SEC-102</u>, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:000000010284439

Regarding Wiring Diagram information, refer to SEC-49, "Wiring Diagram".

1. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect combination meter connector.

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

(+)			
Combina	tion meter	(-)	Voltage (V)	
Connector	Terminal			
M77	45	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 13, located in the fuse block (J/B)].

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

2.CHECK SECURITY INDICATOR LAMP SIGNAL

- 1. Connect combination meter connector.
- 2. Disconnect BCM connector.

3. Check voltage between BCM harness connector and ground.

	(+)		
E	SCM	()	Voltage (V)
Connector	Terminal		
M18	35	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

>> GO TO 4. NO

3.REPLACE BCM

1. Replace BCM. Refer to BCS-75, "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.

INFOID:000000010284438

SECURITY INDICATOR LAMP

[WITH INTELLIGENT KEY SYSTEM]

< 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 7 M76 M18 35 Yes 3. Check continuity between combination meter harness connector and ground. Combination meter Continuity Connector Terminal Ground M76 7 No Is the inspection result normal? YES >> Replace combination meter. Refer to MWI-82, "Removal and Installation". NO >> Repair or replace harness.

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

SYMPTOM DIAGNOSIS

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:000000010284440

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

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

Conditions of Vehicle (Operating Conditions)

- "ENGINE START BY I-KEY" in "WORK SUPPORT" is ON when setting on CONSULT.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:000000010284441

1.PERFORM WORK SUPPORT

Perform "INSIDE ANT DIAGNOSIS" on "Work support" in "INTELLIGENT KEY". Refer to <u>BCS-21, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)"</u>.

>> GO TO 2.

2.PERFORM SELF-DIAGNOSTIC RESULT

Perform "Self-Diagnostic Result" in "BCM", and check whether or not DTC of inside key antenna is detected. <u>Is DTC detected?</u>

YES >> Refer to <u>BCS-48</u>, "DTC Index".

NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch. Refer to <u>SEC-80. "Component Inspection"</u>.

Is the operation normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> GO TO 1.

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

[WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK А Description INFOID:000000010284442 Security indicator lamp does not blink when ignition switch is in a position other than ON В NOTE: Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-62, "Work Flow"</u>. · Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and С check each symptom. Conditions of Vehicle (Operating Conditions) D Ignition switch is not in the ON position. **Diagnosis** Procedure INFOID:0000000010284443 Ε 1. CHECK SECURITY INDICATOR LAMP Check security indicator lamp. Refer to SEC-102, "Component Function Check". F Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2.CONFIRM THE OPERATION Confirm the operation again. Н Is the result normal? YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident". NO >> GO TO 1.

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VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >

VEHICLE SECURITY SYSTEM CANNOT BE SET INTELLIGENT KEY

INTELLIGENT KEY : Description

ARMED phase is not activated when door is locked using Intelligent Key.

NOTE:

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

CONDITION OF VEHICLE (OPERATING CONDITION)

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

INTELLIGENT KEY : Diagnosis Procedure

INFOID:000000010284445

INFOID:0000000010284444

[WITH INTELLIGENT KEY SYSTEM]

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

Lock/unlock door with Intelligent Key. Refer to <u>SEC-9, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check Intelligent Key system (remote keyless entry function).

2.CHECK HOOD SWITCH

Check hood swiwtch. Refer to <u>SEC-99, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace hood switch.

3.confirm the operation

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> GO TO 1. DOOR REQUEST SWITCH

DOOR REQUEST SWITCH : Description

ARMED phase is not activated when door is locked using door request switch. **NOTE:**

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

CONDITION OF VEHICLE (OPERATING CONDITION) Confirm the setting of SECURITY ALARM SET is ON in WORK SUPPORT mode of THEFT ALM of BCM using CONSULT.

DOOR REQUEST SWITCH : Diagnosis Procedure

1.CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)

Lock/unlock door with door request switch. Refer to <u>SEC-9, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check Intelligent Key system (door lock function).

2.CHECK HOOD SWITCH

INFOID:000000010284446

INFOID:000000010284447

VEHICLE SECURITY SYSTEM CANNOT BE SET	
< SYMPTOM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]	
Check hood switch.	
Refer to <u>SEC-99, "Component Function Check"</u> .	A
Is the inspection result normal?	
YES >> GUTU3. NO >> Renair or replace bood switch	R
3 CONFIDM THE OPERATION	D
Confirm the operation again.	С
Is the result normal?	
YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> .	
	D
BOOK RET OTEINDER	
DOOR KEY CYLINDER : Description	F
ARMED phase is not activated when door is locked using mechanical key.	
Check that vehicle is under the condition shown in Conditions of vehicle before starting diagnosis, and check each symptom.	F
CONDITION OF VEHICLE (OPERATING CONDITION) Confirm the setting of SECURITY ALARM SET is ON in WORK SUPPORT mode of THEFT ALM of BCM using CONSULT.	G
DOOR KEY CYLINDER : Diagnosis Procedure	Н
1.CHECK POWER DOOR LOCK SYSTEM	
Lock/unlock door with mechanical key. Refer to <u>SEC-14, "VEHICLE SECURITY SYSTEM : System Description</u> ".	
Is the inspection result normal?	
YES >> GO TO 2.	I
NO >> Check power door lock system.	U
2. CONFIRM THE OPERATION	
Confirm the operation again.	SEC
Is the result normal?	
YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> .	
NO >> GO TO 1.	L
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VEHICLE SECURITY ALARM DOES NOT ACTIVATE

< SYMPTOM DIAGNOSIS >

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description

INFOID:000000010284450

[WITH INTELLIGENT KEY SYSTEM]

Alarm does not operate when alarm operating condition is satisfied. **NOTE:**

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

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

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

Diagnosis Procedure

INFOID:000000010284451

1.CHECK DOOR SWITCH

Check door switch.

Refer to DLK-149, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the malfunctioning door switch.

2.CHECK HOOD SWITCH

Check hood switch.

Refer to SEC-99, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace hood switch.

3.CHECK HORN FUNCTION

Check horn function.

Refer to SEC-101, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4.CHECK HEADLAMP FUNCTION

Check headlamp function. Refer to <u>SEC-98, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

5.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

NO >> GO TO 1.
PANIC ALARM FUNCTION DOES NOT OPERATE [WITH INTELLIGENT KEY SYSTEM] < SYMPTOM DIAGNOSIS >

PANIC ALARM FUNCTION DOES NOT OPERATE

Description

NOTE:

Before performing the diagnosis following procedure, check "Work Flow". Refer to <u>SEC-62, "Work Flow"</u>.

· Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis and check each symptom.

CONDITIONS OF VEHICLE (OPERATION CONDITIONS)

- Ignition switch is in OFF or LOCK position.
- Intelligent Key is removed from key slot.

Diagnosis Procedure

1. CHECK REMOTE KEYLESS ENTRY FUNCTION Check remote keyless entry function.

Does door lock/unlock with Intelligent Key button? YES >> GO TO 2.

NO >> Go to DLK-176. "Diagnosis Procedure".

2.check vehicle security alarm operation

Check vehicle security alarm operation.

Does alarm (headlamps and horns) active?

YES >> GO TO 3. NO >> Go to SEC-14, "VEHICLE SECURITY SYSTEM : System Description".

 ${
m 3.}$ CHECK "PANIC ALARM SET" SETTING IN "WORK SUPPORT"

Check "PANIC ALARM SET" setting in "Work Support". Refer to BCS-21, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)".

Is the inspection result normal?

YES >> GO TO 4. >> Set "PANIC ALARM SET" setting in "Work Support". NO

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

>> GO TO 1. NO

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INFOID:000000010284452

INFOID:000000010284453

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Exploded View

INFOID:000000010284454

[WITH INTELLIGENT KEY SYSTEM]



Pawl

Removal and Installation

INFOID:000000010284455

REMOVAL

- 1. Remove the instrument finisher B. Refer to <u>IP-16, "INSTRUMENT FINISHER B : Removal and Installa-</u> tion".
- Release pawls and remove NATS antenna amp. (1) from instrument finisher B (2).
 (⁻): Pawl



NATS ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

Release pawls and remove NATS antenna amp. (2) from push button ignition switch (1).
 (_): Pawl



INSTALLATION Installation is in the reverse order of removal.



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< REMOVAL AND INSTALLATION >

PUSH-BUTTON IGNITION SWITCH

Exploded View

INFOID:000000010284456

[WITH INTELLIGENT KEY SYSTEM]



() Pawl

Removal and Installation

INFOID:000000010284457

REMOVAL

- 1. Remove the instrument finisher B. Refer to <u>IP-16, "INSTRUMENT FINISHER B : Removal and Installa-</u> tion".
- Release pawls and remove NATS antenna amp. (1) from instrument finisher B (2).
 (): Pawl



PUSH-BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

Release pawls and remove NATS antenna amp. (2) from push button ignition switch (1).
 (_): Pawl



INSTALLATION Installation is in the reverse order of removal.



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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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see 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 Airbag Diagnosis Sensor Unit or other Airbag 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 and wait at least three minutes before performing any service.

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location

INFOID:000000010340302



No.	Component	Function		
1.	Combination meter	Combination meter transmits the vehicle speed signal to BCM via CAN com- munication. BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM compares both signals to detect the vehicle speed. Security indicator lamp is located on combination meter. Security indicator lamp blinks when ignition switch is in any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] is on board. Refer to <u>MWI-6, "METER SYSTEM : Component Parts Location"</u> .		
2.	Ignition switch	Ignition switch transmits ON/OFF signal to BCM. BCM changes the ignition switch position with the operation of ignition switch.		
3.	NATS antenna amp.	Refer to SEC-116. "NATS Antenna Amp.".		
4.	Hood switch	Hood switch detects Hood open/close condition and then transmits ON/OFF signal to IPDM E/R.		
5.	Transmission range switch	Refer to TM-14, "CVT CONTROL SYSTEM : Transmission Range Switch".		
6.	IPDM E/R	Refer to PCS-4, "Component Parts Location".		
7.	Stop lamp switch	Refer to BRC-12, "Stop Lamp Switch".		
8.	ВСМ	BCM controls NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] and VEHICLE SECURITY SYSTEM. Then, when the ignition switch is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start en- gine. Refer to <u>BCS-79, "BODY CONTROL SYSTEM : Component Parts Location"</u> for detailed installation location.		
9.	CVT shift selector	Refer to TM-12, "CVT CONTROL SYSTEM : Component Parts Location".		
10.	Main power window and door lock/un- lock switch	Door lock and unlock switch is integrated into the power window main switch. Door lock and unlock switch transmits door lock/unlock operation signal to BCM. Refer to <u>PWC-7</u> , "Power Window Main Switch".		

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

No.	Component	Function
11.	Front door lock assembly LH	Door key cylinder switch is integrated into front door lock assembly (driver side). Door key cylinder switch detects door LOCK/UNLOCK operation using me- chanical key, and then transmits the operation signal to BCM. Refer to <u>DLK-285, "Front Door Lock Assembly (Driver Side)"</u> .
12.	Front door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
13.	Rear door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
14.	Front door switch RH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
15.	Back door lock assembly	Back door lock actuator locks/unlocks the back door latch assembly.

NATS Antenna Amp.

The ID verification is performed between BCM and transponder integrated into key via NATS antenna amp. when key backside is contacted to ignition switch in case that key battery is discharged. If the ID verification result is OK, the operation of ignition switch is available.



INFOID:000000010340304

INFOID:000000010340303

Hood Switch

Hood switch ① detects that hood is open, and then transmits ON/ OFF signal to IPDM E/R. IPDM E/R transmits hood switch signal to BCM via CAN communication. Hood switch is integrated into hood lock assembly LH.



SYSTEM

SYSTEM NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description INFOID:000000010284486

INPUT/OUTPUT SIGNAL CHART

BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal	
NATS antenna amp.	Key ID	ΝΔΤS	 Security indicator lamp 	
ECM Engine status signal			Starter request	

SYSTEM DESCRIPTION

NATS (Nissan Anti-Theft System) has the following immobilizer functions:

- SEC • Engine immobilizer shows high anti-theft performance to prevent engine from starting by anyone other than the owner.
- · Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- Security indicator always flashes with mechanical key removed condition (key switch: OFF) and ignition knob released condition on LOCK position (ignition knob switch: OFF).
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- If system detects malfunction, security indicator illuminates when ignition switch is turned to ON position.
- If the owner requires, ignition key ID or mechanical key ID can be registered for up to 4 keys.
- During trouble diagnosis or when the following parts have been replaced, and if ignition key is added, registration^{*1} is required.

^{*1}: All keys kept by the owner of the vehicle should be registered with mechanical key.

- ECM
- BCM

- Ignition key

- Remote keyless entry receiver
- NATS trouble diagnosis, system initialization and additional registration of other mechanical key IDs must be carried out using CONSULT.

When NATS initialization has been completed, the ID of the inserted mechanical key or mechanical key IDs can be carried out.

- Possible symptom of NATS malfunction is "Engine cannot start". Identify the possible causes according to "Work Flow", Refer to SEC-150, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-153, "ECM RE-COMMUNICATING FUNCTION : Description".

< SYSTEM DESCRIPTION >

PRECAUTIONS FOR KEY REGISTRATION

- The key registration is a procedure that erases the current NATS ID once, and then re-registers a new ID. Therefore the registered key is necessary for this procedure. Before starting the registration procedure, collect all registered Keys from the customer.
- The NATS ID registration is the procedure that registers the ID stored into the transponder (integrated in mechanical key) to BCM.

The key ID registration is the procedure that registers the ID to the BCM.

• When performing the key system registration only, the engine cannot be started by inserting the key into the key cylinder. When performing the NATS registration only, the engine cannot be started by using the ignition key.

SECURITY INDICATOR

• Always flashes with ignition key in the OFF position.

MAINTENANCE INFORMATION

CAUTION:

It is necessary to perform NATS ID registration when replacing any of the following parts. If ID registration is not performed, the electrical system may not operate properly.

