# SECURITY CONTROL SYSTEM

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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.

### Precaution for Work

• When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.

- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component second second
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

INFOID:000000012430322

# PREPARATION PREPARATION

## Special Service Tool

INFOID:000000012430323

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name		Description
— (J-46534) Trim Tool Set	AWJIA0483ZZ	Removing trim components

# SYSTEM DESCRIPTION COMPONENT PARTS

**Component Parts Location** 

INFOID:000000012430324



A. View right of steering column

B. View with glove box cover removed

No.	Component	Function
1.	Combination meter	Combination meter transmits the vehicle speed signal to BCM via CAN communica- tion. BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM com- pares both signals to detect the vehicle speed. Security indicator lamp is located on combi- nation 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-9, "METER SYSTEM : Combi- nation Meter"</u> .
2.	Inside key antenna (instrument center)	Inside key antenna (instrument center) de- tects whether Intelligent Key is inside the ve- hicle or not, and then transmits the signal to the BCM. Refer to <u>SEC-10, "Inside Key Antenna"</u> .

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### **COMPONENT PARTS**

### < SYSTEM DESCRIPTION >

### [WITH INTELLIGENT KEY SYSTEM]

No.	Component	Function
3.	ABS actuator and electric unit (control unit)	ABS actuator and electric unit (control unit) transmits the vehicle speed signal to BCM via CAN communication. BCM also receives the vehicle speed signal from the combination meter via CAN communication. BCM compares both signals to detect the vehicle speed. Refer to <u>BRC-8</u> , " <u>ABS Actuator and Electric</u> <u>Unit (Control Unit)</u> " for detailed installation location.
4.	Intelligent Key warning buzzer	Intelligent Key warning buzzer warns the us- er, who is outside the vehicle, of operation confirmation according to Intelligent Key op- eration and door request switch operation, or of an inappropriate operation.
5.	Transmission range switch	Transmission range switch detects the CVT shift selector lever position.
6.	IPDM E/R	Starter control relay is integrated in IPDM E/R and used for the engine starting function. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R while communicating with BCM. IPDM E/R sends the starter control relay and starter relay sta- tus signal to BCM.
7.	ВСМ	BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VE- HICLE 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-6, "BODY CONTROL SYSTEM</u> : <u>Component Parts Location"</u> for detailed in- stallation location.
8.	Clutch interlock switch	Clutch interlock switch detects that clutch pedal is depressed, and then transmits ON/ OFF signal to the BCM.
9.	Stop lamp switch	Stop lamp switch detects that brake pedal is depressed, and then transmits ON/OFF signal to the BCM.
10.	Main power window and door lock/unlock switch	Door lock and unlock switch is integrated into the main power window and door lock/unlock switch. Door lock and unlock switch transmits door lock/unlock operation signal to BCM. Refer to <u>PWC-7</u> , "Main Power Window And <u>Door Lock/Unlock Switch"</u> .
11.	CVT shift selector (park position switch)	Park position switch is integrated into the CVT shift selector and detects that the selector lever is in the P (park) position, then transmits ON/OFF signal to the BCM and IPDM E/R.

### **COMPONENT PARTS**

### < SYSTEM DESCRIPTION >

### [WITH INTELLIGENT KEY SYSTEM]

No.	Component	Function
12.	Front door switch LH	Door switch detects door open/close condi- tion and then transmits ON/OFF signal to BCM.
13.	Rear door switch LH	Door switch detects door open/close condi- tion and then transmits ON/OFF signal to BCM.
14.	Inside key antenna (trunk room)	Inside key antenna (trunk room) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to <u>SEC-10, "Inside Key Antenna"</u> .
15.	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>SEC-10, "Inside Key Antenna"</u> .
16.	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 igni- tion 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.
17.	NATS antenna amp.	ID verification is performed between the BCM and the transponder integrated into the Intel- ligent Key via the NATS antenna amp.
18.	Remote keyless entry receiver	Remote keyless entry receiver receives but- ton operation signal and key ID signal of Intel- ligent Key, and them transmits them to the BCM. Refer to <u>SEC-10. "Remote Keyless Entry Re-</u> <u>ceiver"</u> .

### CVT Shift Selector (Park Position Switch)

INFOID:000000012430325 Park position switch detects that CVT shift selector is in the P (Park) position and then transmits the signal to SEC BCM and IPDM E/R. BCM confirms the CVT shift selector position with the following 5 signals: • P (Park) position signal from CVT shift selector (park position switch) L P/N position signal from TCM P (Park) position signal from IPDM E/R (CAN) P/N position signal from IPDM E/R (CAN) P/N position signal from TCM (CAN) Μ IPDM E/R confirms the CVT shift selector position with the following 3 signals: • P (Park) position signal from CVT shift selector (park position switch) P/N position signal from TCM Ν P/N position signal from BCM (CAN) BCM INFOID:000000012430326 BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBI-LIZER SYSTEM-NATS (NATS) and VEHICLE SECURITY SYSTEM.

BCM performs the ID verification between BCM and Intelligent Key when the Intelligent Key is carried into the Ρ detection area of inside key antenna and push-button ignition switch is pressed. If the ID verification result is OK, push-button ignition switch operation is available.

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

### ECM

ECM controls the engine.

INFOID:000000012430327

### **COMPONENT PARTS**

### < SYSTEM DESCRIPTION > When power supply position is turned ON, BCM starts communication with ECM and performs the ID verification between BCM and ECM.

If the verification result is OK, the engine can start. If the verification result is invalid, the engine can not start.

### IPDM E/R

IPDM E/R has the starter relay and starter control relay inside. Starter relay and starter control relay are used for the engine starting function. IPDM E/R controls these relays while communicating with BCM.

### NATS Antenna Amp.

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

### **Combination Meter**

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

Door Switch

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

### Outside Key Antenna

Outside key antenna detects whether Intelligent Key is outside the vehicle and transmits the signal to BCM. Three outside key antennas are installed in the front outside handle LH, front outside handle RH and rear bumper.

### Inside Key Antenna

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

### Remote Keyless Entry Receiver

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

### Intelligent Key

Each Intelligent Key has an individual electronic ID and transmits the ID signal by request from BCM. Carrying the Intelligent Key whose ID is registered in BCM, the driver can perform, remote start, door lock/ unlock operation, remote liftgate, panic alarm and push-button ignition switch operation.

### Push-button Ignition Switch

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

### Security Indicator Lamp

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

### Starter Relay

Engine starting system functions by controlling both starter relay and starter control relay. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R on request from BCM. IPDM E/R transmits starter relay and starter control relay status signal to BCM via CAN communication.

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### [WITH INTELLIGENT KEY SYSTEM]

INFOID:000000012430329

INFOID:000000012430330

INFOID:000000012430331

INFOID:000000012430332

INFOID:000000012430328

### [WITH INTELLIGENT KEY SYSTEM]

### Stop Lamp Switch INFOID:000000012430339 Stop lamp switch detects that brake pedal is depressed, and then transmits the signal to BCM. Transmission Range Switch INFOID:000000012430340 Transmission range switch is integrated in CVT assembly, and detects the CVT shift selector position. TCM receives the transmission range switch signal and then transmits the P/N position signal to BCM and IPDM E/R. BCM confirms the CVT shift selector position with the following 5 signals: • P (Park) position signal from CVT shift selector (park position switch) P/N position signal from TCM P (Park) position signal from IPDM E/R (CAN) P/N position signal from IPDM E/R (CAN) • P/N position signal from TCM (CAN) IPDM E/R confirms the CVT shift selector position with the following 3 signals: • P (Park) position signal from CVT shift selector (park position switch) P/N position signal from TCM P/N position signal from BCM (CAN)

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Revision: August 2015

# SYSTEM INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:000000012430341

### SYSTEM DIAGRAM



### 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 NATS ID). It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- If the ID is successfully verified, when push-button ignition switch is pressed the engine can be started.
- For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the onscreen instructions.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.

NOTE:

### SYSTEM

### < SYSTEM DESCRIPTION >

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Refer to <u>SEC-15, "NISSAN ANTI-THEFT SYSTEM : System Description"</u> for any functions other than engine start function of Intelligent Key system.	А
PRECAUTIONS FOR INTELLIGENT KEY SYSTEM	
The transponder (the chip for NATS ID verification) is integrated into the Intelligent Key. (For the conventional models, it is integrated into the mechanical key.) Therefore, ID verification cannot be per- formed by mechanical key only.	В
In that case, NATS ID verification can be performed when Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If verification result is OK, engine can be started.	С
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.	D
2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the BCM.	
3. BCM receives the Intelligent Key ID signal via remote keyless entry receiver and verifies it with the regis- tered ID.	E
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.	F
6. IPDM E/R turns the starter control relay ON for engine starting in advance.	
7. BCM detects the selector lever position and brake pedal operation condition.	G
<ol> <li>BCM transmits the starter request signal to IPDM E/R and turns the starter relay ON if BCM judges that the engine start condition* is satisfied.</li> </ol>	
<ol> <li>Power supply is supplied through the starter relay and the starter control relay to operate the starter motor.</li> </ol>	Н
If a malfunction is detected in the Intelligent Key system, the "KEY" warning lamp on the combina- tion meter illuminates. At that time, the engine cannot be started.	ı
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 "IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUT- TON IGNITION SWITCH OPERATION".	SEC
OPERATION RANGE	L
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	M
When Intelligent Key battery is discharged, NATS ID verification between transponder in Intelligent Key and BCM is performed when Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If the verification result is OK, engine can be started.	Ν
IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERA- TION	0
The ignition switch position can be changed by the following operations:	
<ul> <li>NOTE:</li> <li>When an Intelligent Key is within the detection area of inside key antenna or when Intelligent Key backside is contacted to push-button ignition switch, it is equivalent to the operations below:</li> <li>When starting the engine, the BCM monitors under the engine start conditions:</li> <li>Brake pedal operation condition</li> </ul>	Ρ
- Selector lever position	

- Vehicle speed

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

### SYSTEM

### < SYSTEM DESCRIPTION >

	Con	- Push-button ignition switch opera- tion frequency	
Power supply position	Selector lever Brake pedal operation tion		
$OFF \to ACC$	_	Not depressed	1
$OFF \rightarrow ACC \rightarrow ON$	—	Not depressed	2
$OFF \to ACC \to ON \to OFF$	_	Not depressed	3
$OFF \rightarrow START$ ACC $\rightarrow START$ ON $\rightarrow START$	P or N position	Depressed	1
Engine is running $\rightarrow$ OFF		—	1

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

	Con	Push button ignition switch opera		
Power supply position	Selector lever	Brake pedal operation condi- tion	tion 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 ANTI-THEFT SYSTEM

### NATS antenna amp.

### ignition switch ECM Push-button ignition signal switch Door switch signal тсм Each door switch BCM Stop lamp switch signal ABS actuator and electric unit Stop lamp switch (control unit) Park position CVT shift selector switch signal Combination meter (Park position switch) (CVT models) Park/neutral Transmission position switch range switch sianal Park/neutral position switch signal Transmission range switch (M/T models) (CVT models) Clutch interlock Dongle unit signal switch signal Dongle unit Clutch interlock switch (Canada only) (M/T models) ALKIA3647GB

SYSTEM

### SYSTEM DESCRIPTION

- The Nissan Anti-Theft System (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 NATS ID verification is performed between the transponder integrated with Intelligent Key Ν and BCM via NATS antenna amp. when the Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If the verification result is OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator lamp and always blinks it when the ignition switch is in any position except ON 0 to warn that the vehicle is equipped with Nissan Anti-Theft System (NATS).
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.
- When replacing ECM, BCM or Intelligent Key, the specified procedure (Initialization and registration) using CONSULT is required.
- For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the onscreen instructions.
- Possible symptom of NATS malfunction is "Engine can not start". This symptom also occurs because of other than NATS malfunction, so start the trouble diagnosis according to SEC-46, "Work Flow".
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-477, "Removal and Installation".

# < SYSTEM DESCRIPTION >

NISSAN ANTI-THEFT SYSTEM : System Description

SYSTEM DIAGRAM



[WITH INTELLIGENT KEY SYSTEM]

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### SYSTEM

### < SYSTEM DESCRIPTION >

### PRECAUTIONS FOR KEY REGISTRATION

- The ID registration is a procedure that erases the current NATS ID once, and then registers 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 IDs (NATS ID and Intelligent Key ID).

### SECURITY INDICATOR LAMP

- Security indicator lamp warns that the vehicle is equipped with NATS.
- Security indicator lamp always blinks when the ignition switch is in 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 position the 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 NATS ID verification between BCM and Intelligent Key (transponder built-in) via NATS antenna amp.
- 3. When 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. IPDM E/R turns the starter control relay ON for engine starting in advance.
- 7. BCM detects that the selector lever position and brake pedal operation condition.
- 8. BCM transmits starter request signal to IPDM E/R and turns the starter relay ON if BCM judges that the engine start condition\* is satisfied.
- 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 "IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUT-TON IGNITION SWITCH OPERATION" below.

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

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

### NOTĚ:

- When an Intelligent Key is within the detection area of inside key antenna or 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 operation condition
- Selector lever position
- Vehicle speed

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

	Con	Push-button ignition switch opera- tion frequency	
Power supply position	Selector lever Brake pedal operation condi- tion		
$OFF \to ACC$	—	Not depressed	1
$OFF \to ACC \to ON$	—	Not depressed	2
$OFF \to ACC \to ON \to OFF$	—	Not depressed	3
$OFF \rightarrow START$ ACC $\rightarrow START$ ON $\rightarrow START$	P or N position	Depressed	1
Engine is running $\rightarrow \text{OFF}$	_	—	1

### SYSTEM

### [WITH INTELLIGENT KEY SYSTEM]

### < SYSTEM DESCRIPTION > Vehicle speed: 4 km/h (2.5 MPH) or more

				A
	Con			
Power supply position	Selector lever	Brake pedal operation condi- tion	tion frequency	
Engine is running $\rightarrow ACC$	—	—	Emergency stop operation	
Engine stall return operation while driving	N position	Not depressed	1	С

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.

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# DIAGNOSIS SYSTEM (BCM) COMMON ITEM

### COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000012542530

### 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	<ul><li>The vehicle specification can be read and saved.</li><li>The vehicle specification can be written when replacing BCM.</li></ul>
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	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Vehicle security system	THEFT ALM			×	×			
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS AIR PRESSURE MONITOR			×	×	×	×		
Panic alarm system PANIC ALARM					×			

### INTELLIGENT KEY

### INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:000000012542526

[WITH INTELLIGENT KEY SYSTEM]

### SELF DIAGNOSTIC RESULT

Refer to BCS-50, "DTC Index".

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Monitor Item [Unit]	Main	Description
REQ SW -DR [On/Off]	×	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	×	Indicates condition of door request switch RH.
REQ SW -BD/TR [On/Off]	×	Indicates condition of back door request switch.
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.
CLUCH SW [On/Off]	×	Indicates condition of clutch interlock switch.
BRAKE SW 1 [On/Off]	×	Indicates condition of brake switch.
BRAKE SW 2 [On/Off]		Indicates condition of brake switch.
DETE/CANCL SW [On/Off]	×	Indicates condition of P (park) position.
SFT PN/N SW [On/Off]	×	Indicates condition of P (park) or N (neutral) position.
UNLK SEN -DR [On/Off]	×	Indicates condition of door unlock sensor.
PUSH SW -IPDM [On/Off]		Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line.
IGN RLY1 -F/B [On/Off]		Indicates condition of ignition relay 1 received from IPDM E/R on CAN commu nication line.
DETE SW -IPDM [On/Off]		Indicates condition of detent switch received from TCM on CAN communication line.
SFT PN -IPDM [On/Off]		Indicates condition of P (park) or N (neutral) position from TCM on CAN com- munication line.
SFT P -MET [On/Off]		Indicates condition of P (park) position from TCM on CAN communication line
SFT N -MET [On/Off]		Indicates condition of N (neutral) position from IPDM E/R on CAN communica tion line.
ENGINE STATE [Stop/Start/Crank/Run]	×	Indicates condition of engine state from ECM on CAN communication line.
VEH SPEED 1 [mph/km/h]	×	Indicates condition of vehicle speed signal received from ABS on CAN commu nication line.
VEH SPEED 2 [mph/km/h]	×	Indicates condition of vehicle speed signal received from combination meter or CAN communication line.
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.
ID OK FLAG [Set/Reset]		Indicates condition of Intelligent Key ID.
PRMT ENG STRT [Set/Reset]		Indicates condition of engine start possibility.
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-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.

### ACTIVE TEST

### DIAGNOSIS SYSTEM (BCM) [WITH INTELLIGENT KEY SYSTEM]

Test Item	Description			
INSIDE BUZZER	This test is able to check combination meter warning chime operation [Take Out/Knob/Key/ Off].			
LCD	This test is able to check combination meter display information [Off/LK WN/OUTKEY/NO KY/BATT/INSRT/SFT P/ROTAT/ID NG/B&P I/B&P N].			
BATTERY SAVER	This test is able to check battery saver operation [On/Off].			
ENGINE SW ILLUMI	This test is able to check push-button ignition switch START indicator operation [On/Off].			
PUSH SWITCH INDICATOR	This test is able to check push-button ignition switch indicator operation [On/Off].			
INT LAMP	This test is able to check interior room lamp operation [On/Off].			
INDICATOR	This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off].			
FLASHER	This test is able to check hazard lamp operation [LH/RH/Off].			
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation [On/Off].			
HORN	This test is able to check horn operation [On].			
P RANGE	This test is able to check CVT shift selector illumination operation [On/Off].			

### WORK SUPPORT

<b>A</b>					
Support Item	Setting		Description		
LOCK/UNLOCK BY I-KEY	On*		Door lock/unlock function from Intelligent Key ON.		
	Off		Door lock/unlock function from Intelligent Key OFF.		
	On*		Anti lock out setting ON.		
	Off		Anti lock out setting OFF.		
	Off		No buzzer reminder when doors are unlocked with request switch.		
AND DACK PRET UNLOOK	On*		Buzzer reminder when doors are unlocked with request switch.		
	Horn Chirp	)	Horn chirp reminder when doors are locked with request switch.		
ANS BACK I-KEY LOCK	Buzzer*		Buzzer reminder when doors are locked with request switch.		
	Off		No reminder when doors are locked with request switch.		
	Off		Horn chirp reminder when doors are locked with Intelligent Key.		
HORN WITH RETLESS LOCK	On*		No horn chirp reminder when doors are locked with Intelligent Key.		
	Lock/Unlock*		Hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.		
	Unlock Only		Hazard warning lamp activation when doors are unlocked with In ligent Key or request switch.		
	Lock Only		Hazard warning lamp activation when doors are locked with Integent Key or request switch.		
	Off		No hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.		
INSIDE ANT DIAGNOSIS	_		This function allows inside key antenna self-diagnosis.		
CONFIRM KEY FOB ID	-		Intelligent Key ID code can be checked.		
		70 msec			
	Start	100 msec	Starter motor operation duration time setting.		
SHOKT CRAINKING OUTPUT		200 msec			
	End				
	MODE 3	1.5 sec			
PANIC ALARM SET	MODE 2 OFF		Intelligent Key panic alarm button setting.		
	MODE 1*	0.5 sec			
	On*		Intelligent Key low battery warning ON.		
LO- BALL OF NET FUB WARN	Off		Intelligent Key low battery warning OFF.		