- BCM
- ECM
- IPDM E/R
- Ignition key
- NATS antenna amp.
- Combination meter
- **VEHICLE SECURITY SYSTEM**

VEHICLE SECURITY SYSTEM : System Diagram

Key ID signal Kev ID signal Each button Hood switch operation signal signal Hood switch Keyfob CAN communication всм IPDM E/R Security indicator lamp signal Security indicator lamp Horn signal Horn Door lock/unlock switch signal Door lock/unlock switch Door switch signal Hazard warning lamps signal Hazard warning lamps Each door switch ALKIA3493GE

VEHICLE SECURITY SYSTEM : System Description

INFOID:000000010284488

INFOID:000000010284487

- 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 hazard warning lamps) intermittently.
- The panic alarm does not start when the theft warning alarm is activating, and the panic alarm stops when the theft warning alarm is activated.

< SYSTEM DESCRIPTION >

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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 hazard warning lamps 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 ignition switch is in 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	A	В
	PRE-ARMED	one condition of B are satis- fied.	 Ignition switch: OFF All doors: Closed Hood: Closed	All doors are locked by: • Door lock and unlock switch • LOCK button of Keyfob
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	Ignition switch: OFFAll doors: LockedHood: Closed	
3	ARMED to	When condition of A and one	A	В
	ALARM condition of B are satisfied.		Keyfob: Not used	Any door: OpenHood: Open
4	DISARMED to	When all conditions of A and	A	В
	PRE-RESET one condition of B are satis- fied.		 Ignition switch: OFF All doors: Closed Hood: Open	All doors are locked by: • Door lock and unlock switch • LOCK button of Keyfob
5	PRE-ARMED to PRE-RESET	When the following condition is satisfied.	Hood: Open	
6	ARMED to PRE-RESET	No conditions.		C
7	ALARM to PRE-RESET			P
8	PRE-RESET to DISARMED	When one of the following conditions is satisfied.	 Ignition switch: ACC/ON UNLOCK button of Keyfob: 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.	 Ignition switch: OFF All doors: Locked Hood: Closed 	

SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

No.	System state		Switching condition
10	PRE-ARMED to DISARMED	When one of the following conditions is satisfied.	 Ignition switch: ACC/ON UNLOCK button of Keyfob: ON UNLOCK switch of door lock and unlock switch: ON Any door: Open
11	ARMED to DISARMED	When the following condition is satisfied.	UNLOCK button of Keyfob: ON
12	ALARM to DISARMED		
13	RE-ALARM	When one of the following condition is satisfied after the ALARM operation is finished.	Any door: OpenHood: Open

NOTE:

 To lock/unlock all doors by operating remote controller button of keyfob, the keyfob must be within the detection area of BCM. For details, refer to <u>DLK-288, "REMOTE KEYLESS ENTRY 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 Keyfob, 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 intermittently to IPDM E/R via CAN communication, and blinks hazard warning lamps. In this phase, horns and hazard warning lamps are activated intermittently for approximately 27.5 seconds to warn that the vehicle is accessed by unauthorized means. After 27.5 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 3 times.

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

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

PRE-RESET Phase

The PRE-RESET phase is the transient state between each phase and DISARMED phase. If only the condition of 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 intermittently when the owner presses PANIC ALARM button of Keyfob outside the vehicle while ignition switch is OFF.

For details, refer to <u>SEC-118</u>. "VEHICLE SECURITY SYSTEM : System Description".

DIAGNOSIS SYSTEM (BCM) [WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000010340305

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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.	L
Data Monitor	The BCM input/output data is displayed in real time.	
Active Test	The BCM activates outputs to test components.	E
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.	F
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			Ц
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr	J
Door lock	DOOR LOCK			×	×	×			
Rear window defogger	REAR DEFOGGER			×	×	×			SEC
Warning chime	BUZZER			×	×				
Interior room lamp timer	INT LAMP			×	×	×			1
Remote keyless entry system	MULTI REMOTE ENT					×			
Exterior lamp	HEADLAMP			×	×				-
Wiper and washer	WIPER			×	×	×			M
Turn signal and hazard warning lamps	FLASHER			×	×				-
Combination switch	COMB SW			×					NI
BCM	BCM	×	×			×	×	×	IN
Immobilizer	IMMU		×		×				-
Interior room lamp battery saver	BATTERY SAVER			×	×				0
Back door open	TRUNK			×					-
Vehicle security system	THEFT ALM			×	×	×			
RAP system	RETAINED PWR			×					Р
TPMS	AIR PRESSURE MONITOR		×	×	×	×			-

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:000000010340306

SELF DIAGNOSTIC RESULT

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) [WITHOUT INTELLIGENT KEY SYSTEM]

Refer to BCS-108, "DTC Index".

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
CONFIRM DONGLE ID	_	Dongle ID can be checked.

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT ALM)

INFOID:000000010340307

DATA MONITOR

Monitored Item	Description
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.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock 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].
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].

WORK SUPPORT

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

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

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.	E

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-20, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description	
REVERSE SIGNAL [Open/Close]	Indicates condition of transmission range switch R (Reverse) po- sition.	Н
IGN RELAY [Open/Close]	Indicates condition of ignition relay-1.	
PUSH SW [Open/Close]	Indicates condition of push-button ignition switch.	
INTERLOCK/PNP SW [Open/Close]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.	
OIL PRESSURE SW [Open/Close]	Indicates condition of oil pressure switch.	J
HOOD SW [Open/Close]	Indicates condition of hood switch.	
COMPRESSOR [OFF/ON]	Indicates condition of A/C compressor.	SEC
HORN RELAY [OFF/ ON]	Indicates condition of horn relay.	OLC
COOLING FAN [OFF/ON]	Indicates condition of cooling fan relay-1.	
FRONT WIPER HI/LO RELAY [OFF/ON]	Indicates condition of front wiper high relay.	L
FRONT WIPER RELAY [OFF/ON]	Indicates condition of front wiper relay.	
IGN RELAY OFF STATUS [OFF/ON]	Indicates condition of ignition relay-1 OFF status.	ЪЛ
IGN RELAY ON STATUS [OFF/ON]	Indicates condition of ignition relay-1 ON status.	IVI
COOLING FAN RELAY 1 [OFF/ON]	Indicates condition of cooling fan relay-1.	
STARTER RELAY [OFF/ON]	Indicates condition of starter relay.	Ν
COMP ECV DUTY [%]	Indicates condition of A/C compressor.	
COOLING FAN RELAY 2 [%]	Indicates condition of cooling fan relay-2.	_
FR FOG LAMP LH [%]	Indicates condition of front fog lamp LH.	0
FR FOG LAMP RH [%]	Indicates condition of front fog lamp RH.	
PARKING LAMP [%]	Indicates condition of parking lamp.	Р
TAIL LAMP LH [%]	Indicates condition of tail lamp LH.	
TAIL LAMP RH [%]	Indicates condition of tail lamp RH.	
DAYTIME RUNNING LIGHT LH [%]	Indicates condition of daytime running light LH.	
DAYTIME RUNNING LIGHT RH [%]	Indicates condition of daytime running light RH.	
HEADLAMP (HI) LH [%]	Indicates condition of headlamp high beam LH.	

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	Description
HEADLAMP (HI) RH [%]	Indicates condition of headlamp high beam RH.
HEADLAMP (LO) LH [%]	Indicates condition of headlamp low beam LH.
HEADLAMP (LO) RH [%]	Indicates condition of headlamp low beam RH.
A/C RELAY STUCK [NG/OK]	Indicates condition of A/C relay.
A/C RELAY [Off/On]	Indicates condition of A/C relay.
COMP ECV STATUS [NG/OK]	Indicates condition of A/C compressor.
VEHICLE SECURITY HORN [Off/On]	Indicates condition of horn relay.
BATTERY CURRENT SENSOR [NG/OK]	Indicates condition of battery current sensor.
FRONT FOG LAMP [Off/On]	Indicates condition of front fog lamps.
COMP ECV CURRENT [A]	Indicates condition of A/C compressor current.
BATTERY VOLTAGE [V]	Indicates condition of battery voltage.
COOLING FAN DUTY [%]	Indicates condition of cooling fans.
HOOD SW (CAN) [OPEN/CLOSE]	Indicates condition of hood switch.
FRONT WIPER [STOP/LOW/HIGH]	Indicates condition of front wiper motor.
FR WIPER STOP POSITION [STOP P/ACTIVE P]	Indicates condition of front wiper motor stop.
HEADLAMP (HI) [Off/On]	Indicates condition of headlamp high beams.
HEADLAMP (LO) [Off/On]	Indicates condition of headlamp low beams.
IGNITION RELAY STATUS [Off/On]	Indicates condition of ignition relay-1.
IGN RELAY MONITOR [Off/On]	Indicates condition of ignition relay-1 feedback.
IGNITION POWER SUPPLY [Off/On]	Indicates condition of ignition relay-1.
INTERLOCK/PNP SW (CAN) [Off/On]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
PUSH-BUTTON IGN SW (CAN) [Off/On]	Indicates condition of push-button ignition switch.
TAIL LAMP [Off/On]	Indicates condition of tail lamps.
REVERSE SIGNAL (CAN) [Off/On]	Indicates condition of transmission range switch R (Reverse) po- sition.
ST&ST CONT RELAY STATUS [Off/ST R On]	Indicates condition of starter cut and starter relays.
STARTER MOTOR STATUS [Off/On]	Indicates condition of starter motor.
STARTER RELAY (CAN) [LOW/HIGH]	Indicates condition of starter relay.
IPDM NOT SLEEP [NO RDY/RDY]	Indicates condition of IPDM E/R sleep status.
AFTER COOLING TIME [No request/Request]	Indicates condition of cooling fan request.
AFTER COOLING SPEED [%]	Indicates condition of cooling fans.
COOLING FAN TYPE [NISSAN/RENAULT]	Indicates cooling fan type.
COMPRESSOR REQ1 [Off/On]	Indicates condition of A/C compressor request.
VHCL SECURITY HORN REQ [Off/On]	Indicates condition of horn relay request.
DTRL REQ [Off/On]	Indicates condition of daytime running light request.
SLEEP/WAKE UP [WAKEUP/SLEEP]	Indicates condition of IPDM E/R sleep/wake.
CRANKING ENABLE-TCM [NG/OK]	Indicates condition of crank enable from TCM.
CRANKING ENABLE-ECM [NG/OK]	Indicates condition of crank enable from ECM.
CAN DIAGNOSIS [NG/OK]	Indicates condition of CAN diagnosis.
FRONT FOG LAMP REQ [Off/On]	Indicates condition of front fog lamp request.
HIGH BEAM REQ [Off/On]	Indicates condition of headlamp high beam request.
HORN CHIRP [Off/On]	Indicates condition of horn relay request.
COOLING FAN REQ [%]	Indicates condition of cooling fan request.
ENGINE STATUS [STOP/RUN/IDLING]	Indicates condition of engine status.

Revision: November 2013

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	Description	
TURN SIGNAL REQ [Off/LH/RH]	Indicates condition of turn signal request.	A
FR WIPER REQ [RETURN/LOW/HIGH]	Indicates condition of front wiper motor request.	
SHIFT POSITION [P/R/N/D/L]	Indicates condition of transmission range switch positions.	В
LOW BEAM REQ [Off/On]	Indicates condition of headlamp low beam request.	
POSITION LIGHT REQ [Off/On]	Indicates condition of parking lamp request.	
COMPRESSOR REQ2 [Off/On]	Indicates condition of A/C compressor request.	С
IGNITION SW [Off/On]	Indicates condition of ignition switch.	
VEHICLE SPEED (METER) [mph/km/h]	Indicates vehicle speed.	D
BAT DISCHARGE COUNT [0-100]	Indicates condition of battery discharge.	
BATTERY STATUS [NG/OK]	Indicates battery status.	
		E

ACTIVE TEST

Test item	Description	
HORN	This test is able to check horn operation [Off/On].	
FRONT WIPER	This test is able to check wiper motor operation [Off/Low/High].	
COMPRESSOR	This test is able to check A/C compressor operation [Off/On].	G
COOLING FAN (DUAL)	This test is able to check cooling fan operation [Off/LO/HI].	
HEADLAMP (HI)	This test is able to check headlamp high beam operation [Off/3/5].	
HEADLAMP (LO)	This test is able to check headlamp low beam operation [Off/3/5].	H
FRONT FOG LAMP	This test is able to check front fog lamp operation [Off/3/5].	
DAYTIME RUNNING LAMP	This test is able to check daytime running lamp operation [Off/3/5].	
PARKING LAMP	This test is able to check parking lamp operation [Off/3/5].	
TAIL LAMP	This test is able to check tail lamp operation [Off/3/5].	
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CAN DIAG SUPPORT MNTR

Refer to LAN-14, "CAN Diagnostic Support Monitor".

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[WITHOUT INTELLIGENT KEY SYSTEM]

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:000000010284494

ECU	Reference
	EC-77, "Reference Value"
ECM	EC-89. "Fail Safe"
LOW	EC-92. "DTC Inspection Priority Chart"
	EC-93, "DTC Index"
	PCS-12, "Reference Value"
IPDM E/R	PCS-19, "Fail-safe"
	PCS-20, "DTC Index"
	BCS-96, "Reference Value"
BCM	BCS-107, "Fail Safe"
DOW	BCS-107. "DTC Inspection Priority Chart"
	BCS-108, "DTC Index"

WIRING DIAGRAM

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Wiring Diagram



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Connector No. M69 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No.Color of WireSignal Name24P-25L-	Connector No. M105 Connector Name KEY SWITCH Connector Color WHITE	Terminal No.     Color of Wire     Signal Name       1     L     -       2     B     -
M68         M68           ame         FUSE BLOCK (J/B)           blor         BROWN           melei sni 4rt         3ni 2rti 1rt           melishi 4rt         3ni 2rti 1rt	Color of Signal Name Wire BR – – – WU – – – – – – – – – – – – – – –	M77           ame         COMBINATION METER           blor         WHITE           and         200           and         40           and         40           and         40	Color of Wire     Signal Name       L     CAN-H       P     CAN-L       LA/G     ALVUSBAT       LA/BR     IGN       B     GND2
Connector No Connector Na Connector Co	Terminal No. 12R 14R	Connector No Connector No Connector Co	Terminal No. 41 45 46 52
5 NT CONNECTOR-M26 ITE	Signal Name -	S WBINATION METER ITE 9 10 11 12 13 14 15 16 17 18 19 2 20 30 31 32 33 34 35 38 37 38 394	Signal Name GND1 SECURITY
Connector No. M66 Connector Name JOI Connector Color WH	Terminal No.     Color of Wire       1     B       5     B	Connector No. M76 Connector Name COI Connector Color WH H.S. H.S. 12 22 22 22 24 25 26 27 28 20	Terminal No. Color of Wire 7 BG

< WIRING DIAGRAM >	[WITHOUT INTELLIGENT KEY SYSTEM]
Connector No.     E2       Connector Name     WIRE TO WIRE       Connector Color     WHITE       Connector Color     WHITE       Terminal No.     Color of Wire       1     L	Connector No.     E28       Connector Name     FUSE BLOCK (J/B)       Connector Name     FUSE BLOCK (J/B)       Connector Color     WHITE       Image: Connector Name     FUSE BLOCK (J/B)       Image: Connector Name     FUSE BLOCK (J/B)       Image: Connector Name     FUSE BLOCK (J/B)       Image: Connector Name     Image: Connector Name       Image: Connector Nam     Image: Connector Name
Connector No.     M170       Connector Name     JOINT CONNECTOR-M29       Connector Name     JOINT CONNECTOR-M29       Connector Color     WHITE       Image: Signal Name     Image: Signal Name       1     B     -       5     B     -	Connector No.       E19         Connector Name       WIRE TO WIRE         Image: Connector Name       Wire         Image: Connector Name       Wire         Image: Connector Name       Wire         Image: Connector Name       Signal Name         Image: Connector Name       Image: Connector Name         Image: Connector Name       Signal Name         Image: Connector Name       Image: Connector Name         Image: Connector Name <tht< td=""></tht<>
Connector No.     M107       Connector Name     VT SHIFT SELECTOR       Isolar     B 7 6 3 4 3 2 1       Isolar     B 7 6 3 2 1       Isolar     Signal Name       12     L       13     G       13     G	Image: Standard Control of the Cont



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Connector No. F78 Connector Name TRANSMISSION RANGE SWITCH Connector Color BLACK	Terminal No.     Color of Wire     Signal Name       7     BG     -       10     GR     -	Connector No. B63 Connector Name JOINT CONNECTOR-B01 Connector Color GRAY	Terminal No.     Color of Wire     Signal Name       3     P     -       4     L     -	
Donnector No. F55 Donnector Name STARTER CUT RELAY Donnector Color BLUE	ferminal No.Color of WireSignal Name1SB-2G-3L-5GH-	Donnector No.     B41       Donnector Name     WRE TO WIRE       Donnector Color     WHITE       Mile     Mile       Image: State of the image of the	Ferminal No. Color of Signal Name 24 P – 22 L – 25 L – 1	-
r No. F42 PDM E/R (INTELLIGENT r Name POWER DISTRIBUTION MODULE ENGINE ROOM) r Color BLACK (10)001001001001001001000000	No. Color of Signal Name GR LI NP SW	r No. B16 Cont r Name BCM (BODY CONTROL Cont r Color GREEN Tr (2010) (GREEN ののししに) Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont Cont	No. Color of Signal Name Term Wire CAN-H CAN-H CAN-H CAN-L	]

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#### [WITHOUT INTELLIGENT KEY SYSTEM]





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**Revision: November 2013** 

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# **VEHICLE SECURITY SYSTEM**

**Revision: November 2013** 



**VEHICLE SECURITY SYSTEM** 

< WIRING DIAGRAM >

## **Revision: November 2013**

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< WIRING DIAGRAM >

# [WITHOUT INTELLIGENT KEY SYSTEM]

Revision: November 2013



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# VEHICLE SECURITY SYSTEM

# [WITHOUT INTELLIGENT KEY SYSTEM]

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			Signal Name	O WRE	Signal Name	B
r No. B63	r Color GRAY	4         3         2           12         1         10         11           16         15         14         13           2         16         15         14           2         16         15         14           2         13         2         2           2         13         14         16           2         13         14         16           2         13         14         16           2         13         12         12	No. Color of Wire L L L L L L L	r No. B140 r Name WIRE TC r Color WHITE	No. Color of Wire U	D
Connecto	Connecto	E HS	Terminal 3 4 7 8	Connecto Connecto Connecto	Terminal 6 10	E
						F
			Signal Name	OOR SWITCH LH	Signal Name	G
No. B54	Color WHTE	-a	5. Color of Wire B	Vo. B71 Vame FRONT D Color WHITE	o. Color of Wire SB	I
Connector	Connector 0	S.H.	Terminal No	Connector N Connector Connector C	Terminal N 3	J
						SEC
		1 12 12	Signal Name	OR SWITCH LH	Signal Name	L
. B49	Ior WHTE	1         2         3           6         7         8         9         10	Vire SB W	. B70 me REAR D0 lor WHITE	Mire A	M
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AAKIA1812GB

#### VEHICLE SECURITY SYSTEM [WITHOUT INTELLIGENT KEY SYSTEM]

#### А 2 1 18 17 5 4 3 2 21 20 19 1 BACK DOOR LOCK ASSEMBLY (WITH POWER BACK DOOR SYSTEM) В Signal Name Signal Name 6 22 10 9 8 7 26 25 24 23 2 L 1 T Connector Name WIRE TO WIRE С 1 2 3 4 5 6 7 8 16 15 14 13 12 11 11 32 31 30 29 28 27 2 Connector Color WHITE Connector Color WHITE D512 D501 Color of Wire Color of Wire ≥ ≥ ш D Connector Name Connector No. Connector No. Terminal No. Terminal No. 19 $\sim$ ω H.S. H.S. Ε E E F BACK DOOR LOCK ASSEMBLY (WITHOUT POWER BACK DOOR SYSTEM) Signal Name Signal Name Connector Name FRONT POWER WINDOW SWITCH RH T I L Т T Т 12 Н 4 4 3 2 3 WHITE Connector Color WHITE 6 D508 D112 ___∞ Color of Wire Color of Wire 1 2 1 6 7 GВ ß ŋ Ш ≥ ш Connector Name Connector Color Connector No. Connector No. Terminal No. Terminal No. 15 ო 4 N ო H.S. H.S. J 佢 E SEC Signal Name Signal Name L 14 Т I 1 I 15 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE 16 17 7 6 19 18 Μ Connector Color WHITE Connector Color WHITE D505 D101 9 8 21 20 Color of Wire Color of Wire ŋ ВВ ш ш 12 11 10 24 23 22 Ν Connector No. Connector No. Terminal No. Terminal No. 19 20 H.S. $\sim$ -H.S. 佢 佢 Ο

AAKIA1813GB

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# [WITHOUT INTELLIGENT KEY SYSTEM]

INFOID:000000010284497

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

**OVERALL SEQUENCE** 



ALKIA2308GB

#### DIAGNOSIS AND REPAIR WORKFLOW

# < BASIC INSPECTION >

# [WITHOUT INTELLIGENT KEY SYSTEM]

1.0	GET INFORMATION FOR SYMPTOM
Get the i	the detailed information from the customer about the symptom (the condition and the environment when ncident/malfunction occurred).
_	>> GO TO 2.
<b>2</b> .c	CHECK DTC
1. 2.	Check DTC for BCM. Perform the following procedure if DTC is displayed.
-	Erase DTC.
- 3.	Study the relationship between the cause detected by DTC and the symptom described by the customer. Check related service bulletins for information.
<u>Is ar</u>	ny symptom described and any DTC detected?
Syı	mptom is described, DTC is displayed>>GO TO 3. mptom is described, DTC is not displayed>>GO TO 4. mptom is not described, DTC is displayed>>CO TO 5.
зу З с	CONFIDM THE SYMPTOM
Con Con Verit	nect CONSULT to the vehicle in "Data Monitor" mode and check real-time diagnosis results. fy relation between the symptom and the condition when the symptom is detected.
	>> GO TO 5.
<b>4.</b> c	CONFIRM THE SYMPTOM
Con Con Verit	firm the symptom described by the customer. nect CONSULT to the vehicle in "Data Monitor " mode and check real-time diagnosis results. fy relation between the symptom and the condition when the symptom is detected.
	>> GO TO 6.
5.p	PERFORM DTC CONFIRMATION PROCEDURE
Perf If tw troul Is D	form DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. to or more DTCs are detected, refer to <u>BCS-107, "DTC Inspection Priority Chart"</u> (BCM) and determine ble diagnosis order. <u>TC detected?</u> S >> GO TO 7.
YE NC	<i>&gt;&gt;</i> Refer to <u>GI-41, intermittent incident</u> .
YE NC 6.D	DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE
YE NC 6.C	DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE Detect malfunctioning system according to Symptom Table based on the confirmed symptom in step 4.
YE NC 6.D	DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE ect malfunctioning system according to Symptom Table based on the confirmed symptom in step 4.
YE NC 6.D	Select to GI-41. Intermittent incident. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE ect malfunctioning system according to Symptom Table based on the confirmed symptom in step 4. >> GO TO 7.
YE NC 6.D Dete	<ul> <li>&gt;&gt; Refer to GI-41. Intermittent Incident.</li> <li>DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE</li> <li>ect malfunctioning system according to Symptom Table based on the confirmed symptom in step 4.</li> <li>&gt;&gt; GO TO 7.</li> <li>DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE</li> </ul>
YE NC 6.D Dete 7.D	>> Refer to GI-41, Intermittent incident.         DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE         ect malfunctioning system according to Symptom Table based on the confirmed symptom in step 4.         >> GO TO 7.         DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE         ect according to Diagnostic Procedure of the system.
YE NC 6.D Dete 7.D Insp NOT The requ	DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE ect malfunctioning system according to Symptom Table based on the confirmed symptom in step 4. >> GO TO 7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE ect according to Diagnostic Procedure of the system. TE: Diagnostic Procedure is described based on open circuit inspection. A short circuit inspection is also irred for the circuit check in the Diagnostic Procedure.
YE NC 6.C Dete 7.C Insp NO1 The requ	<ul> <li>&gt;&gt; Refer to <u>GI-41. Intermittent incident</u>.</li> <li>DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE</li> <li>act malfunctioning system according to Symptom Table based on the confirmed symptom in step 4.</li> <li>&gt;&gt; GO TO 7.</li> <li>DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE</li> <li>ect according to Diagnostic Procedure of the system.</li> <li>TE:</li> <li>Diagnostic Procedure is described based on open circuit inspection. A short circuit inspection is also nired for the circuit check in the Diagnostic Procedure.</li> <li>&gt;&gt; GO TO 8.</li> </ul>

- 1. Repair or replace the malfunctioning part.
- 2. Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.

#### < BASIC INSPECTION >

3. Check DTC. If DTC is displayed, erase it.

>> GO TO 9.

# **9.**FINAL CHECK

When DTC was detected in step 8, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunctions have been fully repaired.

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

Does the symptom reappear?

YES (DTC is detected)>>GO TO 7. YES (Symptom remains)>>GO TO 6.

NO >> Inspection End.

# **INSPECTION AND ADJUSTMENT**

< BASIC INSPECTION >	[WITHOUT INTELLIGENT KEY SYSTEM]
INSPECTION AND ADJUSTMENT ADDITIONAL SERVICE WHEN REPLACING C	
ADDITIONAL SERVICE WHEN REPLACING CO	NTROL UNIT : Special Repair Re-
Refer to the CONSULT Immobilizer mode and follow the on-scr ECM RE-COMMUNICATING FUNCTION	reen instructions.
ECM RE-COMMUNICATING FUNCTION : Descr	iption INFOID:000000010284499
Performing following procedure can automatically perform re-co the ECM has been replaced with a new one (*1).	ommunication of ECM and BCM, but only when $^{ imes}$
*1: New one means an ECM which has never been energized of (In this step, initialization procedure by CONSULT is not necess <b>NOTE</b> .	on-board. sary) E
<ul> <li>When registering new Key IDs or replacing the ECM that is lizer mode and follow the on-screen instructions.</li> <li>If multiple keys are attached to the key holder, separate the Distinguish keys with unregistered key ID from those with</li> </ul>	is not brand new, refer to CONSULT Immobi- F hem before work. h registered ID.
ECM RE-COMMUNICATING FUNCTION : Specia	al Repair Requirement INFOID:000000010284500 G
<b>1.</b> PERFORM ECM RE-COMMUNICATING FUNCTION	
<ol> <li>Install ECM.</li> <li>Using a registered key (*2), turn ignition switch to "ON".</li> </ol>	Н
<ul> <li>*2: To perform this step, use the key that has been used be</li> <li>3. Maintain ignition switch in "ON" position for at least 5 secon</li> <li>4. Turn ignition switch to "OFF".</li> <li>5. Start engine.</li> </ul>	efore performing ECM replacement.
Can engine be started?	J
<ul> <li>YES &gt;&gt; Procedure is completed.</li> <li>NO &gt;&gt; Initialize control unit. Refer to CONSULT Immobiliz</li> </ul>	er mode and follow the on-screen instructions.

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## **KEYFOB ID REGISTRATION**

#### < BASIC INSPECTION >

# **KEYFOB ID REGISTRATION**

### Description

Perform the following procedure after BCM is replaced or when new keyfob ID is registered

#### Work Procedure

INFOID:000000010430538

INFOID:000000010430537

# **1.**STEP 1

Insert the first key into the ignition cylinder.

>> GO TO 2.