**Revision: August 2015** 

### **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

### [WITH INTELLIGENT KEY SYSTEM]

Support Item	Se	tting	Description					
	MODE7	5 min		A				
	MODE6	4 min						
	MODE5	3 min	Auto door lock time setting.					
AUTO LOCK SET	MODE4	2 min						
	MODE3*	1 min						
	MODE2	30 sec		С				
	MODE1	Off						
*: Initial Setting		1		D				
THEFT ALM								
THEFT ALM : CONSU	ILT Functior	ו (BCM	- THEFT)	E				
Monitored Item		Description						
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.							
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.							
REQ SW -BD/TR [On/Off]	Indicates condition of back door request switch.							
PUSH SW [On/Off]	Indicates conditi	on of push-l	button ignition switch.					
UNLK SEN -DR [On/Off]	Indicates conditi	on of door ι	inlock sensor.	H				
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.							
DOOR SW-AS [On/Off]	Indicates conditi	on of front c	loor switch RH.	1				
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.							
DOOR SW-RL [On/Off]	Indicates conditi	on of rear d	oor switch LH.					
DOOR SW-BK [On/Off]	Indicates condition of back door switch.							
CDL LOCK SW [On/Off]	Indicates conditi	on of lock s	ignal from door lock and unlock switch.					
CDL UNLOCK SW [On/Off]	Indicates conditi	on of unlock	signal from door lock and unlock switch.	95				
KEY CYL LK-SW [On/Off]	Indicates conditi	on of lock s	ignal from door key cylinder switch.	SEV				
KEY CYL UN-SW [On/Off]	Indicates conditi	on of unlock	signal from door key cylinder switch.					
RKE-LOCK [On/Off]	Indicates conditi	on of lock s	ignal from Intelligent Key.	L				
RKE-UNLOCK [On/Off]	On/Off] Indicates condition of unlock signal from Intelligent Key.							
ACTIVE TEST				М				

Test Item	Description	
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].	N
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].	
HEAD LAMP(HI)	This test is able to check vehicle security lamp operation [On].	0

### IMMU

### IMMU : CONSULT Function (BCM - IMMU)

SELF DIAGNOSTIC RESULT Refer to <u>BCS-50, "DTC Index"</u>. DATA MONITOR

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### DIAGNOSIS SYSTEM (BCM)

### [WITH INTELLIGENT KEY SYSTEM]

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

### 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 code can be read.

### < ECU DIAGNOSIS INFORMATION >

# ECU DIAGNOSIS INFORMATION

# ECM, IPDM E/R, BCM

### List of ECU Reference

INFOID:000000012430347 B

[WITH INTELLIGENT KEY SYSTEM]

ECU	Reference								
	EC-71, "Reference Value"	C							
ECM	EC-83. "Fail Safe"								
LOM	EC-85. "DTC Inspection Priority Chart"								
	EC-87, "DTC Index"								
	BCS-30, "Reference Value"	_							
PCM	BCS-48. "Fail-safe"								
BCM	BCS-49, "DTC Inspection Priority Chart"								
	BCS-50, "DTC Index"	F							
	PCS-13, "Reference Value"								
IPDM E/R	PCS-19, "Fail-safe"								
	PCS-20, "DTC Index"	G							

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# WIRING DIAGRAM INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

### Wiring Diagram

INFOID:000000012430348





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# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >





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																							A
	1-M01		ne											2 1 14 13		au							В
	CONNECTOR	6         5         4         3         2         1           16         15         14         13         12         11	Signal Nar	1 1	1	I	1 1	1	I	I	TO MIRE		[	8 7 6 5 4 3 20 19 18 17 16 15	i	olgrial Nar	1			1	I		С
	o. M10 ame JOIN1 olor BLUE	9 8 7 20 19 18 17	Color of Wire			۹.	<u>م</u> م	_	œ	8	0. M16	olor WHIT		24 23 22 21	Color of	Wire	> 3		n Da	SB	ГG		D
	Connector N Connector N Connector C	U.S.H	Terminal No.	4 7	∞ !	13	16	18	19	20	Connector N	Connector C	मित	S.H	- - -		ę ;	<u></u>	17	18	22		E
(0)	[]					_																	F
<b>CTOR</b>	OR-M02		lame										[F	- ∞]		vame							G
I CONNE	IT CONNECT EN	7 6 5 4 3 2 7 16 15 14 13 1	Signal h	1 1	1	1								4         3         2           13         12         11         10         9	Signal 1	aignai I	I						Н
CTION	lo. M8 lame JOIN color GRE	9         8         7           20         19         18         1	Color of Wire		۹ ۱	4					lo. M15		7 6 5	, 16 15 14	Color of	. Wire	٩						I
RT FUNC	Connector N Connector N Connector C	际 H.S.	Terminal No	დ თ	19	20					Connector N	Connector C		H.S.			ო						J
INE ST																							SE
SYSTEM/ENG	ONNECTOR-M03	5 4 3 2 1 5 14 13 12 11 10	Signal Name	1 1	1	ı							3 2 1	12 11 10 9 8	i	olgrial Name	I	I					L
Γ KEY S	M5 e JOINT CO WHITE	9 8 7 6 5 19 18 17 16 1	olor of Nire	<u></u> ш	LG	ш ш					M12 WIDE TC	WHITE	7 6 5 4	16 15 14 13	olor of	Wire	е ў	M					IVI
LIGEN	nector No. nector Nam		iinal No.	6 5	~	6					nector No.	lector Color		Ċ,			1 0						Ν
INTELI	Conn Conn	语 H	Term								Conr	Con	Æ	H	ļ				AB	KIA70	98GB		0

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2016 Versa Note

Connector Name CVT SHIFT SELECTOR Connector Name INSIDE KEY ANTENNA (CONSOLE) Signal Name Signal Name T T ī T. 1 2 3 4 5 6 7 8 Connector Color WHITE Connector Color BLUE M38 Color of Wire M89 Color of Wire > ſĽ ര £ Connector No. Connector No. Terminal No. Terminal No. ω -N H.S. H.S. F E – (WITH INTELLIGENT KEY SYSTEM) Signal Name Signal Name Connector Name PUSH-BUTTON IGNITION SWITCH T Т Т L L I Т Т T T Т Т T Т T. 
 4
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 8
 Connector Color WHITE M25 Color of Wire Color of Wire ß GЯ SB ВВ ВВ വ ш œ ٩ \_ œ ≥ > വ G œ > Connector No. Terminal No. Terminal No. 20A 21A 39A 41A 43A 47A 48A 49A 50A 91A 92A 93A ١A ო 4 ~ ∞ H.S. 惛 5 4 3 2 1 5 24 23 22 21 7 6 27 26 21A 204 19A 18A 17A 16A 15A 14A 13A 12A 11A 30A 29A 28A 27A 26A 25A 24A 23A 22A 81A 80A 79A 78A 77A 76A 75A 74A 73A 72A 71A 90A 89A 83A 87A 86A 85A 84A 83A 82A 41A 40A 39A 38A 37A 36A 35A 34A 33A 32A 31A 50A 49A 48A 47A 46A 45A 44A 43A 42A 61A 60A 59A 58A 57A 56A 55A 54A 53A 52A 51A 70A 69A 68A 67A 66A 65A 64A 63A 62A GND (CIRCUIT) 
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 SECURITY IND Connector Name COMBINATION METER (WITH TYPE B) GND (POWER) Signal Name GND (ILL) CAN-H CAN-L 95A 94A 93A 92A 91A 100A 99A 98A 97A 96A 
 5A
 4A
 3A
 2A
 1A

 10A
 9A
 8A
 7A
 6A
 BAT Connector Name WIRE TO WIRE WHITE Connector Color WHITE 5A M24 M69 Color of Wire МN GВ ш ш \_ ٩ ш Connector Color Connector No. Connector No. Terminal No. 23 18 22 - ດ\ 21 H.S. H.S. f 偃

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< WIRING DIAGRAM >

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# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

# [WITH INTELLIGENT KEY SYSTEM]



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AAKIA2271GB



ABKIA7102GB



AAKIA2273GB



AAKIA2274GB



AAKIA2275GB

### INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION [WITH INTELLIGENT KEY SYSTEM] < WIRING DIAGRAM >





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AAKIA2276GB
< WIRING DIAGRAM >

# [WITH INTELLIGENT KEY SYSTEM]

# NVIS - WITH INTELLIGENT KEY SYSTEM

# Wiring Diagram



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# **NVIS - WITH INTELLIGENT KEY SYSTEM**

< WIRING DIAGRAM >

	NVIS - WITH INTELLIGENT KEY SYSTEM
< WIRING DIAGRAM >	[WITH INTELLIGENT KEY SYSTEM]

	02											4 3 2 1 24 23 22 21								]		A
	CONNECTOR-M	6 5 4 3 2 1 16 15 14 13 12 11 10	Signal Name	I	I	I	I		INATION METER TYPE B)			1 10 9 8 7 6 5 11 30 29 28 27 26 25	Signal Name	CAN-H	CAN-L	SECURITY INI	GND (ILL)	GND (CIBCI II	BAT			С
Wo	o. M8 time JOINT olor GREET	9         8         7           20         19         18         17	Color of Wire	_	_	<u> </u>	-	. M24	tme COMB (WITH	lor WHITE		15 14 13 12 1 35 34 33 32 3	Color of Wire	Г	Р	GR	20 0	0 00	N/H			D
Notice of the second seco	Connector No Connector Na Connector Co	际间 H.S.	Terminal No.	ω	6	19	202	Connector No	Connector Na	Connector Co	四	20 19 18 17 16 40 39 38 37 36	Terminal No.	-	2	18	17 8	3 8	27			Е
_				1-1					1 1					1			-1					F
			l Name	1	1				A AMP.				l Name	-	1	ITELLIGENT VSTEM)	TELLIGENT	YSTEM)				G
EM.	VGLE UNIT	5 3 4	Signa						S ANTENN	u =	4		Signal			NITH IN KFY S	– (WITH IN	, KEY S				Н
′ SYST	do. M6 Jame DON Color WHI		. Color of Wire	SB	В			Jo. M21	Jame NAT				. Color of Wire	BR	Р	LG	6	٥				I
ENT KEY	Connector N Connector N Connector C	同间 H.S.	Terminal No	-	4			Connector N	Connector N		品 H.S.		Terminal No	-	2	e		t				J
																						SEC
RS - WITH INT	T CONNECTOR-M03	6         5         4         3         2         1           16         15         14         13         12         1         10	Signal Name	1	I	1			T CONNECTOR-M01		6 5 4 3 2 1 16 15 14 13 12 11 10		Signal Name	I	I	I	I		1	1	I	L
VECTO	o. Mb ame JOIN vlor WHIT	9 8 7 20 19 18 17	Color of Wire	в	B	n G		. M10	ame JOIN		9 8 7 20 19 18 17		Color of Wire		L	_	2			œ	>	Ν
	Connector Nc Connector Nc Connector Cc	日 H.S.	Terminal No.	ъ	9	~ c	8	Connector No	Connector Né		H.S.	<u>-</u> ]	Terminal No.	4	7	ω	13	17	- 18	19	20	0
Z																			ABK	IA710	3GB	

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# NVIS - WITH INTELLIGENT KEY SYSTEM

### < WIRING DIAGRAM >

Connector No. M51 Connector Name JOINT CONNECTOR-M04	Connector Color BLUE	H.S.	Terminal No. Color of Signal Name	18 LG –	20 V –		Connector No. M97 RCM (RODY CONTROL	Connector Name MODULE) (WCM HOCE					H.S.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	Terminal No. Color of Signal Name	Wire	9 LG BRAKE SW 1	21 P WAY COMMUNICATION	(CLOCK)	23 GR SECURITY INDICATOR	24 SB DONGLE LINK (SERIAL)	25 LG IMMOBILIZER COMMUNICATION	37 R SHIFT P POSITION, DARKING POSITION SW	39 L CAN-H	40 P CAN-L
8 T SHIFT SELECTOR	ITE	2         3         4           6         7         8         4	Signal Name	1	1		f Signal Name	1	1	I	I	I	I	I	1	1	I	1	1	1	1	– (WITH INTELLIGENT KEY SYSTEM)	I			
Connector No. M3 Connector Name CV	Connector Color WH	H.S.	Terminal No. Wire	7	8 R		Terminal No. Color of Wire	1A GR	20A P	21A L	37A V	38A R	39A SB	41A R	43A BR	47A W	48A V	49A G	50A BR	91A G	92A R	93A BG	97A BR			
nector No. M25 Inector Name PUSH-BUTTON IGNITION	nnector Color WHITE	1S.	minal No. Color of Signal Name	3 G –	4 B –	μ - ι μ - ι	mector No. M69	inector Name wine to wine nector Color WHITE			54 44 24 24 24 34	10A 9A 8A 7A 6A		21A 20A 19A 18A 17A 16A 15A 14A 13A 12A 11A	30A 29A 28A 27A 26A 25A 25A 23A 22A	41A 40A 39A 38A 37A 36A 35A 34A 33A 32A 31A	50A 49A 48A 47A 46A 45A 44A 43A 42A	R141804 584 574 564 554 544 534 534 574 514	70A 99A 68A 67A 66A 65A 64A 63A 62A	01 A DAT ANT ANT ANT ANT ANT ANT ANT ANT AND	01Aprov/354/264/254/264/254/254/254/254/254/254/254/254/254/25	056 044 000 000 000	100A (99A) 98A (97A) 100A (99A) 98A (97A)			

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#### **NVIS - WITH INTELLIGENT KEY SYSTEM INTELLIGENT KEY SYSTEM**]

BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM) **BATTERY (FUSE)**  
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 BATTERY (F/L) Signal Name Signal Name GND 
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 Т I. 1 Connector Name WIRE TO WIRE Connector Color WHITE Connector Color WHITE M99 Color of Wire Color of Wire 8 ര ٩ ≻ ш \_ > Connector Name Connector No. Connector No. Terminal No. Terminal No. 20 15 57 67 9  $\sim$ H.S.H. Ή.S. E 惛 POWER POSITION LED (LOCK POSITION) AT DEVICE OUTPUT ENGINE START SW SMART KEYLESS BUZZER OUTPUT STARTER RELAY OUTPUT Signal Name **CLUTCH SW** SHIFT N, P **BRAKE SW2** Signal Name Т T L T. Т T. Т 1 1 Т L. I. 1 I. Т Т Color of Wire Color of Wire GВ SB SB G/B ВВ SB ŋ ŋ BG > > ≥ œ വ œ ≻ > \_ > £ ۵ \_ ≻ \_ Terminal No. 102 92A 93A 104 105 91A 97A 76 101 91 93 98 71A 72A 73A 74A 75A 76A 77A 78A 79A 80A 81A 82A 83A 84A 85A 86A 87A 88A 89A 90A 91A 92A 93A 94A 95A 96A 97A 98A 99A 100A

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Terminal No		1A	20A	21A	37A	38A	39A	41A	43A	47A	48A	49A	50A
E7	ne WIRE TO WIRE	or WHITE			14 24 24 14 5A	6A 7A 8A 9A 10A		114 124 134 144 154 164 174 184 194 204 21A	22A 23A 24A 25A 26A 27A 28A 29A 30A	31A 32A 33A 34A 35A 36A 37A 38A 39A 40A 41A	42A 43A 44A 45A 46A 47A 48A 49A 50A	51A 52A 53A 54A 55A 56A 57A 58A 59A 60A 61A	62A 63A 64A 65A 66A 67A 68A 69A 70A

< WIRING DIAGRAM >

Connector Color WHITE Connector Name WIRE

H.S.

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Connector No.



**Revision: August 2015** 

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< WIRING DIAGRAM >	[WITH INTELLIGENT KEY SYSTEM]
Connector No.     E43       Connector Name     PDM E/R (INTELLIGENT       Connector Name     PDMER DISTRIBUTION       Connector Color     BLACK       Connector Color     BLACK       Image: State of the state of	Connector No.       E46         Connector Name       PDM EA (INTELLIGENT         Connector Name       PDMEAR DISTRIBUTION         Connector Name       POWER DISTRIBUTION         Connector Color       WHITE         Connector Color       WHITE         Connector Color       WHITE         Connector Color       WHITE         Connector Color       MINITE         Connector Color       Signal Name         Connector       Conn-t         Connector       Conn-t         Connector       Conn-t         Connector       Conn-t         Connector       Conn-t
Connector No.     E42       Connector Name     IPDM E/R (INTELLIGENT       Connector Name     POWER DISTRIBUTION       Connector Color     BLACK       Connector Color     BLACK       Image: Signal Name     Image: Signal Name       Z     Y     F/L MAIN (+B2)	Connector No.     E45       Connector Name     PDM E/R (INTELLIGENT       Connector Name     POWER DISTRIBUTION       Connector Color     BROWN       Connector Color     Color       Connector Color     Color
Connector No.     E41       Connector Name     STARTER RELAY       Connector Name     STARTER RELAY       Connector Color     BLUE       Image: Start Sta	Connector No.     E44       Connector Name     IPDM E/R (INTELLIGENT       Connector Name     POWER DISTRIBUTION       Connector Name     POWER DISTRIBUTION       Connector Color     BROWN       Image: Signal Name     Image: Signal Name       13     R       13     R       13     R       13     R       13     R       Signal Name       15     LG       ST RLY COIL

**NVIS - WITH INTELLIGENT KEY SYSTEM** 

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Connector No.	E55	Connector No.
Connector Name	WIRE TO WIRE	Connector Name
Connector Color	GRAY	
		Connector Color

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

Connector Name Connector No.

E47



2 1

H.S.

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Color of Wire

Terminal No. -N

Signal Name

Color of Wire

Terminal No.

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G/B

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SB

BLACK

E57

TE		Signal Name	DETENT SW
lor WHI	92 91 90 8 92 91 90 8	Color of Wire	н
Connector Co	品.S.H	Terminal No.	80

Signal Name	DETENT SW	PUSH START SW	IGN SIGNAL	
Color of Wire	щ	SB	_	

8 0



Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

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Connector Name INTELLIGENT KEY WARNING BUZZER

E70

Connector No.

Connector Color BROWN



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NVIS - WITH INTELLIGENT KEY SYSTEM [WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

# Revision: August 2015

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000012430350

**OVERALL SEQUENCE** 



# **DIAGNOSIS AND REPAIR WORK FLOW**

#### < BASIC INSPECTION >

# [WITH INTELLIGENT KEY SYSTEM]

<b>1.</b> 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.	D
- Erase DTC.	D
<ul><li>Study the relationship between the cause detected by DTC and the symptom described by the customer.</li><li>Check related service bulletins for information.</li></ul>	E
Are any symptoms described and any DTC detected?	
Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4	_
Symptom is not described, DTC is detected>>GO TO 5.	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.	
	Н
>> GO TO 5.	
4.CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.	
>> GO TO 6.	J
5.PERFORM DTC CONFIRMATION PROCEDURE	
Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected	SEC
again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.	
diagnosis order.	L
<ul> <li>NOTE:</li> <li>Freeze frame data is useful if the DTC is not detected</li> </ul>	
Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service	М
Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check	
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-	N
Is DTC detected?	1.4
YES >> GO TO 7.	
NO >> Check according to <u>GI-42, "Intermittent Incident"</u> .	0
U.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS	
4, and determine the trouble diagnosis order based on possible causes and symptom.	Ρ
Is the symptom described?	
YES >> GO TO 7.	
SULT.	

**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-42, "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	
< BASIC INSPECTION > [WITH INTELLIGENT KEY SYS	STEM]
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT	А
ECM	
ECM : Description	000012430351 B
When replacing ECM, this procedure must be performed.	D
ECM : Work Procedure	000012430352
1. PERFORM INITIALIZATION OF NATS SYSTEM AND REGISTRATION OF ALL NATS IGNITION KI	EY IDS
Perform BCM initialization. (NATS)	D
2. PERFORM ACCELERATOR PEDAL RELEASED POSITION LEARNING	Е
Refer to EC-128, "Work Procedure".	
	F
>> GO TO 3. <b>3</b> DEDECIDING THEOTTLE VALVE OF OSED DOSITION LEADNING	
Refer to EC-129 "Work Procedure"	G
>> GO TO 4.	Н
4.PERFORM IDLE AIR VOLUME LEARNING	
Refer to <u>EC-130, Work Procedure</u> .	I
>> END	
BCM	J
BCM : Description	000012542548
BEFORE REPLACEMENT	SEC
When replacing BCM, save or print current vehicle specification with CONSULT configuration before re- ment.	eplace-
NOTE: If "READ CONFIGURATION" can not be used use the "WRITE CONFIGURATION - Manual selection	n" after └
replacing BCM.	
	M
When replacing BCM, always perform "WRITE CONFIGURATION" with CONSULT. Or not doi	ng so,
<ul> <li>BCM control function does not operate normally.</li> <li>Complete the procedure of "WRITE CONFIGURATION" in order.</li> </ul>	Ν
<ul> <li>Configuration is different for each vehicle model. Confirm configuration of each vehicle mode</li> <li>If you set incorrect "WRITE CONFIGURATION" incidents might occur</li> </ul>	Ι.
NOTE:	0
RCM · Work Procedure	
	)00012542549 P
1.SAVING VEHICLE SPECIFICATION	
CONSULT Configuration Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to <u>BCS-59</u> , "D	escrip-

<u>tion"</u>. NOTE:

# ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

[WITH INTELLIGENT KEY SYSTEM]

#### < BASIC INSPECTION >

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-74, "Removal and Installation".

>> GO TO 3.

**3**.WRITING VEHICLE SPECIFICATION

CONSULT Configuration Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to <u>BCS-59</u>, "Work Procedure".

#### >> GO TO 4.

**4.**REGISTER INTELLIGENT KEYS

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

>> WORK END

### [WITH INTELLIGENT KEY SYSTEM]

# DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE

< DTC/CIRCUIT DIAGNOSIS >

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

DTC No	. Trouble diagnosis name	DTC detecting condition	Possible cause	
P1610	LOCK MODE	When ECM detects a communication malfunction between ECM and BCM 5 times or more.	_	F
DTC CONF	IRMATION PROCEDUR	E		
1.PERFOR	M DTC CONFIRMATION F	PROCEDURE		G
1. Turn ign	ition switch ON.			
Is DTC detect	cted?	suit of Engine using CONSULT.		Н
YES >> (	Go to <u>SEC-51, "Diagnosis</u>	Procedure".		
NO >>	Inspection End.			
Diagnosis	Procedure		INFOID:000000012430357	
<b>1.</b> снеск е	ENGINE START FUNCTIO	N		J
1. Check th	nat DTC except for DTC P	610 is not detected.		
If detect	ed, erase the DTC after fix ition switch OFF.	ing.		SEC
3. Depress	brake pedal and contact	the registered Intelligent Key backside to push-b	outton ignition switch,	
4. Turn ign	ition switch ON.			1
5. Turn ign	ition switch OFF and wait stops 3 and 5 twice (a total	5 seconds.		L
7. Check th	hat engine can start.	or 5 times).		
				Μ
>>	Inspection End.			
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INFOID:000000012430355

INFOID:000000012430356

### P1611 ID DISCORD, IMMU-ECM

### < DTC/CIRCUIT DIAGNOSIS >

# P1611 ID DISCORD, IMMU-ECM

## DTC Logic

INFOID:000000012430358

INFOID:000000012430359

[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 invalid.	• BCM • ECM

#### DTC CONFIRMATION PROCEDURE

### **1.**PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

YES >> Go to <u>SEC-52, "Diagnosis Procedure"</u>.

NO >> Inspection End.

# Diagnosis Procedure

#### **1.**PERFORM INITIALIZATION

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

YES >> Inspection End.

NO >> GO TO 2.

2. CHECK SELF DIAGNOSTIC RESULT

- 1. Select "Self Diagnostic Result" of "ENGINE" using CONSULT.
- 2. Erase DTC.
- 3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-52, "DTC Logic".
- Is DTC detected?

YES >> GO TO 3.

NO >> Inspection End.

### **3.**REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-74, "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 EC-477, "Removal and Installation".

 Perform "ADDITIONAL SERVICE WHEN REPLACING ECM". Refer to <u>EC-125, "Work Procedure"</u>.

>> 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 (for BCM), first perform the trouble diagnosis for DTC U1000. Refer to BCS-63, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010 (for BCM), first perform the trouble diagnosis for DTC U1010. Refer to BCS-64, "DTC Logic".

P1612       CHAIN OF ECM-IMMU       Inactive communication between ECM and BCM. <ul> <li>Harness or connectors (The CAN communication line is open shorted.)</li> <li>BCM</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" of "ENGINE" using CONSULT. <u>s DTC detected?</u> YES       > Go to <u>SEC-53. "Diagnosis Procedure".</u> NO         NO       >> Inspection End.         Diagnosis Procedure         1. REPLACE BCM         1. Replace BCM. Refer to <u>BCS-74. "Removal and Installation".</u> 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the of SULT Immobilizer mode and follow the on-screen instructions.         Does the engine start?         YES       >> Inspection End.         NO       >> OT 2.         2. REPLACE ECM		Trouble diagnosis name	DTC detecting condition	Possible cause
DTC CONFIRMATION PROCEDURE         1. PERFORM DTC CONFIRMATION PROCEDURE         1. Turn ignition switch ON.         2. Check DTC in "Self Diagnostic Result" of "ENGINE" using CONSULT. <u>s DTC detected?</u> YES       >> Go to <u>SEC-53. "Diagnosis Procedure"</u> .         NO       >> Inspection End.         Diagnosis Procedure	1612	CHAIN OF ECM-IMMU	Inactive communication between ECM and BCM.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>BCM</li> <li>ECM</li> </ul>
<ol> <li>Turn ignition switch ON.</li> <li>Check DTC in "Self Diagnostic Result" of "ENGINE" using CONSULT.</li> <li><u>s DTC detected?</u></li> <li>YES &gt;&gt; Go to <u>SEC-53, "Diagnosis Procedure"</u>.</li> <li>NO &gt;&gt; Inspection End.</li> <li>Diagnosis Procedure</li> <li>REPLACE BCM</li> <li>Replace BCM. Refer to <u>BCS-74, "Removal and Installation"</u>.</li> <li>Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the of SULT Immobilizer mode and follow the on-screen instructions.</li> <li>Does the engine start?</li> <li>YES &gt;&gt; Inspection End.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>REPLACE ECM</li> </ol>				
<ul> <li>YES &gt;&gt; Go to <u>SEC-53. "Diagnosis Procedure"</u>.</li> <li>NO &gt;&gt; Inspection End.</li> <li>Diagnosis Procedure</li> <li><b>1.</b> REPLACE BCM</li> <li>1. Replace BCM. Refer to <u>BCS-74. "Removal and Installation"</u>.</li> <li>2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the SULT Immobilizer mode and follow the on-screen instructions.</li> <li>Does the engine start?</li> <li>YES &gt;&gt; Inspection End.</li> <li>NO &gt;&gt; GO TO 2.</li> <li><b>2.</b> REPLACE ECM</li> </ul>	urn ign heck E	nition switch ON. DTC in "Self Diagnostic	Result" of "ENGINE" using CONS	SULT.
Diagnosis Procedure       Installation         1. REPLACE BCM         1. Replace BCM. Refer to BCS-74, "Removal and Installation".         2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the SULT Immobilizer mode and follow the on-screen instructions.         Does the engine start?         YES       >> Inspection End.         NO       >> GO TO 2.         2. REPLACE ECM	>> (< >> <<	Go to <u>SEC-53, "Diagno</u> Inspection End.	osis Procedure".	
<ol> <li>REPLACE BCM</li> <li>Replace BCM. Refer to <u>BCS-74, "Removal and Installation"</u>.</li> <li>Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the SULT Immobilizer mode and follow the on-screen instructions.</li> <li><u>Does the engine start?</u></li> <li>YES &gt;&gt; Inspection End.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>REPLACE ECM</li> </ol>	nosis	s Procedure		INFCID:000000012430361
<ol> <li>Replace BCM. Refer to <u>BCS-74. "Removal and Installation"</u>.</li> <li>Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the SULT Immobilizer mode and follow the on-screen instructions.</li> <li><u>Does the engine start?</u></li> <li>YES &gt;&gt; Inspection End.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>REPLACE ECM</li> </ol>	PLACI	E BCM		
Does the engine start? YES >> Inspection End. NO >> GO TO 2. 2.REPLACE ECM	eplace erform	BCM. Refer to BCS-7	4, "Removal and Installation".	ave voing CONCULT Defer to the CON
YES >> Inspection End. NO >> GO TO 2. 2.REPLACE ECM	ULT In	n initialization of BCM a nmobilizer mode and fo	and registration of all Intelligent K Ilow the on-screen instructions.	eys using CONSOLT. Refer to the CON-
2. REPLACE ECM	ULT In	n initialization of BCM a nmobilizer mode and fc igine start?	and registration of all Intelligent K Ilow the on-screen instructions.	eys using CONSULT. Refer to the CON-
	ULT In the end >>   >> (	n initialization of BCM a nmobilizer mode and fc igine start? Inspection End. GO TO 2	and registration of all Intelligent K Iow the on-screen instructions.	eys using CONSULT. Refer to the CON-
1. Replace ECM.	ULT In the end >> ( >> ( PLACI	n Initialization of BCM a mmobilizer mode and fc <u>igine start?</u> Inspection End. GO TO 2. E ECM	and registration of all Intelligent K blow the on-screen instructions.	eys using CONSULT. Refer to the CON-
Refer to <u>EC-477, "Removal and Installation"</u> . 2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM". Refer to <u>EC-125, "Work Procedure"</u> .	ULT In the end >> PLACI	n Initialization of BCM a mmobilizer mode and fc igine start? Inspection End. GO TO 2. E ECM € ECM.	and registration of all Intelligent K blow the on-screen instructions.	
>> Inspection End.	ULT In the end >> PLACI eplace efer to erform efer to	n Initialization of BCM a mmobilizer mode and fc <u>igine start?</u> Inspection End. GO TO 2. E ECM € ECM. EC-477, "Removal and MADDITIONAL SERVIO EC-125, "Work Procest	and registration of all Intelligent K ollow the on-screen instructions. <u>d Installation"</u> . CE WHEN REPLACING ECM". <u>Jure"</u> .	

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[WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000012430360

### **B2192 ID DISCORD, IMMU-ECM**

### < DTC/CIRCUIT DIAGNOSIS >

# B2192 ID DISCORD, IMMU-ECM

## DTC Logic

INFOID:000000012430362

INFOID:000000012430363

[WITH INTELLIGENT KEY SYSTEM]

#### DTC DETECTION LOGIC

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

#### DTC CONFIRMATION PROCEDURE

### **1.**PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to <u>SEC-54. "Diagnosis Procedure"</u>.
- NO >> Inspection End.

# Diagnosis Procedure

### **1.**PERFORM INITIALIZATION

Perform initialization of BCM and registration 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 registered Intelligent Key?

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

2. CHECK SELF-DIAGNOSIS RESULT

- 1. Select "Self Diagnostic Result" of "BCM" using CONSULT.
- 2. Erase DTC.
- 3. Perform DTC CONFIRMATION PROCEDURE for DTC B2192. Refer to SEC-54, "DTC Logic".
- Is DTC detected?
- YES >> GO TO 3.
- NO >> Inspection End.

### **3.**REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-74, "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 EC-477, "Removal and Installation".
- Perform "ADDITIONAL SERVICE WHEN REPLACING ECM". Refer to <u>EC-125, "Work Procedure"</u>.

>> Inspection End.

### B2193 CHAIN OF ECM-IMMU

#### < DTC/CIRCUIT DIAGNOSIS >

# B2193 CHAIN OF ECM-IMMU

# DTC Logic

# DTC DETECTION LOGIC

#### NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-63. "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-64, "DTC Logic".

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>BCM</li> <li>ECM</li> </ul>
TC CONF	IRMATION PROCED	OURE	
.PERFOR	M DTC CONFIRMATIO		
. Turn ign	ition switch ON.		_
. Check D	TC in "Self Diagnostic	Result" of "BCM" using CONSULI.	
YES >> (	Go to SEC-55, "Diagno	osis Procedure".	
NO >>	nspection End.		
Diagnosis	Procedure		INFOID:000000012430365
REPLACE	E BCM		
. Replace . Perform SULT Im	BCM. Refer to <u>BCS-74</u> initialization of BCM a imobilizer mode and fo	<ol> <li>"Removal and Installation" and registration of all Intelligent Key llow the on-screen instructions.</li> </ol>	ys using CONSULT. Refer to the CON-
oes the end	gine start?		
YES >> I	nspection End.		
NO >> (	GO 10 2.		
REPLACE	ECM		
. Replace Refer to	ECM. EC-477 "Removal and	d Installation"	
. Perform	"ADDITIONAL SERVI	CE WHEN REPLACING ECM".	
Refer to	EC-125, "Work Proced	<u>dure"</u> .	
~~	nenoction End		
~~	nspection End.		

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[WITH INTELLIGENT KEY SYSTEM]

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# **B2195 ANTI-SCANNING**

# DTC Logic

INFOID:000000012430366

INFOID:000000012430367

[WITH INTELLIGENT KEY SYSTEM]

#### DTC DETECTION LOGIC

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

#### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Refer to <u>SEC-56, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

# Diagnosis Procedure

# 1. CHECK SELF DIAGNOSTIC RESULT 1

- 1. Select "Self Diagnostic Result" of "BCM" using CONSULT.
- 2. Erase DTC.
- 3. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-56, "DTC Logic".

#### Is DTC detected?

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

### 2.CHECK EQUIPMENT OF THE VEHICLE

Check that unspecified accessory part related to engine start is not installed.

Is unspecified accessory part related to engine start installed?

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

- **3.**CHECK SELF DIAGNOSTIC RESULT 2
- 1. Obtain the customers approval to remove unspecified accessory part related to engine start, and then remove it.
- 2. Select "Self Diagnostic Result" of "BCM" using CONSULT.
- 3. Erase DTC.
- 4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-56, "DTC Logic".

#### Is DTC detected?

- YES >> GO TO 4.
- NO >> Inspection End.

### **4.**REPLACE BCM

- 1. Replace BCM. Refer to BCS-74, "Removal and Installation".
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-SULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

< DTC/CIRC	UIT DIAGNOSIS >	ַנע	VITH INTELLIGENT KEY SYSTEM]
B2196 D0	ONGLE UNIT		
Description	n		INFOID:000000012430368
BCM perform When verification	is ID verification between ation result is OK, BCM p	n BCM and dongle unit. permits cranking.	
DTC Logic	;		INFOID:000000012430369
DTC DETEC	CTION LOGIC		
DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2196	DONGLE NG	The ID verification results between BCM and dongle unit is invalid.	<ul><li>Harness or connectors (Dongle unit circuit is open or shorted.)</li><li>Dongle unit</li></ul>
DTC CONFI	RMATION PROCEDU	IRE	
1.PERFORM	M DTC CONFIRMATION	I PROCEDURE	
<ol> <li>Turn ignit</li> <li>Turn ignit</li> <li>Check D</li> <li>Check D</li> <li>Is the DTC de</li> <li>YES &gt;&gt; F</li> <li>NO &gt;&gt; In</li> </ol>	tion switch OFF. tion switch ON. TC in "Self Diagnostic R <u>etected?</u> Refer to <u>SEC-57, "Diagno</u> nspection End.	esult" of "BCM" using CONSULT. osis Procedure".	
Diagnosis	Procedure		INFOID:000000012430370
Regarding W	iring Diagram informatio	n, refer to <u>SEC-37. "Wiring Diagra</u>	<u>m"</u> .
1. Perform i For initia screen in	initialization of BCM and lization and registration istructions.	registration of all mechanical keys procedures, refer to CONSULT	s using CONSULT. Immobilizer mode and follow the on-
2. Start the Dose the eng YES >> I	engine. <u>line start?</u> nspection End.		
NO >> 0 2.СНЕСК D	GO TO 2. ONGLE UNIT CIRCUIT		
<ol> <li>Turn ignit</li> <li>Disconne</li> <li>Check co</li> </ol>	tion switch OFF. ect BCM connector and o ontinuity between BCM h	dongle unit connector. narness connector and dongle unit	harness connector.

BCM		Dongle unit		Continuity	0
Connector	Terminal	Connector	Terminal	Continuity	
M97	24	M6	1	Yes	

4. Check continuity between BCM harness connector and ground.

BC	CM		Continuity
Connector	Terminal	Ground	Continuity
M97	24		No

Is the inspection result normal?