# 2.STEP 2

Turn ON the ignition switch.

>> GO TO 3.

# 3.STEP 3

Check that the security indicator flashes 5 times after the ignition is turned ON.

### >> GO TO 4.

# **4.**STEP 4

Turn the ignition switch OFF for a minimum of 3 seconds.

>> GO TO 5.

# 5.STEP 5

The first key has been registered.

#### >> GO TO 6.

## 6.STEP 6

Remove the first key and insert the next key to be registered.

>> GO TO 7.

# **7.**STEP 7

Repeat steps 2,3 and 4 for each additional key.

>> Registration End.

#### DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE Description INFOID:0000000010339868 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:000000010339869 DTC DETECTION LOGIC NOTE: If DTC B1610 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DLK-104, "DTC Logic". If DTC B1610 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to DLK-105, "DTC Logic". DTC No. Trouble diagnosis name DTC detecting condition Possible cause When ECM detects a communication malfunction between P1610 LOCK MODE ECM and BCM 5 times or more. DTC CONFIRMATION PROCEDURE 1.PERFORM DTC CONFIRMATION PROCEDURE 1 Turn ignition switch ON. Check DTC in "Self-Diagnostic Result" mode of "ENGINE" using CONSULT. 2. Is DTC detected? YES >> Go to SEC-155, "Diagnosis Procedure". NO >> Inspection End. Diagnosis Procedure INFOID:000000010339870 **1.**CHECK ENGINE START FUNCTION 1. Check that there are no DTC's except for DTC P1610 detected. If detected, erase the DTC after fixing. 2. Turn ignition switch OFF. Insert the registered key into the ignition switch and wait 5 seconds. 3. 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). Check that engine can start. 7.

>> Inspection End.

< DTC/CIRCUIT DIAGNOSIS >

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**SEC-155** 

#### P1611 ID DISCORD, IMMU-ECM

#### < DTC/CIRCUIT DIAGNOSIS >

# P1611 ID DISCORD, IMMU-ECM

## DTC Logic

INFOID:000000010339871

INFOID:000000010339872

[WITHOUT INTELLIGENT KEY SYSTEM]

#### DTC DETECTION LOGIC

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.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>BCM</li> <li>ECM</li> </ul>

#### 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-156</u>, "Diagnosis Procedure".
- NO >> Inspection End.

#### Diagnosis Procedure

## **1.**PERFORM INITIALIZATION

Perform initialization of BCM and reregistration of all keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

Can the system be initialized and can the engine be started with reregistered key?

YES >> Inspection End.

NO >> GO TO 2.

2. CHECK SELF DIAGNOSTIC RESULT

- 1. Select "Self Diagnostic Result" mode of "ENGINE" using CONSULT.
- 2. Erase DTC.
- 3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-156, "DTC Logic".

Is DTC detected?

- YES >> GO TO 3.
- NO >> Inspection End.

**3.**REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-135, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

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

YES >> Inspection End.

NO >> GO TO 4.

**4**.REPLACE ECM

- 1. Replace ECM. Refer to <u>EC-499, "Removal and Installation"</u>.
- 2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM". Refer to EC-136, "Work Procedure".

>> Inspection End.

### P1612 CHAIN OF ECM-IMMU

#### < DTC/CIRCUIT DIAGNOSIS >

## P1612 CHAIN OF ECM-IMMU

## DTC Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>DLK-104. "DTC Logic"</u>.
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>DLK-105, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	CHAIN OF BCM-ECM	Inactive communication between BCM and ECM	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>ECM</li> <li>BCM</li> </ul>
DTC CONF	IRMATION PROCED	URE	·
1.PERFOR	M DTC CONFIRMATIC	ON PROCEDURE	
1. Turn ign 2. Check D Is DTC deteo	tion switch ON. TC in "Self-Diagnostic sted?	Result" mode of "BCM" using CON	NSULT.
YES >> ( NO >>	Go to <u>SEC-157, "Diagr</u> nspection End.	nosis Procedure".	
Diagnosis	Procedure		INFOID:000000010339874
NOTE: • If DTC P1( <u>DLK-104, "</u> • If DTC P1( <u>DLK-105, "</u>	612 is displayed with I <u>DTC Logic"</u> . 612 is displayed with I <u>DTC Logic"</u> .	DTC U1000, first perform the trou DTC U1010, first perform the trou	ble diagnosis for DTC U1000. Refer to ble diagnosis for DTC U1010. Refer to
<b>1.</b> CHECK E	CM POWER SUPPLY	AND GROUND CIRCUIT.	
Check BCM Is the inspec	power supply and grou tion result normal?	ind circuit. Refer to <u>BCS-128. "Dia</u>	gnosis Procedure".
NO >>1 <b>2.</b> CHECK E	Repair or replace the h	arness. AND GROUND CIRCUIT.	
Check ECM Is the inspec	power supply and groution result normal?	ind circuit. Refer to <u>EC-165, "Diagr</u>	nosis Procedure".

YES	>> GO TO 3.
	>> Donoir or roplage t

NO >> Repair or replace the harness.

**3.** PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-157, "DTC Logic".

Does the DTC return?

YES >> Replace BCM. Refer to <u>BCS-135</u>, "Removal and Installation"

NO >> Inspection End.

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INFOID:000000010339873

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### < DTC/CIRCUIT DIAGNOSIS >

# P161D IMMOBILIZER

## DTC Logic

INFOID:000000010375273

[WITHOUT INTELLIGENT KEY SYSTEM]

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161D	IMMOBILIZER	When immobilizer detects a malfunction, and prohibits the engine start.	ВСМ

#### 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 >> Refer to <u>SEC-160. "Diagnosis Procedure"</u>.

NO >> Inspection End.

**Diagnosis** Procedure

INFOID:000000010375274

**1**.REPLACE BCM

Replace BCM. Refer to BCS-135, "Removal and Installation".

>> Inspection End.

## **P161E IMMOBILIZER**

#### < DTC/CIRCUIT DIAGNOSIS >

# P161E IMMOBILIZER

## **DTC Logic**

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NO

INFOID:000000010375275

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[WITHOUT INTELLIGENT KEY SYSTEM]

#### DTC DETECTION LOGIC DTC No. Trouble diagnosis name DTC detecting condition Possible cause After replacing the ECM, when the ECM is not registered to • BCM P161E **IMMOBILIZER** • ECM the vehicle by using the CONSULT. DTC CONFIRMATION PROCEDURE **1.**PERFORM DTC CONFIRMATION PROCEDURE Turn ignition switch ON. Check DTC in "Self Diagnostic Result" mode of "ENGINE" using CONSULT. Is DTC detected? >> Refer to SEC-160, "Diagnosis Procedure". YES >> Inspection End. NO **Diagnosis** Procedure INFOID:000000010375276 **1.**PERFORM REGISTRATION OF ECM Perform registration of ECM using CONSULT. Is DTC detected? YES >> Inspection End. NO >> GO TO 2. 2.REPLACE BCM

Replace BCM. Refer to BCS-135, "Removal and Installation". Is DTC detected? YES >> GO TO 3.

>> Inspection End

3.REPLACE ECM	SEC
Replace ECM. Refer to EC-499, "Removal and Installation".	
>> Inspection End.	L
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### < DTC/CIRCUIT DIAGNOSIS >

# P161F IMMOBILIZER

# DTC Logic

INFOID:000000010375277

[WITHOUT INTELLIGENT KEY SYSTEM]

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161F	IMMOBILIZER	When immobilizer detects a malfunction, and prohibits the engine start.	ECM

#### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

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

#### Is DTC detected?

YES >> Refer to <u>SEC-160, "Diagnosis Procedure"</u>.

NO >> Inspection End.

**Diagnosis** Procedure

INFOID:000000010375278

**1**.REPLACE ECM

Replace ECM. Refer to EC-499. "Removal and Installation".

>> Inspection End.

## B20DF STARTER RELAY OFF CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

# **B20DF STARTER RELAY OFF CIRCUIT**

## DTC Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B20DF is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-124, "DTC Logic".
- If DTC B20DF is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	D
B20DF	STARTER RELAY OFF	When comparing the starter relay signal (CAN) from BCM, IPDM E/R detects that starter relay is stuck in the OFF position for 1 second or more.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connector (Starter relay circuit is open or shorted.)</li> <li>IPDM E/R</li> <li>BCM</li> <li>Starter relay</li> </ul>	E

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch under the following conditions to start engine, and wait 1 second or more.
- Selector lever: In the P position
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to SEC-161, "Diagnosis Procedure".
- NO >> Inspection End.

#### Diagnosis Procedure

Regarding	Wirina	Diagram	information.	refer to	SEC-127.	"Wiring	Diagram".
regarang	••••••	Diagram	innormation,		000 121,	winnig	Diagram.

# 1. CHECK STARTER RELAY POWER SUPPLY CIRCUIT (SWITCH SIDE)

- 1. Turn ignition switch ON.
- 2. Brake pedal pressed.
- 3. Place transmission in park or neutral.

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

-	(	+)			
IPDM E/R			(-)	(Approx.)	Ν
_	Connector	Terminal			
-	F41	86	Ground	Battery voltage	0

Is the inspection result normal?

YES >> GO TO 2.

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

# **2.**CHECK STARTER RELAY POWER SUPPLY CIRCUIT (COIL SIDE)

1. Turn ignition switch ON.

2. Place transmission in park or neutral.

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

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## **B20DF STARTER RELAY OFF CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

# [WITHOUT INTELLIGENT KEY SYSTEM]

(	+)		Voltage (V) (Approx.)	
IPDI	M E/R	()		
Connector Terminal				
F42	92	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-35. "Removal and Installation".

NO >> Refer to <u>SEC-82, "Diagnosis Procedure"</u>.

#### B2192 ID DISCORD, IMMU-ECM [WITHOUT INTELLIGENT KEY SYSTEM]

#### < DTC/CIRCUIT DIAGNOSIS >

# B2192 ID DISCORD, IMMU-ECM

# DTC Logic

INFOID:000000010339875

DIC NO.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD BCM-ECM	The ID verification results between BCM and ECM are NG.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>BCM</li> <li>ECM</li> </ul>
TC CONFIF	RMATION PROCEDUR	E	
.PERFORM	DTC CONFIRMATION P	ROCEDURE	
. Turn igniti 2. Check DT <u>s DTC detect</u>	on switch ON. C in "Self-Diagnostic Res <u>ed?</u>	ult" mode of "BCM" using CONS	ULT.
YES >> G NO >> In	O TO <u>SEC-163, "Diagnos</u> spection End.	sis Procedure".	
Diagnosis F	Procedure		INFOID:0000000103398;
Perform initial	ization of BCM and rerea	stration of all keys using CONS	ULT Refer to the CONSULT Immobi
zer mode and	d follow the on-screen inst	ructions.	
Can the system	m be initialized and can th	e engine be started with reregist	ered key?
YES >> In NO >> G	spection End. O TO 2.		
CHECK SE	LF-DIAGNOSTIC RESUL	T	
. Select "Se	elf Diagnostic Result" mod	e of "BCM" using CONSULT.	
2. Erase DT Perform D	C. DTC CONFIRMATION PRO	OCEDURE for DTC B2192 Refe	er to SEC-163 "DTC Logic"
s DTC detect	ed?		
YES >> G	o i o o.		
YES >> G NO >> In	spection End.		
YES >> G NO >> In B.REPLACE	spection End. BCM	Pomoval and Installation"	
YES >> G NO >> In REPLACE Replace E Perform in bilizer mod	spection End. BCM BCM. Refer to <u>BCS-135, "</u> hitialization of BCM and re de and follow the on-scree	Removal and Installation". registration of all keys using COI en instructions.	NSULT. Refer to the CONSULT Immo
YES >> G NO >> In REPLACE . Replace E . Perform ir bilizer mo Can the system	spection End. BCM BCM. Refer to <u>BCS-135, "</u> hitialization of BCM and re de and follow the on-screa m be initialized and can th	Removal and Installation". registration of all keys using COI en instructions. le engine be started with register	NSULT. Refer to the CONSULT Immo
YES >> G NO >> In REPLACE Replace E Perform ir bilizer mo Can the system YES >> In NO >> G	spection End. BCM BCM. Refer to <u>BCS-135, "</u> hitialization of BCM and re de and follow the on-scree <u>m be initialized and can th</u> spection End. O TO 4.	Removal and Installation". registration of all keys using COI en instructions. le engine be started with register	NSULT. Refer to the CONSULT Immo
YES >> G NO >> In REPLACE Perform ir bilizer mod Can the system YES >> In NO >> G REPLACE	spection End. BCM BCM. Refer to <u>BCS-135, "</u> hitialization of BCM and re de and follow the on-screa <u>m be initialized and can the</u> spection End. O TO 4. ECM	Removal and Installation". registration of all keys using COI en instructions. le engine be started with register	NSULT. Refer to the CONSULT Immo
YES >> G NO >> In REPLACE Perform ir bilizer mo Can the system YES >> In NO >> G REPLACE	spection End. BCM BCM. Refer to <u>BCS-135, "</u> hitialization of BCM and re de and follow the on-scree <u>m be initialized and can th</u> spection End. O TO 4. ECM	Removal and Installation". registration of all keys using COI en instructions. le engine be started with register	NSULT. Refer to the CONSULT Immo

>> Inspection End.

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## **B2193 CHAIN OF ECM-IMMU**

#### < DTC/CIRCUIT DIAGNOSIS >

## B2193 CHAIN OF ECM-IMMU

## DTC Logic

INFOID:000000010339877

[WITHOUT 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-124, "DTC Logic"</u>.
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

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

#### 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-164, "Diagnosis Procedure".

NO >> Inspection End.

#### Diagnosis Procedure

INFOID:000000010339878

#### NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-124, "DTC Logic"</u>.
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

### **1.**CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to <u>BCS-128. "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 EC-165. "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace ECM. Refer to <u>EC-499</u>, "Removal and Installation". GO TO 3.

NO >> Repair or replace the harness.

3. PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to <u>SEC-164, "DTC Logic"</u>.

Does the DTC return?

- YES >> Replace BCM. Refer to <u>BCS-135</u>, "Removal and Installation"
- NO >> Inspection End.

### **B2196 DONGLE UNIT**

## [WITHOUT INTELLIGENT KEY SYSTEM]

B2	2196 D	ONGLE UNIT					
De	escriptio	on				INFOID:000000010339879	А
BC Wł	M perform	ms ID verification betw cation result is OK, BCI	een BCM /I permits	and dongle unit. cranking.			В
D	FC Logi	С				INFOID:000000010339880	C
DT NC •  : •  : E	C DETE <b>)TE:</b> f DTC B2 <u>3CS-124,</u> f DTC B2 <u>3CS-125,</u>	CTION LOGIC 196 is displayed with <u>"DTC Logic"</u> . 196 is displayed with <u>"DTC Logic"</u> .	DTC U10 DTC U10	000, first perform the trout 010, first perform the trout	ble diagnosis for ble diagnosis for	DTC U1000. Refer to DTC U1010. Refer to	D
	DTC No.	Trouble diagnosis name	[	DTC detecting condition	Pos	sible cause	
	B2196	DONGLE NG	The ID ve and dong	erification results between BCM le unit is NG.	<ul> <li>Harness or conn (Dongle unit circ</li> <li>Dongle unit</li> </ul>	ectors uit is open or shorted.)	F
DТ 1.	C CONF	FIRMATION PROCE	DURE ON PROC	EDURE			G
1. 2. 3. 4	Turn igr Turn igr Turn igr Check "	nition switch ON. nition switch OFF. nition switch ON. Self-diagnostic result"	of "BCM"	using CONSULT			Н
 <u>Is i</u> Ү	the DTC ( ES >>	detected? Refer to <u>SEC-165, "Di</u>	agnosis P	rocedure".			Ι
Di	agnosis	s Procedure				INFOID:000000010339881	J
Re	garding V	Viring Diagram informa	tion, refer	to <u>SEC-127, "Wiring Diag</u>	<u>ram"</u> .		SEC
1.	PERFOR	RM INITIALIZATION					L
1. 2. Do	Perform bilizer m Start the se the en	n initialization of BCM a node and follow the on- e engine. noine start?	nd reregis screen in	stration of all keys using CO structions.	ONSULT. Refer to	the CONSULT Immo-	M
Y N	ES >> O >>	Inspection End. GO TO 2.					Ν
<u>∠</u> .			IT				
1. 2. 3.	Turn igr Disconr Check c	nition switch OFF. nect BCM connector an continuity between BCN	d dongle /I harness	unit connector. connector and dongle uni	t harness connec	stor.	0
-		BCM		Dongle unit		Continuity	Ρ
-	Con	inector Term	inal	Connector	Terminal	Continuity	

16 4. Check continuity between BCM harness connector and ground.

M18

< DTC/CIRCUIT DIAGNOSIS >

M5

1

Yes

## **B2196 DONGLE UNIT**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

B	CM		Continuity
Connector Terminal		Ground	Continuity
M18	16		No

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 $\mathbf{3}$ .check dongle unit ground circuit

Check continuity between dongle unit harness connector and ground.

Dong	le unit		Continuity
Connector	Connector Terminal		Continuity
M5	4		Yes

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

## **B2198 NATS ANTENNA AMP.**

#### < DTC/CIRCUIT DIAGNOSIS >

# B2198 NATS ANTENNA AMP.

# **DTC Logic**

INFOID:000000010339921

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[WITHOUT INTELLIGENT KEY SYSTEM]

С

DTC DETEC	CTION LOGIC				
DTC No.	Trouble diagnosis name	DTC detec	ting condition	Possible cause	
B2198	NATS ANTENNA AMP	Inactive communica antenna amp. and B BCM enters in the lo mode (BCM sleep o	ation between NATS 3CM is detected when by power consumption condition)	<ul> <li>Harness or connectors (NATS antenna amp. circuit is oper shorted.)</li> <li>NATS antenna amp.</li> <li>BCM</li> </ul>	en or
DTC CONFI	IRMATION PROCED	URE			
1.PERFORM	M DTC CONFIRMATIC	N PROCEDURE			
<ol> <li>Make the Refer to</li> <li>Turn igni</li> <li>Check D</li> </ol>	e conditions that BCM ( <u>BCS-84, "POWER CO</u> tion switch ON. TC in "Self Diagnostic	enters in the low po <u>NSUMPTION CON</u> Result" mode of "B	wer consumption r ITROL SYSTEM : S CM" using CONSL	node (BCM sleep condition). System Description". ILT.	
Is DTC detec YES >> ( NO >> I	<u>sted?</u> Go to <u>SEC-167, "Diagn</u> nspection End.	<u>osis Procedure"</u> .			
Diagnosis	Procedure			INFOID:00000	00010339922
1. CHECK F	USE ver switch OFF.	funn block (UD) :-	net blown		
2. Check th	hat the following fuse in	TUSE DIOCK (J/B) IS	not blown.		
	Signal name			Fuse No.	
Is the inspect	Battery power supp tion result normal?	bly		9 (5 A)	
YES >> 0 NO >> F <b>2.</b> CHECK N	GO TO 2. Replace the blown fuse IATS ANTENNA AMP.	e after repairing the POWER SUPPLY	affected circuit.		
<ol> <li>Disconne</li> <li>Check vo</li> </ol>	ect NATS antenna amp oltage between NATS a	o. connector. antenna amp. harne	ess connector and	ground.	
	(+)			Voltage (V)	
C	NAIS antenna am	p. Terminal	(-)	(Approx.)	
	M4	3	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

**3.**CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

1. Disconnect fuse block (J/B) connector.

2. Check continuity between fuse block (J/B) harness connector and NATS antenna amp. connector. Ρ

# B2198 NATS ANTENNA AMP.

#### < DTC/CIRCUIT DIAGNOSIS >

Fuse block (J/B)		NATS ant	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M44	12 R	M4	3	Yes	

Is the inspection result normal?

YES >> Replace fuse block (J/B).

NO >> Repair or replace harness.

#### **4.**CHECK NATS ANTENNA AMP. GROUND CIRCUIT

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

NATS an	tenna amp.		Continuity	
Connector	Connector Terminal		Continuity	
M4	2		Yes	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

#### ${f 5.}$ CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 1

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

(- NATS ante	+) enna amp.	(—)	Condition		Condition		Voltage (V) (Approx.)
Connector	Terminal						
M4	1	Ground	Key: Key battery is re- moved	Brake pedal: Depressed <b>NOTE:</b> Waveform varies each time when brake pedal is depressed	(V) 15 10 5 0 * 40ms JMKIA6232JP		
				Brake pedal: Not depressed	Battery voltage		

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

#### ${f 6}$ .CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 1

1. Disconnect BCM connector.

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

-	NATS ante	enna amp.	BCM Connector Terminal		Continuity
_	Connector	Terminal			Continuity
	M4	1	M19	109	Yes

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

NATS antenna amp.			Continuity	
Connector	Terminal	Ground	Continuity	
M4	1		No	

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

**7.**CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 2

# B2198 NATS ANTENNA AMP.

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

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

+)	•)	( ) Condition Voltag			
NAIS ante	enna amp.	(-)		Jonaltion	(Approx.)
Connector	Terminal				
M4	4	Ground	Key: Key battery is re- moved	Brake pedal: Depressed <b>NOTE:</b> Waveform varies each time when brake pedal is depressed	(V) 15 10 50 • • • • 40ms JMKIA6233JP
				Brake pedal: Not depressed	Battery voltage
s the inspe	ction resu	It normal?			
YES >> NO >>	Replace GO TO 8	NATS ante	enna amp. Refer to <u>SI</u>	EC-192, "Removal and Insta	allation".

## 8. CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 2

#### 1. Disconnect BCM connector.

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

NATS ant	NATS antenna amp.		BCM	
Connector	Terminal	Connector	Terminal	Continuity
M4	4	M19	113	Yes

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

NATS antenna amp.			Continuity	
Connector	Terminal	Ground	Continuity	
M4	4		No	

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

#### 9.REPLACE BCM

1. Replace BCM. Refer to <u>BCS-135, "Removal and Installation"</u>.

2. Perform initialization of BCM and registration of all keys using CONSULT.

#### >> Inspection End

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< DTC/CIRCUIT DIAGNOSIS >

## 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-124, "DTC Logic"</u>.
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	<ul> <li>BCM detects one of the following conditions for 10 seconds continuously.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Combination meter</li> <li>ABS actuator and electric unit (control unit)</li> </ul>

## 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-170, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

#### Diagnosis Procedure

INFOID:000000010339888

**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-55</u>, "<u>DTC Index</u>". 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-30, "DTC Index"</u>. NO >> GO TO 3.

3. CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident" .

>> Inspection End.

## **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-124, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT POSITION	<ul> <li>BCM detects the following status for 10 seconds.</li> <li>Selector lever is in the P (Park) position</li> <li>Vehicle speed is 4 km/h (2.5 MPH) or more</li> <li>Ignition switch is in the ON position</li> </ul>	<ul> <li>Harness or connectors (CAN communication line is open or shorted.)</li> <li>Harness or connectors [CVT shift selector (park position switch) circuit is open or shorted.]</li> <li>CVT shift selector (park position switch)</li> <li>Combination meter</li> <li>BCM</li> </ul>

#### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to SEC-171, "Diagnosis Procedure".
- NO >> Inspection End.

#### Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-127, "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.
- 3. Check "DETE/CANCEL SW" and "VEH SPEED 1" indication under the following conditions.

Monitor item	Condition		Indication	Ν
DETE/CANCEL SW	CV/T Shift selector	In any position other than P (Park)	OFF	
DETE/CANCEL SW		P (Park)	ON	0
	Vehicle not moving		0	0
VEN SFEED I	Vehicle moving		Varies	

#### Is the inspection result normal?

- YES >> Refer to <u>GI-41, "Intermittent Incident"</u>.
- 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

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

## SEC-171

#### 2014 Rogue NAM

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### **B2602 SHIFT POSITION**

< DTC/CIRCUIT DIAGNOSIS >

#### Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>MWI-30, "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-55</u>, "<u>DTC Index</u>". NO >> GO TO 6.

**4.**CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM connector and CVT shift selector connector.

2. 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
M107	13	M19	94	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	
M107	13		No	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM connector and CVT shift selector 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
M107	12	M18	17	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
M107	12		No

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

**6.**CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to SEC-173, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace CVT shift selector. Refer to <u>TM-194</u>, "Removal and Installation".

7.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

## **B2602 SHIFT POSITION**

# < DTC/CIRCUIT DIAGNOSIS >

## Component Inspection

INFOID:000000010339891

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[WITHOUT INTELLIGENT KEY SYSTEM]

# 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) Terminal		Condition		Continuity	
10	12	Solostor lovor	P (Park) position	No	-
12 13		Selector level	Other than above	Yes	- L

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace CVT shift selector. Refer to <u>TM-194, "Removal and Installation"</u>.

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# **B260F ENGINE STATUS**

## Description

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

### **DTC** Description

INFOID:000000010339893

INFOID:000000010339892

## DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition
B260F	ENG STATE SIG LOST (Engine state signal lost)	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.

#### POSSIBLE CAUSE

- Harness or connectors
- (The CAN communication line is open or shorted.)
- ECM

#### FAIL-SAFE

#### Inhibit engine cranking

#### DTC CONFIRMATION PROCEDURE

#### **1.**CHECK DTC PRIORITY

If DTC B260F is displayed with DTC U1000 or U1010, first perform the trouble diagnosis for DTC U1000 or U1010.

#### Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1000: Refer to <u>BCS-124, "DTC Logic"</u>. U1010: Refer to <u>BCS-125, "DTC Logic"</u>.

NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Refer to <u>SEC-174</u>, "Diagnosis Procedure".
- NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
- NO-2 >> Confirmation after repair: Inspection End.

#### **Diagnosis** Procedure

INFOID:000000010339894

## **1.**CHECK DTC PRIORITY

If DTC B260F is displayed with DTC U1000 or U1010, first perform the trouble diagnosis for DTC U1000 or U1010.

#### Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1000: Refer to <u>BCS-124, "DTC Logic"</u>. U1010: Refer to <u>BCS-125, "DTC Logic"</u>.

NO >> GO TO 2.

# 2.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select "Self Diagnostic Result" mode of "BCM" using CONSULT.
- Touch "ERASE".
- Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to <u>SEC-174, "DTC Description"</u>.

#### Is DTC detected?

YES >> GO TO 3.

NO >> Inspection End.

Revision: November 2013

## **B260F ENGINE STATUS**

## [WITHOUT INTELLIGENT KEY SYSTEM]

	=	
3.REPLACE ECM	۵	
Replace ECM. Refer EC-499, "Removal and Installation".		
>> Inspection End.	В	
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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 <u>BCS-124, "DTC Logic"</u>.
- If DTC B261E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261E	VEHICLE TYPE	Difference of BCM configuration.	<ul><li>BCM mis-configuration</li><li>Wrong ECM installed</li></ul>

#### 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" of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> GO TO SEC-176, "Diagnosis Procedure".
- NO >> Inspection End.

#### Diagnosis Procedure

- **1.**INSPECTION START
- 1. Turn ignition switch ON.
- 2. Check "Self-diagnostic result" of "BCM" using CONSULT.
- 3. Touch "ERASE".
- Perform DTC Confirmation Procedure. Refer to <u>SEC-176, "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-121, "CONFIGURATION (BCM) : Work Procedure"</u>.

>> GO TO 3.

# **3.**INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnostic result" of "BCM" using CONSULT.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. Refer to <u>SEC-176. "DTC Logic"</u>.

Is the 1st trip DTC B261E displayed again?

YES >> GO TO 4.

NO >> Inspection End.