# **B2196 DONGLE UNIT**

< DTC/CIRCUIT DIAGNOSIS >

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
M6	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:000000012430371

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[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION L	.OGIC
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B2198       NATS ANTENNA AMP       Inactive communication between NATS antenna amp. and BCM is detected when BCM enters in the low power consumption mode. (BCM sleep condition)       • Harness or connectors (NATS antenna amp. circuit is open or shorted.)         DTC CONFIRMATION PROCEDURE       • Mars antenna amp.       • BCM         1. PERFORM DTC CONFIRMATION PROCEDURE       • BCM         1. Make the conditions that BCM enters in the low power consumption mode (BCM sleep condition).       • BCM         2. Turn ignition switch ON.       • Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.         3. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.       • Soft os SEC-59, "Diagnosis Procedure".         NO       >> Inspection End.         Diagnosis Procedure       • Marsantion, refer to SEC-37, "Wiring Diagram".	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
DTC CONFIRMATION PROCEDURE         I. PERFORM DTC CONFIRMATION PROCEDURE         I. Make the conditions that BCM enters in the low power consumption mode (BCM sleep condition). Refer to <u>BCS-13, "POWER CONSUMPTION CONTROL SYSTEM : System Description"</u> .         2. Turn ignition switch ON.         3. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT. <u>S DTC detected?</u> YES       >> Go to <u>SEC-59, "Diagnosis Procedure"</u> .         NO       >> Inspection End.         Diagnosis Procedure       INFOID:00000012400372	B2198	NATS ANTENNA AMP	Inactive communication between NATS antenna amp. and BCM is detected when BCM enters in the low power consumption mode. (BCM sleep condition)	<ul> <li>Harness or connectors (NATS antenna amp. circuit is open or shorted.)</li> <li>NATS antenna amp.</li> <li>BCM</li> </ul>
<ul> <li>PERFORM DTC CONFIRMATION PROCEDURE</li> <li>Make the conditions that BCM enters in the low power consumption mode (BCM sleep condition). Refer to <u>BCS-13, "POWER CONSUMPTION CONTROL SYSTEM : System Description"</u>.</li> <li>Turn ignition switch ON.</li> <li>Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.</li> <li><u>s DTC detected?</u></li> <li>YES &gt;&gt; Go to <u>SEC-59, "Diagnosis Procedure"</u>. NO &gt;&gt; Inspection End.</li> <li>Diagnosis Procedure</li> <li>WFOID:000000172430372</li> </ul>	TC CONFI	RMATION PROCEDU	JRE	
<ol> <li>Make the conditions that BCM enters in the low power consumption mode (BCM sleep condition). Refer to <u>BCS-13, "POWER CONSUMPTION CONTROL SYSTEM : System Description"</u>.</li> <li>Turn ignition switch ON.</li> <li>Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.</li> <li><u>S DTC detected?</u></li> <li>YES &gt;&gt; Go to <u>SEC-59, "Diagnosis Procedure"</u>. NO &gt;&gt; Inspection End.</li> <li>Diagnosis Procedure</li> <li><i>NFOID-00000012430372</i></li> <li>Regarding Wiring Diagram information, refer to <u>SEC-37, "Wiring Diagram"</u>.</li> </ol>	1.PERFORM	I DTC CONFIRMATION	N PROCEDURE	
YES       >> Go to SEC-59, "Diagnosis Procedure".         NO       >> Inspection End.         Diagnosis Procedure       INFOID:000000012430372         Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".	<ol> <li>Make the Refer to <u>1</u></li> <li>Turn ignit</li> <li>Check D<sup>-</sup></li> <li>DTC detect</li> </ol>	e conditions that BCM er BCS-13, "POWER CON tion switch ON. TC in "Self Diagnostic R ted?	nters in the low power consumption r ISUMPTION CONTROL SYSTEM : S Result" of "BCM" using CONSULT.	node (BCM sleep condition). System Description".
Diagnosis Procedure	YES >> G NO >> Ir	Go to <u>SEC-59, "Diagnosi</u> So to <u>SEC-59, "Diagnosi</u> Inspection End.	is Procedure".	
Regarding Wiring Diagram information, refer to <u>SEC-37, "Wiring Diagram"</u> .	Diagnosis	Procedure		INFOID:000000012430372
	Regarding Wi	iring Diagram informatic	on, refer to <u>SEC-37, "Wiring Diagram</u>	<u>"</u> .
1.CHECK FUSE	<b>1</b> .CHECK FU	USE		

2. Check that the following fuse in IPDM E/R is not blown.

Signal name	Fuse No.	SEC
Battery power supply	53 (20 A)	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the cause of blowing.

**2.**CHECK NATS ANTENNA AMP. POWER SUPPLY

1. Disconnect NATS antenna amp. connector.

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

-	) NATS ant	+)	(-)	Voltage (V)	
-	Connector	Terminal		(Approx.)	С
_	M21	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

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

1. Disconnect IPDM E/R connector.

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

# B2198 NATS ANTENNA AMP.

#### < DTC/CIRCUIT DIAGNOSIS >

IPDI	M E/R	NATS ant	enna amp.	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
F42	35	M21	1	Yes	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> Repair or replace harness.

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

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

NATS and	enna amp.		Continuity
Connector	Terminal	Ground	Continuity
M21	4		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		Voltage (V)
Connector	Terminal	•			(Applox.)
M21	2	Ground	Intelligent Key: Intelligent Key battery is removed.	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 an	NATS antenna amp.		BCM	
Connector	Terminal	Connector	Terminal	Continuity
M21	2	M97	21	Yes

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

NATS ant	enna amp.		Continuity
Connector	Terminal	Ground	Continuity
M21	2		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 >

### [WITH INTELLIGENT KEY SYSTEM]

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

(-	+)					1-
NATS ante	enna amp.	(-)	С	condition	Voltage (V) (Approx.)	
Connector	Terminal				( , , , , , , , , , , , , , , , , , , ,	E
M21	3	Ground	Intelligent Key: Intelligent Key battery is removed.	Brake pedal: Depressed <b>NOTE:</b> Waveform varies each time when brake pedal is de- pressed.	(V) 15 10 50 • • • • • • • • • • • • • • • • • • •	C
				Brake pedal: Not depressed	Battery voltage	F

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to <u>SEC-114</u>, "Removal and Installation".

NO >> GO TO 8.

#### **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		Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M21	3	M97	25	Yes

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

NATS ant	enna amp.		Continuity	
 Connector	Terminal	Ground	Continuity	J
 M21	3		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-74, "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

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## < DTC/CIRCUIT DIAGNOSIS >

# B2555 STOP LAMP

# **DTC Logic**

INFOID:000000012430373

[WITH INTELLIGENT KEY SYSTEM]

#### DTC DETECTION LOGIC

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

#### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to SEC-62, "Diagnosis Procedure".
- NO >> Inspection End.

### **Diagnosis** Procedure

INFOID:000000012430374

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

## 1.CHECK STOP LAMP SWITCH INPUT SIGNAL 1

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

(+) BCM		(_)	Voltage (V)	
Connector	Terminal	(-)	(Approx.)	
M98	105	Ground	Battery voltage	

#### Is the inspection normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 30, located in the fuse block (J/B)].

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

### **2.**CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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

(+)			Valtage ()()	
Stop lamp switch		(-)	(Approx.)	
Connector	Terminal		( FF - )	
E13 (CVT)	1	Ground	Patton woltago	
E57 (MT)		Ground	Dattery Voltage	

Is the inspection result normal?

YES >> GO TO 3.

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

# B2555 STOP LAMP

#### < DTC/CIRCUIT DIAGNOSIS >

#### $\overline{\mathbf{3.}}$ CHECK STOP LAMP SWITCH INPUT SIGNAL 2 А 1. Connect stop lamp switch connector. Check voltage between BCM harness connector and ground. 2. В (+) Voltage (V) BCM Condition (-) (Approx.) Connector Terminal Battery voltage Depressed M97 9 Ground Brake pedal 0 Not depressed D Is the inspecting result normal? >> GO TO 4. YES NO >> GO TO 5. Ε **4**.REPLACE BCM 1. Replace BCM. Refer to BCS-74, "Removal and Installation". Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-2. F SULT Immobilizer mode and follow the on-screen instructions. >> Inspection End. 5. CHECK STOP LAMP SWITCH CIRCUIT 1. Disconnect stop lamp switch connector. Н 2. Check continuity between stop lamp switch harness connector and BCM harness connector. Stop lamp switch BCM Continuity Connector Terminal Connector Terminal E13 (CVT) 2 M97 9 Yes E57 (MT) Check continuity between stop lamp switch harness connector and ground. 3. Stop lamp switch SEC Continuity Connector Terminal Ground E13 (CVT) 2 No E57 (MT) Is the inspection result normal? YES >> GO TO 6. M NO >> Repair or replace harness. $\mathbf{6}$ .CHECK STOP LAMP SWITCH Refer to SEC-63, "Component Inspection". Ν Is the inspection result normal? YES >> GO TO 7. NO >> Replace stop lamp switch. Refer to <u>BR-20, "Exploded View"</u>. I.CHECK INTERMITTENT INCIDENT Refer to GI-42, "Intermittent Incident". Ρ >> Inspection End. Component Inspection INFOID:000000012430375 1. CHECK STOP LAMP SWITCH Turn ignition switch OFF. 1.

# B2555 STOP LAMP

#### < DTC/CIRCUIT DIAGNOSIS >

### [WITH INTELLIGENT KEY SYSTEM]

### 2. Disconnect stop lamp switch connector.

3. Check continuity between stop lamp switch terminals.

Stop lan	Stop lamp switch		Condition		
Terr	ninal	Con	ulion	Continuity	
1	2	Brake nedal	Not depressed	No	
1		Depressed	Yes		

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace stop lamp switch. Refer to <u>BR-20, "Exploded View"</u>.

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

# < DTC/CIRCUIT DIAGNOSIS >

# **B2556 PUSH-BUTTON IGNITION SWITCH**

# **DTC Logic**

INFOID:000000012430376

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B2556 EN DTC CONFIR 1.PERFORM 1. Press push Brake peda 2. Release pu 3. Check DTC brock DTC detecte	NG START SW RMATION PROCED DTC CONFIRMATIO h-button ignition swite lal: Not depressed bush-button ignition sw C in "Self Diagnostic	BCM detects the push-button ignition switch stuck at ON for 100 seconds or more. DURE DN PROCEDURE ch under the following condition.	<ul> <li>Harness or connectors (Push-button ignition switch circuit is shorted.)</li> <li>Push-button ignition switch</li> <li>BCM</li> </ul>
DTC CONFIR PERFORM Press push Brake peda Release pu Check DTC S DTC detecte	RMATION PROCED DTC CONFIRMATIO h-button ignition swite lal: Not depressed ush-button ignition sw C in "Self Diagnostic	OURE ON PROCEDURE ch under the following condition.	
<ol> <li>PERFORM</li> <li>Press push Brake peda</li> <li>Release push</li> <li>Check DTC</li> <li>S DTC detecte</li> </ol>	DTC CONFIRMATIC h-button ignition swite lal: Not depressed sush-button ignition sw C in "Self Diagnostic	ON PROCEDURE ch under the following condition.	
<ol> <li>Press push</li> <li>Brake peda</li> <li>Release push</li> <li>Check DTC</li> <li>s DTC detecte</li> </ol>	h-button ignition swit lal: Not depressed ush-button ignition sv C in "Self Diagnostic	ch under the following condition.	
NO >> Ins	<u>ed?</u> o to <u>SEC-65. "Diagno</u> spection End.	Result" of "BCM" using CONSULT.	
Diagnosis P	Procedure		INFOID:00000001243037
Regarding Wiri 1.CHECK PU	ing Diagram informat	tion, refer to <u>SEC-37, "Wiring Diagrar</u> ON SWITCH INPUT SIGNAL	<u>n"</u> .

	(	+)			
	Push-button	ignition switch	()	Voltage (V) (Approx.)	1
	Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	M25	8	Ground	Battery voltage	_
is the	inspection result norm	al?			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	B	СМ	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M25	8	M98	76	Yes

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

Push-button	ignition switch		Continuity
Connector	Terminal	Ground	Continuity
M25	8		No

**Revision: August 2015** 

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### **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-74, "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 GROUND CIRCUIT

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

Push-button	ignition switch		Continuity
Connector	Terminal	Ground	Continuity
M25	4		Yes

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

**5.**CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-66, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace push-button ignition switch. Refer to SEC-115. "Removal and Installation".

**Ó.**CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

### Component Inspection

INFOID:000000012430378

# 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	Push-button ignition switch		Condition	
Terr	minal		ulion	Continuity
1	Q	Push-button ignition	Pressed	Yes
4	0	switch	Not pressed	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace push-button ignition switch. Refer to <u>SEC-115. "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-63, "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-64, "DTC Logic".

B2557       VEHICLE SPEED       BCM detects one of the following conditions for 10 seconds continuously:       • Harness or connectors (The CAN communication line is open or shorted.)         B2557       VEHICLE SPEED       • Vehicle speed signal from "ABS actuator and electric unit (control unit)" is 4 km/h (2.5 MPH) or less.       • Harness or connectors (The CAN communication line is open or shorted.)         • Vehicle speed signal from "ABS actuator and electric unit (control unit)" is 4 km/h (2.5 MPH) or less and 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.       • ABS actuator and electric unit (control unit)"         • CONFIRMATION PROCEDURE       • CONFIRMATION PROCEDURE       • Control unit)	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
C CONFIRMATION PROCEDURE	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>
PERFORM DTC CONFIRMATION PROCEDURE		IRMATION PROCED		

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

#### Is DTC detected?

> YES >> Go to SEC-67, "Diagnosis Procedure".

NO >> Inspection End.

#### **Diagnosis** Procedure

Diagnosis Procedure	INFOID:000000012430380
<b>1.</b> CHECK DTC OF "ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)"	
Check DTC in "Self Diagnostic Result" of "ABS" using CONSULT.	

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BRC-43, "DTC Index". NO >> GO TO 2.

2. CHECK DTC OF COMBINATION METER

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

Is DTC detected?

Ν YES >> Perform the trouble diagnosis related to the detected DTC. Refer to MWI-24, "DTC Index". NO >> GO TO 3.

3. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

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INFOID:000000012430379

#### < DTC/CIRCUIT DIAGNOSIS >

# **B2601 SHIFT POSITION**

# DTC Logic

INFOID:000000012430381

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-64, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2601	SHIFT P SIGNAL	When there is a difference between P range signal from CVT shift selector (park position switch) and P position signal from IPDM E/R (CAN).	<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>IPDM E/R</li> <li>BCM</li> </ul>

#### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

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

#### **Diagnosis** Procedure

INFOID:000000012430382

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

# 1. CHECK CVT SHIFT SELECTOR CIRCUIT (BCM)

- 1. Turn ignition switch OFF.
- 2. Disconnect CVT shift selector (park position switch) connector.
- 3. Disconnect BCM connector.
- 4. Check continuity between CVT shift selector (park position switch) harness connector and BCM harness connector.

CVT shift selector (	park position switch)	B	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M38	8	M97	37	Yes

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

CVT shift selector (	park position switch)		Continuity
Connector	Terminal	Ground	Continuity
M38	8		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

# **B2601 SHIFT POSITION**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

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

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

	CVT shift selector (park position switch)		IPDM E/R		Continuity
	Connector	Terminal	Connector	Terminal	Continuity
	M38	8	E47	80	Yes
s the	inspection result n	ormal?			
YES NO	>> GO TO 3. >> Repair or rep	place harness			
3.RE	PLACE BCM				
I. R 2. Pe SI 3. Pe	eplace BCM. Reference Prform initialization JLT Immobilizer m Prform DTC CONF	r to <u>BCS-74, "Remov</u> of BCM and registr ode and follow the of IRMATION PROCED	ral and Installation". ation of all Intelligen n-screen instructions DURE for DTC B260	t Keys using CONS 1. Refer to <u>SEC-68, '</u>	JLT. Refer to the CON-
s DTC	C B2601 detected a	<u>again?</u>			
YES NO	>> Replace IPD >> Inspection E	DM E/R. Refer to <u>PCS</u> Ind.	S-30, "Removal and	nstallation".	

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< DTC/CIRCUIT DIAGNOSIS >

# **B2602 SHIFT POSITION**

# DTC Logic

INFOID:000000012430383

[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-63, "DTC Logic"</u>.
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-64, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT P DIAG	<ul> <li>BCM detects the following status for 10 seconds:</li> <li>Selector lever is in the P 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 (The 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> </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" of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to SEC-70, "Diagnosis Procedure".
- NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012430384

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

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

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>BRC-43</u>, "DTC Index".

NO >> GO TO 2.

2.CHECK DTC OF COMBINATION METER

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

#### Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>MWI-24, "DTC Index"</u>. NO >> GO TO 3.

**3.**CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

# **B2602 SHIFT POSITION**

#### < DTC/CIRCUIT DIAGNOSIS >

Connector	ector (park position switch)		()	Voltage (V) (Approx.)
	Termina	I		
M38	7		Ground	Battery voltage
ne inspection result r ES >> GO TO 6. D >> GO TO 4. CHECK CVT SHIFT	normal? SELECTOR POWER		r	
Disconnect BCM co Check continuity be connector.	onnector. etween CVT shift sele	ector (park position	switch) harness cor	nnector and BCM h
CVT shift selector (p	park position switch)		BCM	
Connector	Terminal	Connector	Terminal	Continuity
M38	7	M98	104	Yes
Check continuity be	etween CVT shift sele	ctor (park position	switch) harness con	nector and ground.
CVT shift sele	ector (park position switch)			
Connector	Termina	1	Ground	Continuity
M38	7			No
Pertorm initializatio	n of BCM and registr	ation of all Intelline		
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM co Check continuity be	node and follow the o End. SELECTOR CIRCUI <sup>T</sup> onnector and IPDM E/ etween CVT shift sele	T R connector. ctor (park position	switch) harness cor	ISULT. Refer to the
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM co Check continuity be connector.	node and follow the o End. SELECTOR CIRCUI <sup>-</sup> onnector and IPDM E/ etween CVT shift sele	T R connector. ctor (park position	ent Keys using CON ns. switch) harness cor	ISULT. Refer to the
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM co Check continuity be connector.	node and follow the o End. SELECTOR CIRCUI <sup>-</sup> onnector and IPDM E/ etween CVT shift sele	T C C C Connector. Ctor (park position	switch) harness cor	ISULT. Refer to the
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM cc Check continuity be connector. CVT shift selector (p Connector	node and follow the o End. SELECTOR CIRCUI <sup>T</sup> onnector and IPDM E/ etween CVT shift sele park position switch) Terminal	T Connector Connector	ent Keys using CON ns. switch) harness cor BCM Terminal	ISULT. Refer to the
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM cc Check continuity be connector. CVT shift selector (p Connector M38	node and follow the o End. SELECTOR CIRCUIT onnector and IPDM E/ etween CVT shift sele park position switch) Terminal 8	Connector M97	switch) harness cor BCM 37	ISULT. Refer to the
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM cc Check continuity be connector. CVT shift selector (p Connector M38 Check continuity be	node and follow the o End. SELECTOR CIRCUIT onnector and IPDM E/ etween CVT shift sele park position switch) Terminal 8 etween CVT shift select	T (R connector. ctor (park position Connector M97 ctor (park position s	ent Keys using CON ns. switch) harness cor BCM Terminal 37 switch) harness con	ISULT. Refer to the
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM cc Check continuity be connector. CVT shift selector (p Connector M38 Check continuity be CVT shift selector	node and follow the o End. SELECTOR CIRCUIT onnector and IPDM E/ etween CVT shift sele park position switch) Terminal 8 etween CVT shift selector (park position switch)	Connector Connector Connector M97 Ctor (park position	ent Keys using CON ns. switch) harness cor BCM Terminal 37 switch) harness con	ISULT. Refer to the
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM co Check continuity be connector. CVT shift selector (p Connector M38 Check continuity be CVT shift selector CVT shift selector	node and follow the o End. SELECTOR CIRCUIT onnector and IPDM E/ etween CVT shift sele bark position switch) Terminal 8 etween CVT shift sele ector (park position switch) Termina	Connector M97 Ctor (park position	ent Keys using CON ns. switch) harness cor BCM Terminal 37 switch) harness con Ground	ISULT. Refer to the nnector and BCM h Continuity Yes nector and ground. Continuity
SULT Immobilizer n >> Inspection I CHECK CVT SHIFT Disconnect BCM cc Check continuity be connector. CVT shift selector (p Connector M38 Check continuity be CVT shift sele Connector M38	node and follow the o End. SELECTOR CIRCUIT onnector and IPDM E/ etween CVT shift sele park position switch) Terminal 8 etween CVT shift selected ector (park position switch) Termina 8	Connector Connector Connector M97 Ctor (park position	ent Keys using CON ns. switch) harness cor BCM Terminal 37 switch) harness con Ground	ISULT. Refer to the nnector and BCM h Continuity Yes nector and ground. Continuity No

Is the inspection result normal?

## **B2602 SHIFT POSITION**

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 8.

NO >> Replace CVT shift selector. Refer to <u>TM-231</u>, "Removal and Installation".

# 8. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

# Component Inspection

1. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

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

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

CVT shift selector (	park position switch)	Condition		Continuity
Terminal		Condition		Continuity
	8	Selector lever: P position	Selector button: Released	No
7			Selector button: Pressed	Ves
		Selector lever: Other than P position		163

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace CVT shift selector. Refer to <u>TM-231, "Removal and Installation"</u>.

INFOID:000000012430385
### < DTC/CIRCUIT DIAGNOSIS >

# **B2603 SHIFT POSITION**

# **DTC Logic**

DTC DETECTION LOGIC

#### NOTE:

• If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to SEC-68, "DTC Logic".

	DTC No.	Trouble diagnosis name	DTC detecting	g condition	Possible causes	
_	B2603	SHIFT POSITION	<ul> <li>BCM detects the following switch is in the ON positio</li> <li>Transmission range sw V.</li> <li>CVT shift selector (park nal: approx. 0 V.</li> </ul>	g status when ignition on: itch signal: approx. 0 c position switch) sig-	<ul> <li>Harness or connector [CVT shift selector (park position switch) circuit is open or shorted.]</li> <li>Harness or connectors (Transmission range switch circuit is open or shorted.)</li> <li>CVT shift selector (park position switch)</li> <li>Transmission range switch</li> <li>BCM</li> </ul>	D F
D٦	C CON	FIRMATION PROCE	EDURE			0
1	.PERFO	RM DTC CONFIRMAT	TION PROCEDURE 1			G
1. 2. 3.	Shift th Turn ig Check	ne selector lever to the gnition switch ON and y DTC in "Self Diagnost	P position. wait 1 second or more tic Result" of "BCM" us	sing CONSULT.		Н
<u>Is</u> ∨	DIC det	<u>ected?</u> > Go to SEC-73 "Diag	nosis Procedure"			I
N	10 >:	> GO TO 2.	<u>nosis i rocedure</u> .			1
2	.PERFO	RM DTC CONFIRMAT	TION PROCEDURE 2			I
1.	Shift th	e selector lever to the	position other than P	and N, and wait 1	second or more.	J
2. <u>Is</u>	DTC det	ected?	ic Result of Delvi us	Sing CONSOLT.		SE
Y N	'ES >> IO >>	> Go to <u>SEC-73, "Diag</u> Inspection End.	nosis Procedure".			
Di	agnosi	s Procedure			INFOID:000000012430387	L
Re	egarding	Wiring Diagram inform	nation, refer to <u>SEC-37</u>	7, "Wiring Diagram	<u>"</u> .	M
1						
Pe	erform in	spection in accordance	with procedure that	confirms DTC		Ν
<u>w</u>	hich proc	cedure confirms DTC?				
C r	TC conf	irmation procedure 1>	>GO TO 2.			0
2		FUSE	>60108.			
1.	Turn p	ower switch OFF.				Ρ
2.	Check	that the following fuse	in IPDM E/R is not bl	own.		
		Signal nam	e		Fuse No.	
		lanition power s	vlagu		49 (10 A)	

Is the inspection result normal?

А

В

С

INFOID:000000012430386

# **B2603 SHIFT POSITION**

#### < DTC/CIRCUIT DIAGNOSIS >

#### YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the cause of blowing.

# **3.**CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

1. Disconnect transmission range switch connector.

2. Turn ignition switch ON.

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

	+) range switch	(-)	Voltage (V) (Approx.)	
Connector	Terminal		(, , , , , , , , , , , , , , , , , , ,	
F52	7	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

### 4. CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT

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

Transmissior	n range switch	IPDI	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
F52	7	E45	21	Yes

#### Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to PCS-30. "Removal and Installation".
- NO >> Repair or replace harness.

# 5. CHECK BCM INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Connect transmission range switch harness connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between BCM harness connector and ground.

( 	+) CM	(–) Con		dition	Voltage (V) (Approx.)
Connector	Terminal				
MOS	102	Ground	Solootor lovor	P or N position	Battery voltage
10190			Selector level	Other than above	0

#### Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 6.

### **6.**CHECK BCM INPUT SIGNAL CIRCUIT

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

Transmissior	n range switch	В	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
F52	10	M98	102	Yes

Is the inspection result normal?

# **B2603 SHIFT POSITION**

			L	
YES >> GO TO 7.	anlago hornogo			
	SION RANGE SWIT	СН		
efer to SEC-76 "Com	ponent Inspection (T	ansmission Range	Switch)"	
the inspection result	normal?		<u>owntorry</u> .	
/ES >> GO TO 12.				
NO >> Replace tra	ansmission range swi	tch.		
CHECK CVT SHIFT	SELECTOR POWER	R SUPPLY		
Turn ignition switch	i OFF. lift selector (park posi	tion switch) connect	or	
Check voltage betv	veen CVT shift select	or (park position swi	tch) harness connec	ctor and ground.
	(+)			
CVT shift sel	ector (park position switch	)	()	Voltage (V)
Connector	Termin			(Approx.)
M38	7		Ground	Battery voltage
the inspection result	normal?			
(ES >> GO TO 10.				
↓O >> GO TO 9.				
CHECK CVT SHIFT	SELECTOR POWER	R SUPPLY CIRCUIT		
Disconnect BCM c	onnector.			
connector.				
CVT shift selector (	park position switch)	E	BCM	Continuity
Connector	Terminal	Connector	Terminal	
M38	7	M98	104	Yes
Check continuity be	etween CVT shift sele	ector (park position s	witch) harness conr	ector and ground.
CVT shift sel	ector (park position switch	)		
Connector	Tormin		Ground	
	Terrini	al	Ground	Continuity
M38	7	al	Ground	Continuity No
M38 the inspection result	normal?	al	Ground	Continuity No
M38 the inspection result (ES >> GO TO 12.	normal?	al	Ground	Continuity No
M38 the inspection result (ES >> GO TO 12. IO >> Repair or r	normal?		Ground	Continuity No
$\frac{M38}{\text{the inspection result}}$ $\frac{FS}{VO} >> GO TO 12.$ $\frac{FO}{VO} >> Repair or result}$	normal? eplace harness. T SELECTOR CIRC	UIT	Ground	Continuity No
M38 the inspection result (ES >> GO TO 12. NO >> Repair or r O.CHECK CVT SHII Disconnect BCM c Check continuity b	normal? eplace harness. T SELECTOR CIRC onnector.	UIT	Ground	Continuity No
$\begin{array}{rl} & & & \\ \hline \\ \hline$	normal? eplace harness. FT SELECTOR CIRC onnector. etween CVT shift sele	UIT ector (park position s	Ground	Continuity No nector and BCM ha
M38 the inspection result (ES >> GO TO 12. NO >> Repair or r O.CHECK CVT SHII Disconnect BCM c Check continuity b connector. CVT shift selector (	normal? eplace harness. FT SELECTOR CIRC onnector. etween CVT shift sele	al UIT ector (park position s	Ground	Continuity No nector and BCM ha
M38 the inspection result (ES >> GO TO 12. NO >> Repair or ro O.CHECK CVT SHII Disconnect BCM co Check continuity bo connector. CVT shift selector ( Connector	aplace harness. T SELECTOR CIRC Donnector. etween CVT shift sele Dark position switch) Terminal	al UIT ector (park position s E Connector	Ground Ground Switch) harness con	Continuity No nector and BCM ha Continuity
M38 the inspection result (ES >> GO TO 12. IO >> Repair or r O.CHECK CVT SHII Disconnect BCM c Check continuity b connector. CVT shift selector ( Connector M38	applace harness. T SELECTOR CIRC Donnector. Tween CVT shift selection Dark position switch) Terminal 8	UIT ector (park position s E Connector M97	Ground Ground Switch) harness con CM Terminal 37	Continuity No nector and BCM ha Continuity Yes
M38 the inspection result (ES >> GO TO 12. NO >> Repair or re O.CHECK CVT SHII Disconnect BCM co Check continuity bo connector. CVT shift selector ( Connector M38 Check continuity bo	aplace harness. -T SELECTOR CIRC -T SELECTOR CIRC -T SELECTOR Shift sele park position switch) Terminal 8 ≥tween CVT shift sele	UIT ector (park position s Connector M97 ector (park position s	Ground Ground Switch) harness con CM Creminal 37 Witch) harness conr	Continuity No No No Continuity Continuity Yes nector and ground.
M38 the inspection result YES >> GO TO 12. NO >> Repair or r <b>0</b> .CHECK CVT SHII Disconnect BCM c Check continuity b connector. CVT shift selector ( Connector M38 Check continuity b CVT shift selector (	anormal?         applace harness.         FT SELECTOR CIRC         connector.         atween CVT shift sele         park position switch)         Terminal         8         atween CVT shift sele         atween CVT shift sele         attract of park position switch	UIT ector (park position s <u>Connector</u> <u>M97</u> ector (park position s	Ground Ground Switch) harness con CM Cm Creminal S7 Witch) harness conr	Continuity No No No No Continuity Yes Nector and ground.

Is the inspection result normal?

M38

8

No

# **B2603 SHIFT POSITION**

< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 11.
- NO >> Repair or replace harness.

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

Refer to SEC-76, "Component Inspection [CVT Shift Selector (Park Position Switch)]".

### Is the inspection result normal?

YES >> GO TO 13.

NO >> Replace CVT shift selector. Refer to <u>TM-231</u>, "Removal and Installation".

12. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

# 13.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-74, "Removal and Installation"</u>.
- Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CON-SULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

# Component Inspection (Transmission Range Switch)

INFOID:000000012430388

# 1. CHECK TRANSMISSION RANGE SWITCH

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

Transmissio	n range switch	Condition	Continuity	
Terminal		Condition	Continuity	
7	10	P or N position	Yes	
r	10	Other than above	No	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace transmission range switch.

Component Inspection [CVT Shift Selector (Park Position Switch)]

INFOID:000000012430389

# 1.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

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

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

CVT shift selector	(detention switch)	Condition		Continuity	
Terr	minal			Continuity	
	8	Coloctor lover: Dissoition	Selector button: Released	No	
7			Selector button: Pressed	Vec	
_		Selector lever: Other than P	105		

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace CVT shift selector. Refer to <u>TM-231, "Removal and Installation"</u>.

### **B2604 SHIFT POSITION**

< DTC/CIRCUIT DIAGNOSIS >

**B2604 SHIFT POSITION** 

# DTC Logic

# DTC DETECTION LOGIC

#### NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-63. "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-64, "DTC Logic".

-	DTC No.	Trouble diagnosis name	DTC detect	ting condition	Possible cause	D
_	B2604	SHIFT PN DIAG CAN	<ul> <li>The following states are while ignition switch is</li> <li>P/N position signal is range switch but shif (CAN) from TCM is c</li> <li>P/N position signal is sion range switch but (CAN) from TCM is F</li> </ul>	e detected for 5 seconds ON: s sent from transmission t position signal input other than P and N. not sent from transmis- shift position signal input P or N.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connectors (Transmission range switch circuit is open or shorted.)</li> <li>TCM</li> <li>BCM</li> </ul>	E
- тп		IRMATION PROCED				
1						G
1.						
1. 2.	Turn igni	tion switch ON and wa	it 5 seconds or more	Э.		Н
3. ⊿	Shift the	selector lever to the N	position and wait 5	seconds or more.	aconds or more	
<del>-</del> . 5.	Check D	TC in "Self Diagnostic	Result" of "BCM" us	ing CONSULT.		I
<u>ls [</u>	DTC detec	ted?				
Y	ES >>( ∩ >>∣	Go to <u>SEC-77, "Diagno</u> nspection End	<u>sis Procedure"</u> .			
	anneie	Procedure				J
	aynosis	FIOCEGUIE			INFOID:000000012430391	
_						SE
Re	garding W	Iring Diagram informat	tion, refer to <u>SEC-37</u>	<u>, "Wiring Diagram"</u> .		
1						L
1.						
Ch	eck DTC i	n "Self Diagnostic Res	ult" of "TCM" using (	CONSULT.		M
<u>is i</u> V	FS >> F	<u>Perform the trouble dia</u>	anosis related to the	e detected DTC. Refe	er to TM-110 "DTC Index"	
N	0 >> (	GO TO 2.				NI
2.	CHECK F	USE				IN
1. 2.	Turn pov Check th	ver switch OFF. hat the following fuse in	IPDM E/R is not blo	own.		0
-		Signal name			Fuse No.	
-		Ignition power sup	ply		49 (10 A)	Ρ
ls t	he inspec	tion result normal?				
Y	ES >>(	GO TO 3. Poplace the blown fue	after repairing the	cause of blowing		
3	о г СНЕСК Т			R SI IDDI V		
<u>.</u>						

1. Disconnect transmission range switch connector.

2. Turn ignition switch ON.

[WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000012430390

# **B2604 SHIFT POSITION**

#### < DTC/CIRCUIT DIAGNOSIS >

#### 3. Check voltage between transmission range switch harness connector and ground.

( Transmission	+) n range switch	(-)	Voltage (V) (Approx.)	
Connector	Terminal			
F52	7	Ground	Battery voltage	

Is the inspection result normal?

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

### 4. CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT

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

Transmissior	n range switch	IPDI	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
F52	7	E45	21	Yes

#### Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".
- NO >> Repair or replace harness.

### **5.**CHECK BCM INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Reconnect transmission range switch connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between BCM harness connector and ground.

(+) BCM		(-)	Condition		Voltage (V) (Approx.)	
Connector	Connector Terminal				V FF - 7	
MQ8	102	Ground	Selector lever	P or N position	Battery voltage	
				Other than above	0	

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 6.

### 6.CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect transmission range switch connector.

3. Disconnect BCM connector.

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

Transmissior	Transmission range switch		BCM		
Connector	Terminal	Connector	Terminal	Continuity	
F52	10	M98	102	Yes	

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

Transmissi	on range switch		Continuity
Connector	Terminal	Ground	Continuity
F52	10		No

Is the inspection result normal?

## **B2604 SHIFT POSITION**

	TC/CIRCUIT DIAGN	NOSIS >	[vvi	TH INTELLIGENT KEY SYSTEM]
YE	S >> GO TO 7.			
_NC	>> Repair or rep	place harness.		
7.0	CHECK TRANSMISS	ION RANGE SWITC	Н	
Refe	er to <u>SEC-79, "Comp</u>	onent Inspection".		
<u>Is th</u>	e inspection result ne	ormal?		
YE	S >> GO TO 8.			
NC	>> Replace trar	nsmission range swite	ch.	
8.0	CHECK INTERMITTE	ENT INCIDENT		
Refe	er to <u>GI-42, "Intermitt</u>	ent Incident".		
0	>> Inspection E	nd.		
<b>9</b> .F	REPLACE BCM			
1.	Replace BCM. Refer	r to <u>BCS-74, "Remov</u>	al and Installation".	
2.	Perform initialization	of BCM and registra	ation of all Intelligent Keys	using CONSULT. Refer to the CON-
	SOLI IMMODILIZER M	oue and follow the or	I-SCIERN INSTRUCTIONS	
	>> Inspection E	nd.		
Co	>> Inspection E	ind.		
Coi	>> Inspection E mponent Inspect	nd. tion		INFOID:000000012430392
Coi 1.c	>> Inspection E mponent Inspect	nd. tion SION RANGE SWITC	H	INFOID:000000012430392
Cor 1.c	>> Inspection E mponent Inspect CHECK TRANSMISS Turn ignition switch (	ind. tion SION RANGE SWITC OFF.	H	INFCID:000000012430392
Cor 1.c	>> Inspection E mponent Inspect CHECK TRANSMISS Turn ignition switch ( Disconnect transmis	ind. tion NON RANGE SWITC OFF. sion range switch co	H	INFOID:000000012430392
Cor 1.c 1. 2. 3.	>> Inspection E mponent Inspect CHECK TRANSMISS Turn ignition switch ( Disconnect transmis Check continuity bet	ind. tion SION RANGE SWITC OFF. sion range switch con ween transmission ra	H nnector. ange switch terminals.	INFCID:000000012430392
Col 1.c 1. 2. 3.	>> Inspection E mponent Inspect CHECK TRANSMISS Turn ignition switch ( Disconnect transmis Check continuity bet	ind. SION RANGE SWITC OFF. sion range switch con ween transmission ra	H nnector. ange switch terminals.	INFOID:000000012430392
Coi 1. 1. 2. 3.	>> Inspection E mponent Inspect CHECK TRANSMISS Turn ignition switch ( Disconnect transmis Check continuity bet Transmission Terr	ind. ION RANGE SWITC OFF. Ision range switch con ween transmission ra	H nnector. ange switch terminals. Condition	INFOID:000000012430392
Col <u>1.c</u> <u>1.</u> <u>3.</u> <u>3.</u>	>> Inspection E mponent Inspect CHECK TRANSMISS Turn ignition switch ( Disconnect transmis Check continuity bet Transmission Terr	Ind. ION RANGE SWITC OFF. Ision range switch con Inveen transmission ra	H nnector. ange switch terminals. Condition P or N position	INFOID:000000012430392 Continuity Yes

Is the inspection result normal?

YES >> Inspection End.

>> Replace transmission range switch. NO

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< DTC/CIRCUIT DIAGNOSIS >

# **B2605 SHIFT POSITION**

# DTC Logic

INFOID:000000012430393

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-64, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2605	SHIFT PN DIAG IPDM	When ignition switch is ON, P/N position signal input from transmission range switch and P/N position signal (CAN) input from IPDM E/R do not match.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connectors (Transmission range switch circuit is open or shorted.)</li> <li>Transmission range switch</li> <li>IPDM E/R</li> <li>BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

### **1.**PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to <u>SEC-80, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

**Diagnosis** Procedure

INFOID:000000012430394

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

# **1.**CHECK IPDM E/R INPUT SIGNAL

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

( IPDI	(+) IPDM E/R (–) Condition		Voltage (V)			
Connector	Terminal					
F/2	40	Ground	Selector lever	P or N position	Battery voltage	
142	40	Ground	Selector level	Other than above	0	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK IPDM E/R INPUT SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Disconnect transmission range switch connector.