INFOID:000000010339895

INFOID:000000010339896

INFOID:0000000010339897

4.CONFIRM ECM PART NUMBER.	Δ
Confirm the part number of the installed ECM is correct.	
Is the ECM part number correct?	
YES >> Replace BCM. Refer to <u>BCS-135, "Removal and Installation"</u> . NO >> Replace ECM. Refer to <u>EC-499, "Removal and Installation"</u> .	В
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#### B27D1 START CUT RELAY OFF > [WITHOUT INTELLIGENT KEY SYSTEM]

## < DTC/CIRCUIT DIAGNOSIS >

# B27D1 START CUT RELAY OFF

# DTC Logic

INFOID:000000010339900

# DTC DETECTION LOGIC

#### NOTE:

- If DTC B27D1 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-124, "DTC Logic".
- If DTC B27D1 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B27D1	STARTER CUT RELAY OFF	When comparing the starter cut relay signal (CAN) from IPDM E/R, BCM detects that starter cut relay is stuck in the OFF position for 1 second or more.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connector (Starter cut relay circuit is open or short- ed.)</li> <li>IPDM E/R</li> <li>BCM</li> <li>Starter cut relay</li> </ul>

#### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch under the following conditions to start engine, and wait 1 second or more.
- Selector lever: In the P position
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to SEC-178, "Diagnosis Procedure".
- NO >> Inspection End.

## Diagnosis Procedure

INFOID:000000010339901

Regarding Wiring Diagram information, refer to SEC-127, "Wiring Diagram".

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

- 1. Turn ignition switch OFF.
- 2. Disconnect starter cut relay.
- 3. Check voltage between starter cut relay harness connector and ground.

(+) Starter cut relay			Voltage (V) (Approx.)	
		(-)		
Connector	Terminal		<b>V FF - 7</b>	
F55	1	Ground	Batteny voltage	
100	3	Cround	Dattery voltage	

#### Is the inspection result normal?

- YES >> GO TO 2.
- NO-1 >> Check 30 A fusible link [M, located in the fuse block (J/B)].
- NO-2 >> Check harness for open or short between starter cut relay and fusible link.

## 2.CHECK STARTER CUT RELAY CONTROL

1. Reconnect starter cut relay.

2. Check voltage between BCM harness connector and ground.

# < DTC/CIRCUIT DIAGNOSIS >

# B27D1 START CUT RELAY OFF

## [WITHOUT INTELLIGENT KEY SYSTEM]

	(-	+)								
_	BC	BCM (–) Condition			Voltage (V) (Approx.)					
_	Connector	Terminal					( 11 )			
	F29	139	Ground	CVT shift selector lever	N or P positi	ion E	Battery voltage			
_	220	100	Croand		Other than a	above	0			
<u>ls t</u>	he inspectio	n result norr	nal?							
YI N	ES >> G( 0 >> G(	) TO 4.								
3										
<u>∪.</u> ₁										
1. 2.	Disconnect	t BCM conne	г. ector.							
3.	Disconnec	t starter cut i	elay.							
4.	Check con	tinuity betwe	en BCM harne	ess connector and starte	er cut relay harn	ess connect	or.			
-		BCM		Starter	cut relay					
	Connec	tor	Terminal	Connector	Terminal		Continuity			
-	E29		139	F55	2		Yes			
<u>ls t</u>	he inspectio	n result norr	nal?							
Y	ES >> GC	D TO 4.								
N 1	0 >> Re	pair or repla	ce harness.							
4.	CHECK STA	ARTER CUT	RELAY CIRCL	JIT						
1.	Turn ignitic	on switch OF	F.							
∠. 3.	Check con	tinuitv betwe	en IPDM E/R h	narness connector and	starter cut relav	harness co	nnector.			
_		· · · <b>,</b> · · · ·	-	Check continuity between if Divi L/N hamess connector and starter cut relay hamess connector.						
	IPDM E/R Starter cut relay									
_			IPDM E/R		Starter cu	ıt relay	Continuity			
-	Cor	nnector	IPDM E/R	Terminal	Starter cu Connector	ıt relay Terminal	- Continuity			
-	Cor	nnector F41	IPDM E/R	Terminal 86	Starter cu Connector F55	ut relay Terminal 5	- Continuity Yes			
- - 4.	Cor Check con	nnector F41 tinuity betwe	IPDM E/R	Terminal 86 ess connector and grour	Starter cu Connector F55 nd.	ıt relay Terminal 5	- Continuity Yes			
4.	Cor Check con	nnector F41 tinuity betwe	IPDM E/R	Terminal 86 ess connector and grour	Starter cu Connector F55 nd.	ıt relay Terminal 5	- Continuity Yes			
- - 4. -	Cor Check con Connec	nnector F41 tinuity betwe tor	IPDM E/R	Terminal 86 ess connector and grour	Starter cu Connector F55 nd. Ground	ut relay Terminal 5	- Continuity Yes Continuity			
- - 4. -	Cor Check con Connec F41	nnector F41 tinuity betwe	IPDM E/R	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Yes Continuity No			
4. 	Cor Check con Connec F41 he inspectio	nnector F41 tinuity betwe tor n result norr	IPDM E/R een BCM harne IPDM E/R	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Yes Continuity No			
4. <u>Is t</u> YI	Cor Check con Connec F41 he inspectio ES >> GC	tinuity betwe	IPDM E/R	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Yes Continuity No			
4. <u>Is t</u> YI	Cor Check con Connec F41 <u>he inspectio</u> ES >> GC O >> Re	tinuity between the second sec	IPDM E/R	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Yes Continuity No			
4. <u>Is t</u> YI N	Connect Check con F41 <u>he inspectio</u> ES >> GC O >> Re CHECK STA	tinuity betwe tor n result norr O TO 5. pair or repla	IPDM E/R een BCM harne IPDM E/R nal? ce harness. RELAY	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Yes Continuity No			
4. <u>Is t</u> N <b>5.</b> Re	Cor Check con Connec F41 he inspectio ES >> GC O >> Re CHECK ST/ fer to <u>SEC-1</u>	tinuity between tor tor to 5. pair or repla	IPDM E/R een BCM harne IPDM E/R nal? ce harness. RELAY nent Inspectior	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Yes Continuity No			
4. 4. 19 10 10 10 10 10 10 10 10 10 10 10 10 10	Cor Check con F41 <u>he inspectio</u> ES >> GC O >> Re CHECK ST/ fer to <u>SEC-1</u> <u>he inspectio</u>	tinuity between tor D TO 5. pair or repla ARTER CUT 80. "Compo n result norr	IPDM E/R en BCM harne IPDM E/R nal? ce harness. RELAY nent Inspection nal?	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Yes Continuity No			
4. <u>Ist</u> <u>N</u> 5. <u>Re</u> <u>Ist</u> <u>Y</u>	Correct Check con F41 Che inspectio ES >> GC O >> Re CHECK ST/ fer to <u>SEC-1</u> he inspectio ES >> GC	tor ARTER CUT 80. "Compo n result norr 0 TO 5. pair or repla ARTER CUT 0 TO 6. 0 TO 6.	IPDM E/R	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	- Continuity Yes Continuity No			
4. <u>Ist</u> N 5. Re Ist N	Connect Check con F41 he inspectio ES >> GC O >> Re CHECK ST/ fer to <u>SEC-1</u> he inspectio ES >> GC O >> Re	tor To 5. pair or repla ARTER CUT 80. "Compo n result norr 0 TO 6. place starter	IPDM E/R	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Continuity No			
4. <u>Is t</u> YI <b>N</b> <b>5</b> . <b>7</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b>	Cor Check con F41 he inspectio ES >> GC O >> Re CHECK STA fer to <u>SEC-1</u> he inspectio ES >> GC O >> Re REPLACE E	tor ARTER CUT 80, "Compo n result norr 0 TO 5. pair or repla ARTER CUT 80, "Compo n result norr 0 TO 6. place starter 3CM	IPDM E/R	Terminal 86 ess connector and grour Ferminal 86	Starter cu Connector F55 nd. Ground	It relay Terminal 5	- Continuity Yes Continuity No			
4. <u>Is t</u> <u>N</u> <b>5</b> <u>Re</u> <u>S</u> <u>1</u> <u>2</u>	Connect Connect F41 he inspectio ES >> GC O >> Re CHECK ST/ fer to <u>SEC-1</u> he inspectio ES >> GC O >> Re REPLACE E Replace Bi Replace Bi	tor n result norr TO 5. pair or repla ARTER CUT 80. "Compo n result norr TO 6. place starter CM. Refer to tialization of	IPDM E/R Pen BCM harne IPDM E/R IPDM E/R mal? ce harness. RELAY nent Inspection nal? cut relay.	Terminal 86 SS connector and grour Ferminal 86 1".	Starter cu Connector F55 nd. Ground	It relay Terminal 5	Continuity Yes Continuity No			
4. $\frac{ s t}{Y }$ Re $\frac{ s t}{Y }$ No <b>5.</b> <b>7</b> <b>1.</b> <b>2.</b> <b>3.</b>	Connect Check con F41 he inspectio ES >> GC O >> Re CHECK STA fer to <u>SEC-1</u> he inspectio ES >> GC O >> Re REPLACE E Replace B Perform ini Perform D	tor ARTER CUT 80, "Compo n result norr TO 5. pair or repla ARTER CUT 80, "Compo n result norr D TO 6. place starter BCM CM. Refer to tialization of TC CONFIRI	IPDM E/R en BCM harne IPDM E/R nal? ce harness. RELAY nent Inspection nal? cut relay.	Terminal 86 Ses connector and grour Ferminal 86 Second and Installation Second and Installation Second and Installation	Starter cu Connector F55 Ind. Ground CONSULT. 1. Refer to SEC	Terminal 5	Continuity Yes Continuity No Logic".			
4. <u>Is t</u> <u>Y</u> <u>S</u> <u>Re</u> <u>Is t</u> <u>Y</u> <u>N</u> <u>6</u> <u>1</u> . 2. 3. <u>Is t</u>	Connect Connect F41 Connect F41 Che inspectio ES >> GC O >> Re CHECK ST/ fer to <u>SEC-1</u> he inspectio ES >> GC O >> Re REPLACE E REPLACE E Replace B Perform Ini Perform D he inspectio	tor n result norr TO 5. pair or repla ARTER CUT 80. "Compo n result norr TO 6. place starter CM. Refer to tialization of TC CONFIRI n result norr	IPDM E/R Pen BCM harne IPDM E/R IPDM E/R mal? ce harness. RELAY nent Inspection nal? cut relay. BCS-135, "Re BCM and regis MATION PROC nal?	Terminal 86 SS connector and grour Ferminal 86 1". Emoval and Installation" stration of all keys using CEDURE for DTC B27D	CONSULT. 1. Refer to SEC	Terminal 5	Continuity Yes Continuity No Logic".			
4. $\frac{ s t}{Y } = \frac{1}{N}$ Rei $\frac{ s t}{Y } = \frac{1}{N}$ 1. 2. 3. $\frac{ s t}{Y } = \frac{1}{N}$	Connect Check con F41 he inspectio ES >> GC O >> Re CHECK STA fer to <u>SEC-1</u> he inspectio ES >> GC O >> Re REPLACE E Replace B Replace B Perform ini Perform D he inspectio ES >> Ins	tor ARTER CUT 80, "Compo n result norr 0 TO 5. pair or repla ARTER CUT 80, "Compo n result norr 0 TO 6. place starter 3CM CM. Refer to tialization of TC CONFIRI n result norr pection End	IPDM E/R en BCM harne IPDM E/R nal? ce harness. RELAY nent Inspection nal? cut relay.	Terminal 86 Ses connector and grour Ferminal 86 Second and Installation Second and Installation Second and Installation	Starter cu Connector F55 Ind. Ground CONSULT. 1. Refer to SEC	Terminal 5	Continuity Yes Continuity No Logic".			

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#### B27D1 START CUT RELAY OFF [WITHOUT INTELLIGENT KEY SYSTEM]

## < DTC/CIRCUIT DIAGNOSIS >

## **Component Inspection**

INFOID:000000010339902

# 1.CHECK STARTER CUT RELAY

- 1. Turn ignition switch OFF.
- 2. Disconnect starter cut relay.

3. Check continuity between starter cut relay terminals.

Starter cut relay Terminal		Condition	Continuity	
		Condition		
3	5	12 V direct current supply between terminals 1 and 2	Yes	
5	5	No current supply	No	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace starter cut relay.
#### **B27D2 START CUT RELAY ON**

#### < DTC/CIRCUIT DIAGNOSIS >

# B27D2 START CUT RELAY ON

## DTC Logic

DTC DETECTION LOGIC

#### NOTE:

- If DTC B27D2 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-124, "DTC Logic".
- If DTC B27D2 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	L
B27D2	STARTER CUT RELAY ON	When comparing the starter cut relay signal (CAN) from IPDM E/R, BCM detects that starter cut relay is stuck in the ON position for 1 second or more.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connector (Starter cut relay circuit is open or short- ed.)</li> <li>IPDM E/R</li> <li>BCM</li> <li>Starter cut relay</li> </ul>	F

#### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

Turn ignition switch under the following conditions to start engine, and wait 1 second or more.
 Selector lever: In the P position
 Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to <u>SEC-181, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-127, "Wiring Diagram".

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

1. Turn ignition switch OFF.

2. Disconnect starter cut relay.

3. Check voltage between starter cut relay harness connector and ground.

(	+)			
Starter	cut relay	()	Voltage (V) (Approx.)	Ν
Connector	Terminal		(	
E55	1	Ground	Ratteny voltage	0
FJJ	3	Giouna	Ballery vollage	0

#### Is the inspection result normal?

YES >> GO TO 2.

NO-1 >> Check 30 A fusible link [M, located in the fuse block (J/B)].

NO-2 >> Check harness for open or short between starter cut relay and fusible link.