# **B2605 SHIFT POSITION**

### < DTC/CIRCUIT DIAGNOSIS >

# [WITH INTELLIGENT KEY SYSTEM]

IF	DM E/R			-	Transmission ran	ge switch		Continuity	
Connector		Terminal		Conn	ector	Termina		Continuity	
F42		40		F٤	52	10		Yes	
Check continuity	betwee	n IPDM E	E/R harn	ness conn	ector and grou	und.			
	IPDN	1 E/R						Continuity	
Connector			Terminal		Grou	Ind		Continuity	
F42			40					No	
the inspection rest         'ES       >> GO TO 5         IO       >> Repair o         .CHECK BCM INP         Check voltage b	5. r replace UT SIGI	e harness NAL BCM harr	S. ness cor	nnector ar	nd ground.				
	<u>\</u>				5				
BC	) M Term	ninal	(	()		Condition		Voltage (V) (Approx.)	
	Tom					P or	P or N position Battery v		
M98	10	)2	Gro	ound	Selector leve	r Other	than above	above 0	
CHECK BCM INP	r. UT SIGI tch OFF.		CUIT						
CHECK BCM INF Turn ignition swi Disconnect BCM Disconnect trans Check continuity	LT SIGI	NAL CIR( stor. range sw n BCM ha	CUIT witch cor arness c	nnector. connector	and transmis	sion range	switch har	ness connector	
CHECK BCM INF Turn ignition swi Disconnect BCN Disconnect trans Check continuity	UT SIGI tch OFF. connec mission betwee BCM	NAL CIR( stor. range sv n BCM ha	CUIT witch cor arness c	nnector. connector	and transmis	sion range	switch har	ness connector	
CHECK BCM INF Turn ignition swi Disconnect BCN Disconnect trans Check continuity	LT SIGI	NAL CIR( stor. range sv n BCM ha	CUIT witch cor arness c	nnector. connector Conn	and transmis Transmission ran	sion range ge switch Termina	switch har	ness connector Continuity	
CHECK BCM INF Turn ignition swir Disconnect BCM Disconnect trans Check continuity Connector M98	UT SIGI	NAL CIR( ctor. range sw n BCM ha Terminal 102	CUIT witch cor arness c	nnector. connector Conn Ft	and transmis Transmission ran ector 52	sion range ge switch Termina 10	switch har	rness connector Continuity Yes	
CHECK BCM INF Turn ignition swir Disconnect BCM Disconnect trans Check continuity Connector M98 Check continuity	UT SIGI	NAL CIR( stor. range sw n BCM ha Terminal 102 n IPDM E	CUIT witch cor arness c	nnector. connector Conn Ft ness conn	and transmis Transmission ran ector 52 ector and grou	sion range ge switch Termina 10 Jund.	switch har	rness connector Continuity Yes	
CHECK BCM INF Turn ignition swir Disconnect BCM Disconnect trans Check continuity Connector M98 Check continuity	UT SIGI	NAL CIRO stor. range sw n BCM ha Terminal 102 n IPDM E	CUIT witch cor arness c	nnector. connector Conn Ft ness conn	and transmis Transmission ran ector 52 ector and grou	sion range ge switch Termina 10 Jund.	switch har	rness connector Continuity Yes Continuity	
CHECK BCM INF Turn ignition swi Disconnect BCM Disconnect trans Check continuity Connector M98 Check continuity Check continuity Connector	UT SIGI tch OFF. connec mission betwee BCM betwee BCM	NAL CIRO stor. range sw n BCM ha Terminal 102 n IPDM E	CUIT witch cor arness c 	nnector. connector Conn Ft ness conn	and transmis Transmission ran ector 52 ector and grou	sion range ge switch Termina 10 und.	switch har	rness connector Continuity Yes Continuity	
CHECK BCM INF Turn ignition swi Disconnect BCM Disconnect trans Check continuity Connector M98 Check continuity Check continuity M98 the inepection rece	UT SIGI	NAL CIR( stor. range sw n BCM ha Terminal 102 n IPDM E	CUIT witch cor arness c E/R harn Terminal	nnector. connector Conn FS ness conn	and transmis Transmission ran ector 52 ector and grou Grou	sion range ge switch Termina 10 und.	switch har	rness connector Continuity Yes Continuity No	
CHECK BCM INF Turn ignition swi Disconnect BCM Disconnect trans Check continuity Connector M98 Check continuity Check continuity Connector M98 the inspection resu 'ES >> GO TO 5 IO >> Repair o .REPLACE BCM	UT SIGI	NAL CIRO range sw n BCM ha Terminal 102 n IPDM E CM	CUIT witch cor arness c E/R harn Terminal 102	nnector. connector Conn FS	and transmis Transmission ran ector 52 ector and grou Grou	sion range ge switch Termina 10 Jund.	switch har	rness connector Continuity Yes Continuity No	

### < DTC/CIRCUIT DIAGNOSIS >

# **B2608 STARTER RELAY**

# DTC Logic

DTC DETECTION LOGIC

### NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-64, "DTC Logic"</u>.
- If DTC B2608 is displayed with other DTC (BCM), first perform the trouble diagnosis for other DTC detected.

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

### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

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

### **Diagnosis** Procedure

INFOID:000000012430396

Regarding Wiring Diagram information, refer to <u>SEC-37, "Wiring Diagram"</u>.

## **1.**CHECK DTC OF IPDM E/R

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to PCS-20, "DTC Index".

NO >> GO TO 2.

# 2. CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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

(· B0	+) CM	(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				()
MOS	07	Ground	CVT selector lever	N or P position	Battery voltage
1190	31	Ground		Other than above	0

#### Is the inspection result normal?

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

# **B2608 STARTER RELAY**

### < DTC/CIRCUIT DIAGNOSIS >

### [WITH INTELLIGENT KEY SYSTEM]

3.CHECK ST		Y CIRCUIT			
<ol> <li>Turn ignition</li> <li>Disconnect</li> <li>Disconnect</li> <li>Check cor</li> </ol>	on switch OFF ct starter relay. ct BCM connec ntinuity betwee	: ctor. en starter relay h	arness connector and	d BCM harness co	nnector.
	Starter relay		BC	M	Continuity
Conne	ctor	Terminal	Connector	Terminal	Continuity
E41	l	1	M98	97	Yes
5. Check cor	ntinuity betwee	en starter relay h	arness connector and	d ground.	
	Starte	r relay			Continuity
Cor	nnector	Termina	al (	Ground	Continuity
	E41	1			No
<ul> <li>4.CHECK ST</li> <li>Refer to <u>SEC-1</u></li> <li>Is the inspection</li> <li>YES &gt;&gt; Get NO</li> <li>SCREPLACE</li> <li>Replace E</li> <li>Perform in SULT Imm</li> <li>Perform D</li> <li>Is DTC B2605</li> <li>YES &gt;&gt; Replace</li> </ul>	ARTER RELA 83, "Compone on result norms O TO 5. eplace starter r BCM CM. Refer to I notilizer mode OTC CONFIRM detected agai eplace IPDM E spection End	Y nt Inspection". al? relay. BCS-74, "Remo BCM and regist and follow the o IATION PROCE n? E/R. Refer to <u>PC</u>	val and Installation". ration of all Intelligen on-screen instructions DURE for B2605. Ref	t Keys using CON fer to <u>SEC-80, "DT</u> nstallation".	SULT. Refer to the CON-
Component	t Inspection	l			INFOID:000000012430397
<b>1.</b> снеск sт	ARTER RELA	Y			
<ol> <li>Turn ignition</li> <li>Disconnect</li> <li>Check corn</li> </ol>	on switch OFF ct starter relay. ntinuity betwee	n starter relay to	erminals.		
Starte	r relay		Condition		Continuity
	IIIIIdi	12 V direct curren	t supply between terminals	s 1 and 2	Yes
3	5	No current supply			No

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace starter relay.

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< DTC/CIRCUIT DIAGNOSIS >

# **B260F ENGINE STATUS**

### Description

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

### DTC Logic

INFOID:000000012430399

INFOID:000000012430400

INFOID:000000012430398

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-64, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260F	ECM CAN COMM	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>ECM</li> </ul>

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

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

### Is DTC detected?

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

### Diagnosis Procedure

# **1**.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select "Self Diagnostic Result" of "BCM" using CONSULT.
- 3. Touch ERASE.
- 4. Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to SEC-84, "DTC Logic".

### Is DTC detected?

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

## 2.REPLACE ECM

1. Replace ECM.

Refer to EC-477, "Removal and Installation".

 Perform "ADDITIONAL SERVICE WHEN REPLACING ECM". Refer to <u>EC-125, "Work Procedure"</u>.

>> Inspection End.

## **B261F ASCD CLUTCH SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

# **B261F ASCD CLUTCH SWITCH**

## **DTC Logic**

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B261F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-63, "DTC Logic".
- If DTC B261F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-64, "DTC Logic".

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B261F	ASCD CNCL/CLTCH SW (ASCD clutch interlock switch)	<ul> <li>BCM detects the following status for 10 seconds 3 times:</li> <li>Clutch interlock switch input: 0 V.</li> <li>Vehicle speed: 40 km/h (24.8 MPH) or more.</li> </ul>	<ul> <li>Harness or connectors. (CAN communication line is open or shorted.)</li> <li>Harness or connectors. (Clutch interlock switch circuit is open or shorted)</li> <li>Clutch interlock switch</li> <li>Combination meter</li> <li>BCM</li> </ul>
TC CON	FIRMATION PROCED	URE	
.PERFO	RM DTC CONFIRMATIO	N PROCEDURE	
Start th Drive v Decrea Repea	he engine. Yehicle at a speed of 40 k ase the vehicle speed to b t steps 2 and 3 twice (tota DTC in "Self Diagnostic I	m/h (24.8 MPH) or more for 10 seconds. below 40 km/h (24.8 MPH). al of 3 times). Result" of "BCM" using CONSULT.	
DTC det	ected?		
YES >>	Go to <u>SEC-85</u> , "Diagnos	sis Procedure".	

NO >> Inspection End		
Diagnosis Procedure	INFOID:000000012430402	SE
Regarding Wiring Diagram information, refer to <u>SEC-37. "Wiring Diagram"</u> .		L
1.CHECK DTC OF COMBINATION METER		M
Check DTC in "Self Diagnostic Result" of "METER/M&A" using CONSULT. Refer to <u>MWI-24, "DTC Index"</u> .		
Is the inspection result normal?		Ν
YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts.		
2.CHECK FUSE		0
<ol> <li>Turn power switch OFF.</li> <li>Check that the following fuse in the fuse block (J/B) is not blown.</li> </ol>		P

Signal name	Fuse No.
Ignition power supply	10 (10 A)

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the cause of blowing.

INFOID:000000012430401

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# **B261F ASCD CLUTCH SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

# $\overline{\mathbf{3}}$ .check clutch interlock switch power supply

- 1. Disconnect clutch interlock switch connector.
- 2. Turn ignition switch ON.

3. Check voltage between clutch interlock switch harness connector and ground.

(+) Clutch interlock switch Connector Terminal		(-)	Voltage (V) (Approx.)	
E34	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

#### **4.**CHECK CLUTCH INTERLOCK SWITCH SIGNAL

1. Connect clutch interlock switch connector.

2. Check voltage between BCM harness connector and ground.

( 	+) CM	()	Condition		Voltage
Connector	Terminal	•			
MOS	101	Ground	Clutch pedal	Released	0 V
10190	101	Ground	Ground Clutch pedal		Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 6.

### **5.**REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-74, "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.

# 6. CHECK CLUTCH INTERLOCK SWITCH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector.

3. Check continuity between clutch interlock switch harness connector and BCM harness connector.

Clutch interlock switch		B	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
E34	2	M98	101	Yes	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

**I**.CHECK CLUTCH INTERLOCK SWITCH

Refer to SEC-87, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace clutch interlock switch. Refer to <u>CL-11, "Exploded View"</u>.

**8**.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection	End.				A
Component Inspe	ction			INFOID:000000012430	0403
1.CHECK CLUTCH IN	ITERLOCK SWITCH	1			В
<ol> <li>Turn ignition switch</li> <li>Disconnect clutch i</li> <li>Check continuity be</li> </ol>	n OFF. nterlock switch conn etween clutch interlo	ector. ck switch terminals.			C
Clutch inter	lock switch	Con	dition	Continuity	- D
Term	ninal			Continuity	_
1	2	Clutch pedal	Not depressed	No	
le the inequation result	normal2		Depressed	Yes	_
NO >> Replace cli	utch interlock switch	. Refer to <u>CL-11, "Exp</u> l	loded View".		F G
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### **B2620 PARK/NEUTRAL POSITION SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

# B2620 PARK/NEUTRAL POSITION SWITCH

### DTC Logic

INFOID:000000012430404

[WITH INTELLIGENT KEY SYSTEM]

### NOTE:

- If DTC B2620 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.
- If DTC B2620 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-64, "DTC Logic"</u>.

#### DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B2620	NEUTRAL SW (Neutral switch)	<ul> <li>BCM detects the following status for 10 seconds 3 times:</li> <li>Park/neutral position switch input: Battery voltage</li> <li>Vehicle speed: 40 km/h (24.8 MPH) or more.</li> </ul>	<ul> <li>Harness or connector (CAN communication line is open or shorted.)</li> <li>Harness or connector (Park/neutral position switch circuit is open or shorted.)</li> <li>Park/neutral position switch</li> <li>Combination meter</li> <li>BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Drive vehicle at a speed of 40 km/h (24.8 MPH) or more for 10 seconds.
- 3. Decrease the vehicle speed to below 40 km/h (24.8 MPH).
- 4. Repeat steps 2 and 3 twice (total of 3 times).
- 5. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to SEC-88, "Diagnosis Procedure".
- NO >> Inspection End

### **Diagnosis** Procedure

INFOID:000000012430405

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

### 1. CHECK DTC OF COMBINATION METER

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

Refer to <u>MWI-24, "DTC Index"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK FUSE

### 1. Turn power switch OFF.

2. Check that the following fuse in the fuse block (J/B) is not blown.

Signal name	Fuse No.
Ignition power supply	3 (10 A)

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the cause of blowing.

# **B2620 PARK/NEUTRAL POSITION SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

# [WITH INTELLIGENT KEY SYSTEM]

3.CHECK PARK/N	EUTRAL POSIT	ION SWITCH F	OWER SUP	PLY					
<ol> <li>Turn ignition sw</li> <li>Disconnect par</li> <li>Turn ignition sw</li> <li>Check voltage</li> </ol>	ritch OFF. ritch ON.	switch connect	tor.	connector and dround					
			viter names.						
(+) Voltage (V)									
Connecto		Terminal		()	(Approx.)				
F24		2		Ground	Battery voltage				
s the inspection res	sult normal?	_							
YES >> GO TO	4.								
NO >> Repair	or replace harnes	6S.							
+.CHECK PARK/N	EUTRAL POSIT	ION SWITCH I	NPUT SIGN	4L					
<ol> <li>Turn ignition sw</li> <li>Connect park/n</li> </ol>	ritch OFF. eutral position sv	vitch connector.							
3. Turn ignition sw	ritch ON.								
. Check voltage	between BCM ha	rness connecto	or and groun	d.					
(	+)								
B	CM	(-)		Condition	Voltage				
Connector	Terminal								
M98	102	Ground	Shift lever	Neutral position	Battery voltage				
Except neutral position 0 V									
	<u>suit normal?</u>								
NO >> GO TO	6.								
<b>5</b> .REPLACE BCM									
. Replace BCM.	Refer to <u>BCS-74</u>	"Removal and	Installation"	•					
<ol> <li>Perform initializ</li> <li>SULT Immobilizion</li> </ol>	ation of BCM an	d registration c	of all Intellige	ent Keys using CONSU	LT. Refer to the CON-				
				13.					
>> Inspect	ion End.								
CHECK PARK/N	EUTRAL POSIT	ION SWITCH S		CUIT					
1. Turn ignition sw	ritch OFF.								
2. Disconnect par	<pre>k/neutral position </pre>	switch connect	tor.						
<ul> <li>Check continuit</li> </ul>	y between park/r	neutral position	switch harne	ess connector and BCM	harness connector.				
				2014	<u> </u>				
			Connector	Terminal	Continuity				
	3		M98	102	Yes				
s the inspection res	sult normal?								
YES >> GO TO	7.								
NO >> Repair	or replace harnes	SS.							
CHECK PARK/N	EUTRAL POSIT	ION SWITCH							
Refer to <u>SEC-90, "(</u>	Component Inspe	ction".							
Refer to <u>SEC-90, "(</u> s the inspection res	Component Inspe sult normal?	ction".							

Revision: August 2015

### **B2620 PARK/NEUTRAL POSITION SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

# [WITH INTELLIGENT KEY SYSTEM]

# 8.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

### **Component Inspection**

INFOID:000000012430406

# 1. CHECK PARK/NEUTRAL POSITION SWITCH

1. Turn ignition switch OFF.

2. Disconnect park/neutral position switch connector.

3. Check continuity between park/neutral position switch terminals.

Park/neutral position switch Terminal		Condition		Continuity	
Σ	5	Onitiever	Except neutral position	No	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace park/neutral position switch. Refer to TM-19, "Removal and Installation".

## **B26E8 CLUTCH INTERLOCK SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

# **B26E8 CLUTCH INTERLOCK SWITCH**

# DTC Logic

INFOID:000000012430407

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#### DTC No. DTC detecting condition Possible cause (Trouble diagnosis content) · Harness or connector (Clutch interlock switch circuit is BCM detects the following conditions for 2 open or shorted.) seconds or more: · Harness or connector CLUTCH SW Clutch pedal position switch: ON B26E8 (Clutch pedal position switch circuit (Clutch pedal is released.) (Clutch switch) is open or shorted.) Clutch interlock switch: ON · Clutch interlock switch (Clutch pedal is depressed.) · Clutch pedal position switch • BCM DTC CONFIRMATION PROCEDURE **1.**PERFORM DTC CONFIRMATION PROCEDURE 1 1. Turn ignition switch ON. Wait 2 seconds or more under the following conditions. 2. Shift lever: In the neutral position. Clutch pedal: Depressed 3. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT. Is DTC detected? YES >> Go to SEC-91, "Diagnosis Procedure". NO >> GO TO 2. 2. PERFORM DTC CONFIRMATION PROCEDURE 2 Release clutch pedal and wait 2 seconds or more. 1. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT. Is DTC detected? YES >> Go to SEC-91, "Diagnosis Procedure". SEC >> Inspection End. NO Diagnosis Procedure INFOID:00000001243040 Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram". CHECK DTC OF COMBINATION METER Check DTC in "Self Diagnostic Result" of "METER/M&A" using CONSULT. Refer to MWI-24, "DTC Index". Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2.CHECK FUSE 1. Turn power switch OFF. 2. Check that the following fuse in the fuse block (J/B) is not blown.

Signal name	Fuse No.
Ignition power supply	10 (10 A)

Is the inspection result normal?

# CONSULT screen items

DTC DETECTION LOGIC

# **B26E8 CLUTCH INTERLOCK SWITCH**

< DTC/CIRCUIT DIAGNOSIS >

#### YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the cause of blowing.

# 3.check clutch interlock switch power supply

- 1. Disconnect clutch interlock switch connector.
- 2. Turn ignition switch ON.

3. Check voltage between clutch interlock switch harness connector and ground.

(+) Clutch interlock switch Connector Terminal		(-)	Voltage (V) (Approx.)	
E34	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

### **4.**CHECK CLUTCH INTERLOCK SWITCH SIGNAL

- 1. Connect clutch interlock switch connector.
- 2. Check voltage between BCM harness connector and ground.

(	+)						
BCM		(-)	Condition		Voltage		
Connector	Terminal						
MOS	101	Cround	101 Ground Chu	101 Ground Clutch pedal	Clutch pedal	Released	0 V
	101	Gibting		Depressed	Battery voltage		

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 6.

### **5.**REPLACE BCM

- 1. Replace BCM. Refer to BCS-74, "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.

### 6.CHECK CLUTCH INTERLOCK SWITCH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector.

3. Check continuity between clutch interlock switch harness connector and BCM harness connector.

Clutch interlock switch		BCM		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
E34	2	M98	101	Yes	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

**I**.CHECK CLUTCH INTERLOCK SWITCH

Refer to SEC-93, "Component Inspection (Clutch Interlock Switch)".

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace clutch interlock switch. Refer to <u>CL-11, "Exploded View"</u>.

8. CHECK INTERMITTENT INCIDENT

# **B26E8 CLUTCH INTERLOCK SWITCH**

# [WITH INTELLIGENT KEY SYSTEM]

Refer to GL-42 "Intern			•		
$\frac{1}{1000} = \frac{1}{1000} = 1$	nittent Incident				
>> Inspectio	n End				Α
Component Inspection	ection (Clute	h Interlock Su	vitch)		
			nton)	INFOID:000000012430409	B
1.CHECK CLUTCH	INTERLOCK S	WITCH			
1. Turn ignition swite	ch OFF. Vinterlock switc	h connector			С
3. Check continuity	between clutch	interlock switch te	rminals.		
					C
Clutch interle	ock switch		Condition	Continuity	
Termi	inal	_	Condition	Continuity	E
1	2	Clutch pedal	Depressed	Yes	
			Not depressed	No	
	10				_
Is the inspection result	<u>lt normal?</u> a End				F
Is the inspection result YES >> Inspection NO >> Replace of	<u>It normal?</u> n End. clutch interlock	switch. Refer to <u>Cl</u>	-11. "Exploded View".		F
Is the inspection result YES >> Inspection NO >> Replace of	<u>lt normal?</u> n End. clutch interlock	switch. Refer to <u>Cl</u>	-11. "Exploded View".		F
Is the inspection result YES >> Inspection NO >> Replace of	l <u>t normal?</u> n End. clutch interlock	switch. Refer to <u>Cl</u>	<u>-11, "Exploded View"</u> .		F
Is the inspection resu YES >> Inspection NO >> Replace of	<u>It normal?</u> n End. clutch interlock	switch. Refer to <u>Cl</u>	<u>-11. "Exploded View"</u> .		F
Is the inspection resu YES >> Inspection NO >> Replace of	<u>It normal?</u> n End. clutch interlock	switch. Refer to <u>Cl</u>	<u>-11, "Exploded View"</u> .		F C
Is the inspection resu YES >> Inspection NO >> Replace of	<u>It normal?</u> n End. clutch interlock	switch. Refer to <u>Cl</u>	<u>11. "Exploded View"</u> .		F C H

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### **B26F3 STARTER CONTROL RELAY**

### < DTC/CIRCUIT DIAGNOSIS >

# **B26F3 STARTER CONTROL RELAY**

## DTC Logic

INFOID:000000012430410

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-64, "DTC Logic"</u>.

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

### DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch under the following conditions to start engine:
- Selector lever: In the P position
- Brake pedal: Not depressed
- 2. Wait 2 seconds after engine started.
- 3. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to SEC-94, "Diagnosis Procedure".
- NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012430411

**1.**CHECK DTC OF IPDM E/R

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

#### Is DTC detected?

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

2. CHECK INTERMITTENT INCIDENT

Refer to GI-42. "Intermittent Incident".

>> Inspection End.

### **B26F4 STARTER CONTROL RELAY**

### < DTC/CIRCUIT DIAGNOSIS >

# **B26F4 STARTER CONTROL RELAY**

# DTC Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-63, "DTC Logic".
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-64, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	D
B26F4	START CONT RLY OFF	BCM requests IPDM E/R to turn starter control relay ON, but BCM cannot receive starter control relay ON state signal from IPDM E/R (CAN).	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>IPDM E/R</li> </ul>	E
DTC CONF	IRMATION PROCEDU	JRE		_
1.PERFOR	RM DTC CONFIRMATIO	N PROCEDURE		F
<ol> <li>Press p more:</li> <li>Selector</li> <li>Brake p</li> </ol>	oush-button ignition swite r lever: In the P position edal: Not depressed	ch under the following conditions to	start engine, and wait 1 second or	G
2. Check E	DTC in "Self Diagnostic F	Result" of "BCM" using CONSULT.		Н
Is DTC dete	<u>cted?</u>	in Dropoduro"		
NO >>	Inspection End.	as Procedure.		1
Diagnosis	s Procedure		INFOID:000000012430413	1
1				
I.CHECK	DTC OF IPDM E/R			J
Check DTC	in "Self Diagnostic Resu	It" of "IPDM E/R" using CONSULT.		
YES >> NO >>	<u>cted?</u> Perform the diagnosis p GO TO 2.	rocedure related to the detected DTC	C. Refer to PCS-20, "DTC Index".	SE
<b>2.</b> снеск і	INTERMITTENT INCIDE	NT		1
Refer to GI-	42, "Intermittent Incident			
				B (
>>	Inspection End.			IV
				N
				C
				_

### [WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000012430412

# < DTC/CIRCUIT DIAGNOSIS >

# B26F7 BCM

# **DTC Logic**

INFOID:000000012430414

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

### 1. Press door request switch.

- 2. Turn ignition switch ON.
- 3. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

#### Is DTC detected?

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

### **Diagnosis** Procedure

INFOID:000000012430415

# **1.**INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select "Self Diagnostic Result" of "BCM" using CONSULT.
- 3. Touch "ERASE".
- Perform DTC CONFIRMATION PROCEDURE for DTC B26F7. Refer to <u>SEC-96, "DTC Logic"</u>.

### Is DTC B26F7 detected again?

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

# 2.REPLACE BCM

- 1. Replace BCM. Refer to BCS-74, "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.

### **B26FB CLUTCH SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

# **B26FB CLUTCH SWITCH**

# **DTC** Logic

# DTC DETECTION LOGIC

#### NOTE:

- If DTC B26FB is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-63, "DTC Logic".
- If DTC B26FB is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-64, "DTC Logic".

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26FB	CLUTCH SWITCH (Clutch switch)	BCM receives the abnormal signal of clutch pedal position switch from ECM via CAN communication.	<ul> <li>Harness or connector (CAN communication line is open or shorted.)</li> <li>ECM</li> </ul>
TC CONFI	RMATION PROCEDUR	E ROCEDURE	
1. Turn igniti 2. Check DT	ion switch ON. C in "Self Diagnostic Res	ult" of "BCM" using CONSULT.	
s DTC detect	ed?		
YES >> G NO >> In	o to <u>SEC-97, "Diagnosis l</u> spection End.	Procedure".	

# **Diagnosis** Procedure

# **1.**INSPECTION START

1. Turn ignition switch ON.	
2. Select "Self Diagnostic Result" of "BCM" using CONSULT.	
3. Touch "ERASE".	
<ol><li>Perform DTC CONFIRMATION PROCEDURE for DTC B26FB. Refer to <u>SEC-97, "DTC Logic"</u>.</li></ol>	
Is DTC detected?	
YES >> GO TO 2.	
NO >> Inspection End.	
2.REPLACE ECM	
Replace ECM. Refer to EC-477, "Removal and Installation"	

>> Inspection End.

[WITH INTELLIGENT KEY SYSTEM]

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# **B26FC KEY REGISTRATION**

### < DTC/CIRCUIT DIAGNOSIS >

# **B26FC KEY REGISTRATION**

# DTC Logic

INFOID:000000012430418

INFOID:000000012430419

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

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

### Is DTC detected?

- YES >> Go to <u>SEC-98, "Diagnosis Procedure"</u>
- NO >> Inspection End.

### Diagnosis Procedure

# **1.**REPLACE INTELLIGENT KEY

- 1. Prepare Intelligent Key that matches the vehicle.
- 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.
- 3. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

### Is DTC detected?

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

### 2.REPLACE BCM

- 1. Replace BCM. Refer to BCS-74, "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.

# **B210B STARTER CONTROL RELAY**

### < DTC/CIRCUIT DIAGNOSIS >

# **B210B STARTER CONTROL RELAY**

# **DTC Logic**

# DTC DETECTION LOGIC

#### NOTE:

If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.

63, DICLOGIC.			С
CONSULT Display	DTC Detection Condition	Possible Cause	
START CONT RLY ON [B210B]	<ul> <li>When comparing the following items, IPDM E/R detects that starter control relay is stuck in the ON position for 1 second or more:</li> <li>Starter control relay signal (CAN) from BCM.</li> <li>Starter relay status signal (CAN) from BCM.</li> <li>Starter control relay and starter relay status signal. (IPDM E/R input)</li> <li>Starter control relay control signal. (IPDM E/R output)</li> <li>Transmission range switch signal input.</li> </ul>	IPDM E/R	D E F
DTC CONFIRMATION F	ROCEDURE		
1.PERFORM DTC CONF	IRMATION		G
<ol> <li>Turn ignition switch OI</li> <li>Turn ignition switch OI</li> <li>Turn ignition switch OI</li> <li>Turn ignition switch OI</li> <li>Perform "Self Diagnos</li> </ol>	N. FF and wait 1 second or more. N. tic Result" of "IPDM E/R" using CONSULT		Н
Is DTC B210B displayed?YES>> Refer to SEC-NO>> Inspection End	<u>99, "Diagnosis Procedure"</u> . d.		I
<b>Diagnosis</b> Procedure		INFCID:000000012430421	J
1. PERFORM SELF DIAC	GNOSTIC RESULT		
Perform "Self Diagnostic R	esult" of "IPDM E/R" using CONSULT.		SEC
Is display history of DTC B	210B CRNT?		
NO >> Replace IPDM NO >> Refer to <u>GI-42</u>	I E/R. Refer to <u>PCS-30, "Removal and Insi</u> , "Intermittent Incident".	tallation".	L
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### **B210C STARTER CONTROL RELAY**

### < DTC/CIRCUIT DIAGNOSIS >

# **B210C STARTER CONTROL RELAY**

## DTC Logic

DTC DETECTION LOGIC

#### NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-63, "DTC Logic".
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210C may be detected.

CONSULT Display	DTC Detection Condition	Possible Cause
STR CONT RLY OFF CIRC [B210C]	<ul> <li>When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 1 second or more:</li> <li>Starter control relay signal (CAN) from BCM.</li> <li>Starter relay status signal (CAN) from BCM.</li> <li>Starter control relay and starter relay status signal. (IPDM E/R input)</li> <li>Starter control relay control signal. (IPDM E/R output)</li> </ul>	<ul> <li>IPDM E/R</li> <li>BCM</li> <li>Battery</li> </ul>

### DTC CONFIRMATION PROCEDURE

# **1**.PERFORM DTC CONFIRMATION

- 1. Turn ignition switch ON.
- 2. Turn ignition switch OFF and wait 1 second or more.
- 3. Turn ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

#### Is DTC B210C displayed?

- YES >> Refer to <u>SEC-100, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

# 1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT. Is display history of DTC B210C CRNT?

YES >> GO TO 2.

NO >> Refer to <u>GI-42, "Intermittent Incident"</u>.

2.CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDM E/R		Ground	Voltage
Connector	Terminal	Ground	(Approx.)
E44 (WITH M/T)	13		Ratteny voltage
F42 (WITH CVT)	40	—	Dattery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-30, "Removal and Installation"</u>. NO (WITH M/T)>>GO TO 3. NO (WITH CVT)>>GO TO 4. INFOID:000000012430422

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# **B210C STARTER CONTROL RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

# [WITH INTELLIGENT KEY SYSTEM]

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

### 1. Disconnect IPDM E/R connector E44 and clutch interlock switch connector E34.

#### 2. Check continuity between IPDM E/R connector E44 and clutch interlock switch connector E34.

						E
IPDM E/R		Clu	tch interlock switch	Continuity		
	Connector	Terminal	Connector	Terminal	Continuity	
	E44	13	E34	2	Yes	0
3. 4.	Disconnect BCM of Check continuity b	connector M98. between IPDM E/R co	nnector E44 an	d ground.		
		IPDM E/R		Ground	Continuity	
	Connector Terminal		l	Ground	Continuity	E
	E44	13		_	No	_

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-74, "Removal and Installation".

NO >> Repair or replace harness or connectors.

### **4.**CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

#### 1. Disconnect IPDM E/R connector F42 and transmission range switch connector F52.

2. Check continuity between IPDM E/R connector F42 and transmission range switch connector F52.

IPDI	IPDM E/R		Transmission range switch		Transmission range switch		1
Connector	Terminal	Connector Terminal		Continuity			
F42	40	F52	10	Yes			

3. Disconnect BCM connector M98.

4. Check continuity between IPDM E/R connector F42 and ground.

IPDM E/R		Cround	Continuity		
Connector	Terminal	Ground	Continuity	8EC	
F42	40	—	No	SEC	

Is the inspection result normal?

YES	>> Replace BCM. Refer to	BCS-74, "Removal and Installation".

NO >> Repair or replace harness or connectors.

< DTC/CIRCUIT DIAGNOSIS >

**B210D STARTER RELAY** 

# DTC Logic

# DTC DETECTION LOGIC

### NOTE:

If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63. "DTC Logic"</u>.

CONSULT Display	DTC Detection Condition	Possible Cause
STARTER RLY ON CIRC [B210D]	<ul> <li>When comparing the following items, IPDM E/R detects that starter control relay is stuck in the ON position for 5 second or more:</li> <li>Starter control relay signal (CAN) from BCM.</li> <li>Starter relay status signal (CAN) from BCM.</li> <li>Starter control relay and starter relay status signal. (IPDM E/R input)</li> <li>Starter control relay control signal. (IPDM E/R output)</li> </ul>	<ul> <li>Harness or connectors (starter motor relay control circuit open or short.)</li> <li>IPDM E/R</li> <li>BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

# **1**.PERFORM DTC CONFIRMATION

- 1. Turn ignition switch ON.
- 2. Turn ignition switch OFF and wait 1 second or more.
- 3. Turn ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.
- Is DTC B210D displayed?
- YES >> Refer to <u>SEC-102</u>, "Diagnosis Procedure".
- NO >> Inspection End.

## **Diagnosis** Procedure

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

# 1. PERFORM SELF DIAGNOSTIC RESULT

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

### Is display history of DTC B210D CRNT?

YES >> GO TO 2.

NO >> Refer to <u>GI-42, "Intermittent Incident"</u>.

2. CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDM E/R		Ground	Voltage (Approx.)	
Connector	Connector Terminal			
E44	13		Battery voltage	
F42	40		Dattery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-30, "Removal and Installation"</u>.

NO (WITH M/T)>>GO TO 3.

NO (WITH CVT)>>GO TO 4.

3. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connectors E44, BCM connector M98, clutch interlock switch connector E34.

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INFOID:000000012430425

# **B210D STARTER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

#### 2. Check continuity between IPDM E/R connector E44 and ground.

IPDM E/R		Cround	Continuity
Connector	Terminal	Ground	Continuity
E44	13	—	No

Is the inspection result normal?

YES >> Refer to <u>SEC-82, "Diagnosis Procedure"</u>.

NO >> Repair or replace harness or connectors.

### **4.**CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connectors F42, BCM connector M98, transmission range switch connector F52.

2. Check continuity between IPDM E/R connector F42 and ground.

IPDM E/R Connector Terminal		Ground	Continuity	
		Ground		
F42	40	—	No	F

Is the inspection result normal?

YES >> Refer to <u>SEC-82, "Diagnosis Procedure"</u>.

NO >> Repair or replace harness or connectors.

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### **B210E STARTER RELAY**

< DTC/CIRCUIT DIAGNOSIS >

**B210E STARTER RELAY** 

# DTC Logic

DTC DETECTION LOGIC

### NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.
- If DTC B210E is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to <u>SEC-80, "DTC Logic"</u>.
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210F may be detected.

CONSULT Display	DTC Detection Condition	Possible Cause
STARTER RELAY OFF [B210E]	<ul> <li>When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 5 second or more:</li> <li>Starter control relay signal (CAN) from BCM.</li> <li>Starter relay status signal (CAN) from BCM.</li> <li>Starter control relay and starter relay status signal. (IPDM E/R input)</li> <li>Starter control relay control signal. (IPDM E/R output)</li> </ul>	<ul> <li>IPDM E/R</li> <li>BCM</li> <li>Battery</li> </ul>

### DTC CONFIRMATION PROCEDURE

# **1**.PERFORM DTC CONFIRMATION

- 1. Turn ignition switch ON.
- 2. Turn ignition switch OFF and wait 1 second or more.
- 3. Turn ignition switch ON.
- 4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

### Is DTC B210E displayed?

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

### **Diagnosis** Procedure

INFOID:000000012430427

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

# 1. PERFORM SELF DIAGNOSTIC RESULT

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

### Is display history of DTC B210E CRNT?

- YES >> GO TO 2.
- NO >> Refer to <u>GI-42, "Intermittent Incident"</u>.

2.CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDM E/R		Ground	Voltage	
Connector	Connector Terminal		(Approx.)	
E44	13		Battenyvoltage	
F42	40		Dallery Vollage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-30, "Removal and Installation"</u>. NO (WITH M/T)>>GO TO 3. INFOID:000000012430426

[WITH INTELLIGENT KEY SYSTEM]

# **B210E STARTER RELAY**

< DTC/CIRCUIT DIAGNOSIS >

NO (WITH CVT)>>GO TO 4.

# 3.check starter control relay control circuit continuity

## 1. Disconnect IPDM E/R connector E44 and clutch interlock switch connector E34.

### 2. Check continuity between IPDM E/R connector E44 and clutch interlock switch connector E34.

IPDI	M E/R	Clutch interlock switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E44	13	E34	2	Yes

Is the inspection result normal?

YES	>> Replace BCM, Refer to	BCS-74.	"Removal	and	Installation".
0		20011	- torno tai	ana	infottantation .

NO >> Repair or replace harness or connectors.

### **4.**CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector F42 and transmission range switch connector F52.

2. Check continuity between IPDM E/R connector F42 and transmission range switch connector F52.

IPDI	M E/R	Transmission range switch     Connector       Connector     Terminal		Continuity	
Connector	Terminal			Continuity	Continuity
F42	40	F52	10	Yes	(

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-74, "Removal and Installation".

NO >> Repair or replace harness or connectors.