2.CHECK STARTER CUT RELAY CONTROL

1. Reconnect starter cut relay.

2. Check voltage between BCM harness connector and ground.

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INFOID:000000010339903

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INFOID:000000010339904

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### < DTC/CIRCUIT DIAGNOSIS >

# B27D2 START CUT RELAY ON

#### [WITHOUT INTELLIGENT KEY SYSTEM]

(	+) CM	()	Condition		Voltage (V) (Approx.)
Connector	Terminal				( FF - )
E20	130	Ground	CVT shift selector lever	N or P position	Battery voltage
229	139	Giouna		Other than above	0

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

# **3.**CHECK STARTER CUT RELAY CONTROL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector.
- 3. Disconnect starter cut relay.

4. Check continuity between BCM harness connector and starter cut relay harness connector.

B	СМ	Starter	cut relay	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E29	139	F55	2	Yes

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK STARTER CUT RELAY CIRCUIT

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

	IPDM E/R	Starter	cut relay	Continuity
Connector	Terminal	Connector	Terminal	Continuity
F41	86	F55	5	Yes

4. Check continuity between BCM harness connector and ground.

	IPDM E/R		Continuity
Connector	Terminal	Ground	Continuity
F41	86		No

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

**5.**CHECK STARTER CUT RELAY

#### Refer to SEC-183, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace starter cut relay.

## 6.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-135, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all keys using CONSULT.
- 3. Perform DTC CONFIRMATION PROCEDURE for DTC B27D2. Refer to SEC-181, "DTC Logic".

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace IPDM E/R. Refer to PCS-35. "Removal and Installation".

#### B27D2 START CUT RELAY ON [WITHOUT INTELLIGENT KEY SYSTEM]

# < DTC/CIRCUIT DIAGNOSIS >

# **Component Inspection**

INFOID:000000010339905

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# 1.CHECK STARTER CUT RELAY

- 1. Turn ignition switch OFF.
- 2. Disconnect starter cut relay.

3. Check continuity between starter cut relay terminals.

Starter	cut relay	Condition	Continuity	С
Ter	minal	Condition	Continuity	
2	5	12 V direct current supply between terminals 1 and 2	Yes	D
5	5	No current supply	No	
la tha inanaati	on requit norm			

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace starter cut relay.

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# HEADLAMP FUNCTION

## **Component Function Check**

INFOID:000000010339906

[WITHOUT 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	Desc	ription
	ON	Headlamps (Hi)	Light
	OFF		Does not light

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to <u>SEC-184</u>, "Diagnosis Procedure".

#### **Diagnosis** Procedure

INFOID:000000010339907

**1.**CHECK HEADLAMP FUNCTION

Refer to SEC-184, "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-41, "Intermittent Incident".

>> Inspection End.

## [WITHOUT INTELLIGENT KEY SYSTEM]

Component Function Check       Material Construction         1. CHECK FUNCTION       Image: Construction of the following condition.         1. Select "HOOD SW" in "Data Monitor" mode of "IPDM E/R" using CONSULT.       Image: Construction of the following condition.         2. Check "HOOD SW" indication under the following condition.       Image: Construction of the following condition.       Image: Construction of the following condition.         3. Ethe indication normal?       YES >> Hood switch is OK.       No       >> Go to SEC-185. "Diagnosis Procedure".         Diagnosis Procedure       Material Cancelors       Image: Construction of the following Constructing Construction of the following Construc	HOC	DD SWITCH						
1. CHECK FUNCTION       Field         1. Select "HOOD SW" in "Data Monitor" mode of "IPDM E/R" using CONSULT.       Image: Construction of the following condition.         2. Check "HOOD SW" indication under the following condition.       Image: Construction of the following condition.       Image: Construction of the following condition.         3. Check "HOOD SW" Hood       Open       ON       OPEn       OPEn         1. State indication normal?       YES       >> So to SEC-165, "Diagnosis Procedure".       End       End         Diagnosis Procedure       seconconcentration of SEC-165, "Diagnosis Procedure".       End       End       End         1. CHECK HOOD SWITCH SIGNAL CIRCUITS       Image: Connector	Com	ponent Func	tion Check					-  NFOID:000000010339908
1. Select "HOOD SW" in "Data Monitor" mode of "IPDM E/R" using CONSULT.	<b>1.</b> c⊦	ECK FUNCTION	I					E
Monitor item       Condition       Indication         HOOD SW       Hood       Open       ON         Is the indication normal?       YES       >> Hood switch is OK.       OFF       If the indication normal?         YES       >> Hood switch is OK.       NO       >> Go to SEC-165 "Diagnosis Procedure".       If the indication normal?         PYES       >> Hood switch is OK.       NO       >> Go to SEC-165 "Diagnosis Procedure".       If the indication normal?         Piegonosis Procedure       #************************************	1. S 2. C	elect "HOOD SW heck "HOOD SW	" in "Data Mor " indication ur	nitor" m nder the	ode of "IPE following (	DM E/R" ι condition	Ising CONSULT.	
HOOD SW     Hood     Open     ON       Is the indication normal?     YES     >> Hood switch is OK.     OFF       YES     >> Hood switch is OK.     NO     >> Go to SEC-185. "Diagnosis Procedure".     Processore Constructions       Diagnosis     Procedure     ####################################		Monitor ite	m			Conditi	on	Indication
Is the indication normal?       Picod       Close       OFF         YES       >> Go to SEC-185. "Diagnosis Procedure".       E         Diagnosis Procedure       wroe excesses         Regarding Wiring Diagram information, refer to SEC-137. "Wiring Diagram".       I.         1. CHECK HOOD SWITCH SIGNAL CIRCUITS       I.         1. Turn ignition switch OFF.       .         2. Disconnect hood switch connector.       .         3. Check voltage between hood switch harness connector and ground.       .         (+)       (-)       Voltage (V)         Connector       Terminal       .         E223       2       Ground       Battery voltage         Is the inspection result normal?       YES       > GO TO 3.       .         NO       > GO TO 3.       .       .         NO >> GO TO 2.       .       .       .         2. CHECK HOOD SWITCH SIGNAL CIRCUITS       .       .         1. Disconnect IPDM E/R connector.       .       .         2. CHECK HOOD SWITCH SIGNAL CIRCUITS       .       .         1. Disconnect IPDM E/R connector.       .       .         2. Check continuity between IPDM E/R harness connector and hood switch harness connector.       .         .       .       .					11		Open	ON
is the indication normal?       YES       >> Hood switch is OK.       F         NO       >> Go to SEC-185, "Diagnosis Procedure".       Image: Section 100 and the image: Section 100 and th		HOOD SV	VV		Hood	-	Close	OFF
Dragnosis Procedure         Regarding Wiring Diagram information, refer to SEC-137. "Wiring Diagram".         1. CHECK HOOD SWITCH SIGNAL CIRCUITS         1. Turn ignition switch OFF.       Disconnect hood switch connector.         Connector dod switch connector.         (+)         Hood switch connector.         Connector Terminal         (-)         Votage (V)         Connector Terminal         E223         2         Ground Battery votage         Is the inspection result normal?         YES       > GO TO 2.         2.         Check HOOD SWITCH SIGNAL CIRCUITS         1.         1.         Disconnect IPDM E/R connector.         2.         Check continuity between IPDM E/R harness connector and hood switch harness connector.         IPDM E/R         Connector Terminal Connector Terminal Continuity         E217       52         2.         Stenector Terminal Connector Terminal Ground Continuity         E217       52	Is the YES NO	indication norma >> Hood swite >> Go to <u>SEC</u>	l <u>?</u> ch is OK. C-185, "Diagno	osis Pro	ocedure".			E
Regarding Wiring Diagram information, refer to SEC-137. "Wiring Diagram".         1. CHECK HOOD SWITCH SIGNAL CIRCUITS         1. Turn ignition switch OFF.       Disconnect hood switch connector.         3. Check voltage between hood switch harness connector and ground.       (-)       Voltage (V)         (+)         Hood switch       (-)       Voltage (V)         Connector         E223       2       Ground       Battery voltage         Is the inspection result normal?         YES       >> GO TO 3.       NO       >         NO       >> GO TO 2.       2       Check continuity between IPDM E/R harness connector and hood switch harness connector.       Image: Continuity connector         1       Disconnect IPDM E/R connector.       Continuity       Continuity         2. CHECK HOOD SWITCH SIGNAL CIRCUITS       Image: Connector Terminal Connector       Continuity         3. Check continuity between IPDM E/R harness connector and ground.       Image: Continuity Detween IPDM E/R harness connector and ground.       Image: Continuity Connector Terminal Connector Terminal Continuity       Continuity         3. Check continuity between IPDM E/R harness connector and ground.       Image: Continuity Continuity Detween IPDM E/R harness connector and ground.       Image: Continuity Continuity E217 52 10 10 10 10 10 10 10 10 10 10 10 10 10	Diag	nosis proced	lure					INFOID:000000010339909
Regarding Wiring Diagram information, refer to <u>SEC-137, "Wiring Diagram"</u> .         1. CHECK HOOD SWITCH SIGNAL CIRCUITS         1. Turn ignition switch OFF.         2. Disconnect hood switch connector.         3. Check voltage between hood switch harness connector and ground.         (+)         Hood switch         (-)       Voltage (V)         Connector       Terminal         E223       2         Ground       Battery voltage         Is the inspection result normal?       YES         YES       > GO TO 3.         NO       >> GO TO 2.         2. CHECK HOOD SWITCH SIGNAL CIRCUITS       I         1. Disconnect IPDM E/R connector.       Continuity         2. Check continuity between IPDM E/R harness connector and hood switch harness connector.       I         Image: State inspection result normal?       Yes         3. Check continuity between IPDM E/R harness connector and ground.       I         Image: State inspection result normal?       Yes         3. Check continuity between IPDM E/R harness connector and ground.       I         Image: State inspection result normal?       Yes         3. Check continuity between IPDM E/R harness connector and ground.       I         IPDM E/R       Ground       Continuity	_			_				1
1. CHECK HOOD SWITCH SIGNAL CIRCUITS         1. Turn ignition switch OFF.         2. Disconnect hood switch namess connector and ground.         (+)         Hood switch         Hood switch         (-)       Voltage (V)         Connector       Terminal         E223       2         Ground       Battery voltage         Is the inspection result normal?       YES         YES       >S GO TO 3.         NO       >> GO TO 2.         2. CHECK HOOD SWITCH SIGNAL CIRCUITS         1. Disconnect IPDM E/R connector.         2. Check continuity between IPDM E/R harness connector and hood switch harness connector.         Image: State inspection result normal?         YES       > Continuity between IPDM E/R harness connector and hood switch harness connector.         Image: State inspection result normal?         YES       > Check continuity between IPDM E/R harness connector and ground.         Image: State inspection result normal?         YES       >> Replace IPDM E/R         Terminal       Ground         Connector       Terminal         Ground       Continuity         Eatro       52         No       >>         Image: State inspection result normal?	Rega	rding Wiring Diag	ram informatio	on, refer	r to <u>SEC-13</u>	<u>37. "Wirin</u>	<u>g Diagram"</u> .	G
1. Turn ignition switch OFF.       1. Turn ignition switch OFF.       1. Disconnect hood switch onnector.         3. Check voltage between hood switch harness connector and ground.       (+)       (-)       Voltage (V)         Image: the inspection result normal?       YES       > GO TO 3.       Battery voltage       Battery voltage         Is the inspection result normal?       YES       > GO TO 3.       NO       >> GO TO 2.       State on the connector.       Image: the inspection result normal?	1				ште			
1. Infinition switch OPE.         2. Disconnect hood switch connector.         3. Check voltage between hood switch harness connector and ground.         (+)         Hood switch         (-)       Voltage (V)         Connector       Terminal         E223       2         Is the inspection result normal?       YES         YES       > GO TO 3.         NO       >> GO TO 2.         2. CHECK HOOD SWITCH SIGNAL CIRCUITS         1. Disconnect IPDM E/R connector.         2. Check continuity between IPDM E/R harness connector and hood switch harness connector.         IPDM E/R       Hood switch         Connector       Terminal         Ground       Continuity         E217       52         St be inspection result		LIECK HOOD SW		CIRCU	115			
(+)       (-)       Voltage (V)         Connector       Terminal       (-)       Voltage (V)         E223       2       Ground       Battery voltage         Is the inspection result normal?       YES       >> GO TO 3.       NO       >> GO TO 2.         2. CHECK HOOD SWITCH SIGNAL CIRCUITS       1       Disconnect IPDM E/R connector.       2       Check continuity between IPDM E/R harness connector and hood switch harness connector.       1         1       Disconnector       Terminal       Continuity       Continuity         2       Check continuity between IPDM E/R harness connector and hood switch harness connector.       1         1       Disconnector       Terminal       Continuity         2       E217       52       E223       2       Yes         3       Check continuity between IPDM E/R harness connector and ground.       1       1       1         Image: Second Continuity Detween IPDM E/R harness connector and ground.       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1       1	1. T 2. D 3. C	bisconnect hood s heck voltage bety	witch connector ween hood sw	or. itch har	ness conn	ector and	ground.	Γ
Hood switch     (-)     Voltage (V)       Connector     Terminal     (-)     Voltage (V)       E223     2     Ground     Battery voltage       Is the inspection result normal?     YES     >> GO TO 3.     Second       YES     >> GO TO 2.     Second     Battery voltage       2. CHECK HOOD SWITCH SIGNAL CIRCUITS     I     Disconnect IPDM E/R connector.     I       2. Check continuity between IPDM E/R harness connector and hood switch harness connector.     Image: Continuity Continuity     Image: Continuity Continuity       2. Check continuity between IPDM E/R harness connector     Terminal     Continuity       Image: Connector     Terminal     Continuity       Connector     Terminal     Continuity       Image: Connector     Terminal     Continuity       Image: Connector     Terminal     Continuity       Image: Connector     Terminal     Ground			(+)					
Connector       Terminal       Battery voltage         Is the inspection result normal?       2       Ground       Battery voltage         YES       >> GO TO 3.       NO       >> GO TO 2.       See         2. CHECK HOOD SWITCH SIGNAL CIRCUITS       I       Disconnect IPDM E/R connector.       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII			Hood switch				(-)	Voltage (V)
E223       2       Ground       Battery voltage         Is the inspection result normal?       YES       >> GO TO 3.       Second 2.       Second 2. <td></td> <td>Connector</td> <td></td> <td>Termin</td> <td>al</td> <td></td> <td></td> <td></td>		Connector		Termin	al			
Is the inspection result normal?       SE         YES       >> GO TO 3.         NO       >> GO TO 2.         2.CHECK HOOD SWITCH SIGNAL CIRCUITS       I         1. Disconnect IPDM E/R connector.       I         2. Check continuity between IPDM E/R harness connector and hood switch harness connector.       Image: Connector Terminal Connector Terminal Continuity         E217       52       E223       2       Yes         3. Check continuity between IPDM E/R harness connector and ground.       Image: Connector Terminal Ground Continuity       Continuity         E217       52       E223       2       Yes       No         3. Check continuity between IPDM E/R harness connector and ground.       Image: Connector Terminal Ground Continuity       Continuity         E217       52       Continuity       No       F         Is the inspection result normal?       YES       >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       No         YES       >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       No       F         3. CHECK HOOD SWITCH GROUND CIRCUIT       State of the theorem and theorem and theorem and the theorem and theo		E223		2			Ground	Battery voltage
YES       >> GO TO 3. NO       >> GO TO 2.         2.CHECK HOOD SWITCH SIGNAL CIRCUITS       1. Disconnect IPDM E/R connector.         1. Disconnect IPDM E/R connector.       2. Check continuity between IPDM E/R harness connector and hood switch harness connector.         Image: Second State	Is the	inspection result	normal?					SE
2.CHECK HOOD SWITCH SIGNAL CIRCUITS         1. Disconnect IPDM E/R connector.         2. Check continuity between IPDM E/R harness connector and hood switch harness connector.         Image: PDM E/R connector	YES NO	>> GO TO 3. >> GO TO 2.						
1. Disconnect IPDM E/R connector.         2. Check continuity between IPDM E/R harness connector and hood switch harness connector.         IPDM E/R       Hood switch         Connector       Terminal         Ground       Continuity         Is the inspection result normal?         YES       >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".         NO       >> Repair or replace harness.         3. CHECK HOOD SWITCH GROUND CIRCUIT	2.c⊦	IECK HOOD SW	ITCH SIGNAL	CIRCL	JITS			
2. Check continuity between IPDM E/R harness connector and hood switch harness connector.       IPDM E/R       Continuity         Connector       Terminal       Continuity         E217       52       E223       2       Yes         3. Check continuity between IPDM E/R harness connector and ground.       IPDM E/R       Continuity       No         IPDM E/R       Ground       Continuity       Continuity       No         IPDM E/R       Ground       Continuity       Continuity         Is the inspection result normal?       YES       >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       No       No         S. CHECK HOOD SWITCH GROUND CIRCUIT       If the the data of the term of term of the term of term of term of the term of term	1. D	isconnect IPDM I	=/R connector					
IPDM E/R       Hood switch       Continuity         Connector       Terminal       Connector       Terminal         E217       52       E223       2       Yes         3. Check continuity between IPDM E/R harness connector and ground.       IPDM E/R       Continuity       No         IPDM E/R       IPDM E/R       Ground       Continuity       No       Image: Continuity       Image: Continuity <td>2. C</td> <td>heck continuity b</td> <td>etween IPDM</td> <td>E/R ha</td> <td>rness conn</td> <td>ector and</td> <td>I hood switch har</td> <td>ness connector.</td>	2. C	heck continuity b	etween IPDM	E/R ha	rness conn	ector and	I hood switch har	ness connector.
Connector       Terminal       Connector       Terminal       Continuity         E217       52       E223       2       Yes       N         3.       Check continuity between IPDM E/R harness connector and ground.       IPDM E/R       Continuity       Continuity         IPDM E/R       Ground       Continuity       Continuity       Continuity       Continuity         IPDM E/R       Ferminal       Ground       Continuity       Continuity       Continuity       Continuity         Is the inspection result normal?       YES       >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       No       P         YES       >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       S.CHECK HOOD SWITCH GROUND CIRCUIT       Continuity       Continuity		IPDN	ЛЕ/R			Hood s	switch	N
E217       52       E223       2       Yes       N         3. Check continuity between IPDM E/R harness connector and ground.       IPDM E/R harness connector and ground.       Continuity       Continu		Connector	Terminal		Conne	ector	Terminal	
3. Check continuity between IPDM E/R harness connector and ground.       IPDM E/R       Continuity         IPDM E/R       Ground       Continuity         E217       52       No         Is the inspection result normal?       YES       >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       NO         YES       >> Repair or replace harness.       3. CHECK HOOD SWITCH GROUND CIRCUIT		E217	52		E22	23	2	Yes
IPDM E/R       Continuity       Continuity         Connector       Terminal       Ground       Continuity         E217       52       No       No         Is the inspection result normal?       YES       >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       NO         YES       >> Repair or replace harness.       3. CHECK HOOD SWITCH GROUND CIRCUIT       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of the term is to be an example.       Image: Continuity of term is to be an example.       Image: Continuity of term is to be an example.       Image: Continuity of term is to be an example.       Image: Continuity of term is to be an example.       Image: Continuity of term is to be an example.       Image: Continuity of term is to be an example.       Image: Continuity of term is to be an example.       Image: Conterm is tof term is to be an example.	3. C	heck continuity b	etween IPDM	E/R ha	rness conn	ector and	l ground.	
Connector     Terminal     Ground     Continuity       E217     52     No       Is the inspection result normal?       YES     >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       NO     >> Repair or replace harness.       3.CHECK HOOD SWITCH GROUND CIRCUIT			IPDM E/R					C
E217     52     No       Is the inspection result normal?     YES >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".       NO >> Repair or replace harness.       3.CHECK HOOD SWITCH GROUND CIRCUIT		Connector		Terminal			Ground	Continuity
Is the inspection result normal? YES >> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u> . NO >> Repair or replace harness. <b>3.</b> CHECK HOOD SWITCH GROUND CIRCUIT		E217		52			-	No
YES >> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u> . NO >> Repair or replace harness. <b>3.</b> CHECK HOOD SWITCH GROUND CIRCUIT	Is the	inspection result	normal?				l.	
<b>3.</b> CHECK HOOD SWITCH GROUND CIRCUIT	YES	>> Replace IF	DM E/R. Refe	er to <u>PC</u>	<u>S-35, "Rer</u>	noval and	Installation".	
	3 CF			s. D CIRC	спіт			
( 'hack continuity between hood switch harness connector and around			hood swite	h harne		tor and a	round	

< DTC/CIRCUIT DIAGNOSIS >

# HOOD SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

Hood	switch		Continuity
Connector	Terminal	Ground	Continuity
E223	1		Yes
	10		<u></u>

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

**4.**CHECK HOOD SWITCH

Refer to SEC-186, "Component Inspection" .

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace hood switch. Refer to <u>DLK-370, "HOOD LOCK : Removal and Installation"</u>.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> Inspection End.

## Component Inspection

# 1. CHECK HOOD SWITCH

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

 Hood	switch	Con	dition	Continuity
Terr	ninal			
 2	1	Hood switch	Press	No
2	I		Release	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace hood switch. Refer to <u>DLK-370, "HOOD LOCK : Removal and Installation"</u>.

INFOID:000000010339910

## [WITHOUT INTELLIGENT KEY SYSTEM]

Check CURITY Ho on. Test item ON ON N ORN RELA F. orn relay.	ORN" in "Active Test" mode of "THEFT ALM" of " Description Horn Sou Diagram".	INFOID:0000000103399; BCM" using CONSULT n inds (for 0.5 sec)
Check	ORN" in "Active Test" mode of "THEFT ALM" of "I         Description         Horn       Sou         Diagram".         AY         horn relay terminal and ground under the followir	INFOID:00000001033991 BCM" using CONSULT 1 Inds (for 0.5 sec) INFOID:00000001033991
CURITY HO on. Test item ON ON N ORN RELA F. orn relay.	ORN" in "Active Test" mode of "THEFT ALM" of " Description Horn Sou Diagram".	BCM" using CONSULT
CURITY He on. Test item NON N ORN RELA F. orn relay.	ORN" in "Active Test" mode of "THEFT ALM" of " Description Horn Sou	BCM" using CONSULT
Test item ON '. "Wiring D N ORN RELA F. orn relay. anti-theft	Description       Horn     Sou       Diagram".       AY       horn relay terminal and ground under the followir	וחds (for 0.5 sec) וארסום:00000001033991
NON	Horn Sou Diagram". AY	Inds (for 0.5 sec)
n ORN RELA F. orn relay.	Diagram". AY horn relay terminal and ground under the followir	INFOID:00000001033991
		ig conditions.
( )	Condition	Voltage (V)
(-)	Condition	(Approx.)
	12 V direct current supply between terminals 1 and 3	12
Ground	No current supply	0
eft horn rel	lay.	
e	ft horn re	ft horn relay.

# SECURITY INDICATOR LAMP

Component Function Check

# **1.**CHECK FUNCTION

1. Perform "THEFT IND" in "Active Test" mode of "IMMU" of "BCM" using CONSULT.

2. Check security indicator lamp operation.

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

Is the inspection result normal?

YES >> Inspection End.

NO >> Go to <u>SEC-188, "Diagnosis Procedure"</u>.

#### Diagnosis Procedure

INFOID:000000010339914

Regarding Wiring Diagram information, refer to SEC-137. "Wiring Diagram".

# 1. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect combination meter connector.

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

(+)				
Combina	tion meter	(—)	Voltage (V)	
Connector	Terminal			
M77	45	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 13, located in the fuse block (J/B)].

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

### 2.CHECK SECURITY INDICATOR LAMP SIGNAL

- 1. Connect combination meter connector.
- 2. Disconnect BCM connector.

3. Check voltage between BCM harness connector and ground.

(+)			
В	СМ	()	Voltage (V)
Connector	Terminal		
M18	35	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

>> GO TO 4. NO

3.REPLACE BCM

1. Replace BCM. Refer to BCS-135, "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.

INFOID:000000010339913

# SECURITY INDICATOR LAMP

# 

Combina	ation meter	B	CM	
Connector	Terminal	Connector	Terminal	<ul> <li>Continuity</li> </ul>
M76	7	M18	35	Yes
Check continuity b	etween combination r	meter harness conne	ctor and ground.	
C	ombination meter			Continuity
				Continuity
Connector	Termin	al	Ground	
Connector M76 le inspection result S >> Replace co >> Repair or r	Termin 7 normal? ombination meter. Replace harness.	fer to <u>MWI-82, "Remc</u>	Ground	No
Connector M76 <u>ne inspection result</u> S >> Replace co ) >> Repair or r	Termin 7 <u>normal?</u> ombination meter. Re- eplace harness.	al fer to <u>MWI-82, "Remo</u>	Ground	
Connector M76 ne inspection result S >> Replace of C >> Repair or r	Termin 7 normal? ombination meter. Re eplace harness.	fer to <u>MWI-82, "Remo</u>	Ground	

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# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

#### < SYMPTOM DIAGNOSIS >

# [WITHOUT INTELLIGENT KEY SYSTEM]

# SYMPTOM DIAGNOSIS

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

## Symptom Table

INFOID:000000010284533

#### NOTE:

- Before performing the diagnosis in the following table, check "<u>SEC-150, "Work Flow</u>"".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.
- If the following symptoms are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

#### CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

- · Mechanical key is not inserted into key cylinder.
- · Ignition knob switch is not depressed.

Symptom	Diagnosis/service procedure	Reference page
Security indicator does not turn ON or flash	1. Check vehicle security indicator	<u>SEC-188</u>
	2. Check Intermittent Incident	<u>GI-41</u>

## < SYMPTOM DIAGNOSIS >

# VEHICLE SECURITY SYSTEM

# Symptom Table

INFOID:000000010284534

Procedure Symptom		dure	Diagnostia procedure	Refer to page
		tom		
Vehicle secur tem cannot be	ity sys- e set by	Door switch	Check door switch (front door LH, front door RH, rear door LH, rear door RH)	<u>DLK-319</u>
1		_	Check Intermittent Incident	<u>GI-41</u>
Security indicator does not turn ON.			Check vehicle security indicator	<u>SEC-188</u>
		s not turn ON.	Check Intermittent Incident	<u>GI-41</u>
* Vehicle security 2 system does not sound alarm when ····	Any door is opened.	Check door switch (front door LH, front door RH, rear door LH, rear door RH)	DLK-319	
	_	Check Intermittent Incident	<u>GI-41</u>	
Vehicle security 3 alarm does not acti-	, Horn alarm	Check horn switch	DLK-335	
		Check Intermittent Incident	<u>GI-41</u>	
		Check headlamp switch	DLK-337	
Hea		Headlamp flash	Check Intermittent Incident	<u>GI-41</u>

**VEHICLE SECURITY SYSTEM** 

*: Check the system is in the armed phase.

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[WITHOUT INTELLIGENT KEY SYSTEM]

# REMOVAL AND INSTALLATION NATS ANTENNA AMP.

# Removal and Installation

INFOID:000000010284535

#### REMOVAL

- 1. Remove the steering column covers. Refer to IP-17, "Removal and Installation".
- 2. Disconnect the harness connector from the NATS antenna amp.
- 3. Release pawls and remove NATS antenna amp. (1) from the ignition switch (2).

(_): Pawl



#### INSTALLATION

Installation is in the reverse order of removal.

#### NOTE:

- If NATS antenna amp. is not installed correctly, NVIS (NATS) system will not operate properly and "SELF-DIAG RESULTS" on CONSULT screen will show "LOCK MODE" or "CHAIN OF IMMU-KEY".
- Initialization is not necessary when only the NATS antenna amp. is replaced with a new one.