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### B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH T DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

# B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

## DTC Logic

DTC DETECTION LOGIC

### NOTE:

If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTRLCK/PNP SW ON	<ul> <li>IPDM E/R detects a difference between the following signals:</li> <li>P/N position signal from transmission range switch and P/N position signal (CAN) from BCM .</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connectors (Transmission range switch circuit is open or shorted.)</li> <li>Transmission range switch</li> <li>IPDM E/R</li> <li>BCM</li> </ul>

## DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Shift selector lever to the P position.
- 2. Turn ignition switch ON and wait 1 second or more.
- 3. Shift selector lever to the N position and wait 1 second or more.
- 4. Shift selector lever to the position other than P and N, and wait 1 second or more.
- 5. Check DTC in "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

### Is DTC detected?

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

## **Diagnosis Procedure**

INFOID:000000012430429

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

# 1.CHECK DTC OF BCM

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

### Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>BCS-50, "DTC Index"</u>. NO >> GO TO 2.

**2.**CHECK IPDM E/R SIGNAL CIRCUIT OPEN AND SHORT

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

IPDM E/R		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
F42	40	F52	10	Yes

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

INFOID:000000012430428

# B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

# [WITH INTELLIGENT KEY SYSTEM]

	(+)		Continuity	
	DM E/R	()	Continuity	
E42	40	Ground	No	
the inspection result per	mal2	Ground	NO	
ES >> Replace IPDM	E/R. Refer to <u>PCS-30, "Re</u>	moval and Installation".		
IO >> Repair or repla	ice harness.			

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

# B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

# DTC Logic

DTC DETECTION LOGIC

### NOTE:

If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-63, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTRLCK/PNP SW OFF	<ul><li>IPDM E/R detects a difference between the following signals:</li><li>P/N position signal from transmission range switch and P/N position signal (CAN) from BCM.</li></ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connectors (Transmission range switch circuit is open or shorted.)</li> <li>Transmission range switch</li> <li>IPDM E/R</li> <li>BCM</li> </ul>

## DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Shift selector lever to the P position.
- 2. Turn ignition switch ON and wait 1 second or more.
- 3. Shift selector lever to the N position and wait 1 second or more.
- 4. Shift selector lever to the position other than P and N, and wait 1 second or more.
- 5. Check DTC in "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

### Is DTC detected?

- YES >> Go to SEC-108, "Diagnosis Procedure".
- NO >> Inspection End.

## **Diagnosis Procedure**

INFOID:000000012430431

INFOID:000000012430430

Regarding Wiring Diagram information, refer to <u>SEC-37, "Wiring Diagram"</u>.

# 1.CHECK DTC OF BCM

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

#### Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>BCS-50, "DTC Index"</u>. NO >> GO TO 2.

**2.**CHECK IPDM E/R SIGNAL CIRCUIT OPEN AND SHORT

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

IPDM E/R		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
F42	40	F52	10	Yes

5. Check continuity between IPDM E/R harness connector and ground.
## **B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

(	+)	-	
IPDN	M E/R	(-)	Continuity
Connector	Terminal		
F42	40	Ground	No
ne inspection result norm	<u>al?</u>		
S >> Replace IPDM E	E/R. Refer to <u>PCS-30, "Rer</u>	moval and Installation".	
	e namess.		

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#### < DTC/CIRCUIT DIAGNOSIS >

## VEHICLE SECURITY INDICATOR

## Description

- Vehicle security indicator is built in combination meter.
- NATS (Nissan Anti-Theft System) condition is indicated by blink or illumination of vehicle security indicator.

## **Component Function Check**

## 1.CHECK FUNCTION

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

2. Check vehicle security indicator operation.

Test item		Description			
	ON	Vahiala acquirity indicator	ON		
	OFF		OFF		

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to <u>SEC-110, "Diagnosis Procedure"</u>.

## **Diagnosis** Procedure

INFOID:000000012542524

Regarding Wiring Diagram information, refer to SEC-37, "Wiring Diagram".

## **1.**SECURITY INDICATOR LAMP ACTIVE TEST

### With CONSULT

Check "THEFT IND"" in "Active Test" of "IMMU".

#### Without CONSULT

1. Disconnect BCM.

2. Check voltage between BCM harness connector M97 terminal 23 and ground.

Connector	Term	ninals	Condition	Voltage (V)
(+) (-)		Condition	(Approx.)	
MQZ	23	Ground	ON	0
WIS7	25	Ground	OFF	Battery voltage

#### Is the inspection result normal?

YES >> Security indicator lamp is OK.

NO >> GO TO 2.

## **2**. SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace combination meter. Refer to <u>MWI-115, "Removal and Installation"</u>.

**3.**CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect BCM and security indicator lamp connector.

3. Check continuity between BCM connector M97 terminal 23 and combination meter connector M24 terminal 18.

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INFOID:000000012542523

## VEHICLE SECURITY INDICATOR

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

A	Continuity	Combination meter Connector Terminal		BCM	
	Continuity			Terminal	Connector
	Yes	18	M24	23	M97
— B		and an an an al			Observed a secretion of the law

#### 4. Check continuity between BCM connector M97 terminal 23 and ground.

BCM			Continuity	(
Connector	Connector Terminal		Continuity	
M97	23		No	

#### Is the inspection result normal?

YES >> Check the following:

- 10A fuse No. 8, located in fuse block (J/B)
- Harness for open or short between security indicator lamp and fuse.
- 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:000000012430432

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

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

Conditions of Vehicle (Operating Conditions)

- "ENGINE START BY I-KEY" setting in "Work support" in "INTELLIGENT KEY" of "BCM" is ON.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

## Diagnosis Procedure

INFOID:000000012430433

**1**.PERFORM WORK SUPPORT

Perform "INSIDE ANT DIAGNOSIS" in "Work Support" of "INTELLIGENT KEY" of "BCM" using CONSULT. Refer to <u>BCS-22, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)"</u>.

>> GO TO 2.

2.PERFORM SELF-DIAGNOSIS RESULT

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

Is DTC detected?

YES >> Perform the trouble diagnosis for detected DTC. Refer to <u>BCS-50, "DTC Index"</u>.

NO >> GO TO 3.

**3.**CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch. Refer to <u>SEC-66</u>, "Component Inspection".

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-42, "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:000000012430434 Security indicator lamp does not blink when power supply position is other than the ON position. В NOTE: · Before performing the diagnosis, perform "Work Flow". Refer to SEC-46, "Work Flow". · 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 Power supply position is other than the ON position. **Diagnosis** Procedure INFOID:000000012430435 Ε 1. CHECK SECURITY INDICATOR LAMP Check security indicator lamp. Refer to SEC-110, "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-42, "Intermittent Incident". NO >> GO TO 1.

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INFOID:000000012430436

## REMOVAL AND INSTALLATION NATS ANTENNA AMP.

Removal and Installation

#### REMOVAL

- 1. Remove cluster lid A. Refer to IP-21, "Removal and Installation".
- Release pawls and remove NATS antenna amp. (1).
   (<sup>\*</sup>): 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.

## **PUSH-BUTTON IGNITION SWITCH**

## < REMOVAL AND INSTALLATION >

## **PUSH-BUTTON IGNITION SWITCH**

## Removal and Installation

### REMOVAL

- 1. Remove NATS antenna amp. Refer to SEC-114. "Removal and Installation".
- Release pawls and remove the push-button ignition switch (1).
   (\_): Pawl



#### INSTALLATION Installation is in the reverse order of removal.

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INFOID:000000012430437

## < REMOVAL AND INSTALLATION >

## REMOTE KEYLESS ENTRY RECEIVER

## Removal and Installation

#### REMOVAL

- 1. Remove the glove box. Refer to IP-25, "Removal and Installation".
- 2. Disconnect the harness connector (A) from remote keyless entry receiver (1).
- 3. Remove screw (B) and remove remote keyless entry receiver.



INSTALLATION Installation is in the reverse order of removal. INFOID:000000012430438

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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.

#### Precaution for Work

• When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.

- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component second second
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

INFOID-000000012430440

# PREPARATION

## PREPARATION

## Special Service Tool

INFOID:000000012430441

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name		Description
— (J-46534) Trim Tool Set	AWJIA0463ZZ	Removing trim components

## **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

## SYSTEM DESCRIPTION

**COMPONENT PARTS** 

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Parts Location

INFOID:000000012430442

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View from right side of steering column B. View with glove box door removed Α.

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#### < SYSTEM DESCRIPTION >

## **COMPONENT PARTS**

## [WITHOUT INTELLIGENT KEY SYSTEM]

No.	Component	Function
1.	Combination meter	Combination meter transmits the vehicle speed signal to BCM via CAN communica- tion. BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM com- pares both signals to detect the vehicle speed. Security indicator lamp is located on combi- nation 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-8</u> , " <u>METER SYSTEM : Compo- nent Parts Location</u> ".
2.	ABS actuator and electric unit (control unit)	ABS actuator and electric unit (control unit) transmits the vehicle speed signal to BCM via CAN communication. BCM also receives the vehicle speed signal from the combination meter via CAN communication. BCM compares both signals to detect the vehicle speed. Refer to <u>BRC-7</u> , "Component Parts Location" for detailed installation location.
3.	Transmission range switch	Transmission range switch detects the CVT shift selector lever position.
4.	IPDM E/R	Starter control relay is used for the engine starting function. Starter control relay is con- trolled by IPDM E/R while communicating with BCM. IPDM E/R sends the starter control relay statu signal to BCM.
5.	ВСМ	BCM controls NISSAN VEHICLE IMMOBI- LIZER SYSTEM-NATS [NVIS (NATS)] and VEHICLE SECURITY SYSTEM. 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-77, "BODY CONTROL SYS- TEM : Component Parts Location"</u> for de- tailed installation location.
6.	Clutch interlock switch	Clutch interlock switch detects that clutch pedal is depressed, and then transmits ON/ OFF signal to the BCM.
7.	Stop lamp switch	Stop lamp switch detects that brake pedal is depressed, and then transmits ON/OFF signal to the BCM.
8.	Main power window and door lock/unlock switch	Door lock and unlock switch is integrated into the main power window and door lock/unlock switch. Door lock and unlock switch transmits door lock/unlock operation signal to BCM. Refer to <u>PWC-6. "Component Parts Loca- tion"</u> .
9.	CVT shift selector (park position switch)	Park position switch is integrated into the CVT shift selector and detects that the selector lever is in the P (park) position, then transmits ON/OFF signal to the BCM and IPDM E/R.

## **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

No.	Component	Function
10.	Front door switch LH	Door switch detects door open/close condi- tion and then transmits ON/OFF signal to BCM.
11.	Rear door switch LH	Door switch detects door open/close condi- tion and then transmits ON/OFF signal to BCM.
12.	Ignition switch	Input ignition switch ON/OFF condition to ( BCM.
13.	NATS antenna amp.	ID verification is performed between the BCM and the transponder integrated into the key via the NATS antenna amp.
14.	Remote keyless entry receiver	Remote keyless entry receiver receives but- ton operation signal and key ID signal then transmits them to the BCM.

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : CVT Shift Selector (Park Position Switch)

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

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

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

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

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

### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : BCM

BCM controls ENGINE START FUNCTION, NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS (NATS) and	d 🗨
VEHICLE SECURITY SYSTEM.	0
BCM performs the ID verification between BCM and key. If the ID verification result is OK ignition switch oper	r_ <b></b>

ation is available.

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

### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : ECM

ECM controls the engine.

When power supply position is turned ON, BCM starts communication with ECM and performs the ID verification between BCM and ECM.

If the verification result is OK, the engine can start. If the verification result is invalid, the engine can not start.

#### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : IPDM E/R

IPDM E/R has the starter control relay inside. Starter control relay is used for the engine starting function. IPDM E/R controls this relay while communicating with BCM.

#### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : 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.

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### **COMPONENT PARTS**

#### [WITHOUT INTELLIGENT KEY SYSTEM]

### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Door Switch

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

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Remote Keyless Entry Receiver

INFOID:000000012430449

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INFOID:000000012430451

INFOID:000000012430448

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

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Security Indicator Lamp

Security indicator lamp is located on combination meter.

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

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Starter Relay

Engine starting system functions by controlling starter control relay. Starter control relay is controlled by IPDM E/R on request from BCM. IPDM E/R transmits starter control relay statu signal to BCM via CAN communication.

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Stop Lamp Switch

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

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Transmission Range Switch

INFOID:000000012430453

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

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

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

< SYSTEM DESCRIPTION >

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

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

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

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

### 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:000000012430455

## INPUT/OUTPUT SIGNAL CHART

BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal
NATS antenna amp.	Key ID	ΝΔΤS	<ul> <li>Security indicator lamp</li> </ul>
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)
- 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 5 keys.
- During trouble diagnosis or when the following parts have been replaced, and if ignition key is added, registration<sup>\*1</sup> is required:

<sup>\*1</sup>: All kevs 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-139, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-477, "Removal and Installation".

### PRECAUTIONS FOR KEY REGISTRATION

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## SYSTEM

#### < SYSTEM DESCRIPTION >

- 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 mot performed the electrical system may not operate properly.

- BCM
- ECM
- IPDM E/R
- Ignition key
- NATS antenna amp.
- Dongle unit
- Combination meter

#### DIAGNOSIS SYSTEM (BCM) [WITHOUT INTELLIGENT KEY SYSTEM]

# < SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM)

## COMMON ITEM

## COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000012542531

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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	<ul><li>The vehicle specification can be read and saved.</li><li>The vehicle specification can be written when replacing BCM.</li></ul>	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	ic 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			×	×	×			SEC
Rear window defogger	REAR DEFOGGER			×	×				
Warning chime	BUZZER			×	×				L
Interior room lamp timer	INT LAMP			×	×	×			
Remote keyless entry system	MULTI REMOTE ENT			×	×	×			D. 4
Exterior lamp	HEAD LAMP			×	×	×			IVI
Wiper and washer	WIPER			×	×	×			
Turn signal and hazard warning lamps	FLASHER			×	×				Ν
Air conditioner	AIR CONDITIONER			×					
Combination switch	COMB SW			×					
BCM	BCM	×	×			×	×	×	0
Immobilizer	IMMU		×		×	×			
Interior room lamp battery saver	BATTERY SAVER			х	×	×			Р
Vehicle security system	THEFT ALM			×		×			
RAP system	RETAINED PWR			х		×			
Signal buffer system	SIGNAL BUFFER			×					
TPMS	AIR PRESSURE MONITOR		×	×	×	×			
Panic alarm system	PANIC ALARM				×				

Revision: August 2015

## IMMU

## IMMU : CONSULT Function (BCM - IMMU)

## SELF DIAGNOSTIC RESULT

Refer to <u>BCS-115, "DTC Index"</u>.

### 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 code can be read.

INFOID:000000012542532

## [WITHOUT INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (IPDM E/R)		Λ
Diagnosis Description	INFOID:000000012542533	A
AUTO ACTIVE TEST		В
Description In auto active test, the IPDM E/R sends a drive signal to the following systems to check their op • Front wiper (LO, HI) • Parking lamp • Side marker lamp	eration:	С
License plate lamp     Tail lamp		D
<ul> <li>Front fog lamp</li> <li>Headlamp (LO, HI)</li> <li>A/C compressor (magnet clutch)</li> <li>Cooling fan</li> </ul>		E
Operation Procedure <b>NOTE:</b> Never perform auto active test in the following conditions: • Passenger door is open		F
<ul> <li>CONSULT is connected</li> <li>Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage operation) NOTE:</li> </ul>	due to wiper	G
When auto active test is performed with hood opened, sprinkle water on windshield before 2 Turn the ignition switch OEE	land.	
<ol> <li>Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. ignition switch OFF.</li> </ol>	Then turn the	
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the a starts.	uto active test	J
5. After a series of the following operations is repeated 3 times, auto active test is completed.	_	
<ul> <li>When auto active test has to be cancelled halfway through test, turn the ignition switch OFF.</li> <li>When auto active test is not activated, door switch may be the cause. Check door switch. Re <u>"Component Function Check"</u> (with Intelligent Key system) or <u>DLK-232</u>, "Component Function (without Intelligent Key system).</li> </ul>	fer to <u>DLK-98.</u> nction Check"	SE

#### Inspection in Auto Active Test

When auto active test is actuated, the following operation sequence is repeated 3 times.

Operation se- quence	Inspection location	Operation	IVI
1	Front wiper	LO for 5 seconds $\rightarrow$ HI for 5 seconds	NI
2	<ul> <li>Parking lamp</li> <li>Side marker lamp</li> <li>License plate lamp</li> <li>Tail lamp</li> <li>Front fog lamp (if equipped)</li> </ul>	10 seconds	0
3	Headlamp	LO for 10 seconds $\rightarrow$ HI ON $\Leftrightarrow$ OFF 5 times	
4	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$	Ρ
5	Cooling fan	LO for 5 seconds $\rightarrow$ MID for 3 seconds $\rightarrow$ HI for 2 seconds	

### < SYSTEM DESCRIPTION >

Concept of Auto Active Test



- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis Chart in Auto Active Test

Symptom	Inspection contents		Possible cause
Any of the following components do not operate:		YES	BCM signal input circuit
<ul> <li>Parking lamp</li> <li>Side marker lamp</li> <li>License plate lamp</li> <li>Tail lamp</li> <li>Front fog lamp</li> <li>Headlamp (HI, LO)</li> <li>Front wiper (HI, LO)</li> </ul>	Perform auto active test. Does the applicable system op- erate?	NO	<ul> <li>Lamp or motor</li> <li>Lamp or motor ground circuit</li> <li>Harness or connector between IPDM E/R and applicable system</li> <li>IPDM E/R</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper-	YES	<ul> <li>BCM signal input circuit</li> <li>CAN communication signal be- tween BCM and ECM</li> <li>CAN communication signal be- tween ECM and IPDM E/R</li> </ul>
/C compressor does not operate	ate?	NO	<ul> <li>Magnet clutch</li> <li>Harness or connector between IPDM E/R and magnet clutch</li> <li>IPDM E/R</li> </ul>
	Perform auto active test	YES	<ul> <li>ECM signal input circuit</li> <li>CAN communication signal be- tween ECM and IPDM E/R</li> </ul>
Cooling fan does not operate	Does the cooling fan operate?	NO	<ul> <li>Cooling fan motor</li> <li>Harness or connector between IPDM E/R and cooling fan motor</li> <li>IPDM E/R</li> </ul>

## CONSULT Function (IPDM E/R)

INFOID:000000012542534

#### 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.

**Revision: August 2015** 

## DIAGNOSIS SYSTEM (IPDM E/R)

#### < SYSTEM DESCRIPTION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

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Direct Diagnostic Mode	Description	^
Data Monitor	The IPDM E/R input/output data is displayed in real time.	A
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.	В

#### ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-20, "DTC Index".

#### DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [1/2/3/4]	×	Indicates cooling fan speed signal received from ECM on CAN communication line
AC COMP REQ [On/Off]	×	Indicates A/C compressor request signal received from ECM on CAN communication line
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communica- tion line
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communica- tion line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
IGN RLY1 -REQ [On/Off]		Indicates ignition switch ON signal received from BCM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay
PUSH SW [On/Off]		Indicates condition of push-button ignition switch
INTER/NP SW [On/Off]		Indicates condition of CVT shift position
ST RLY CONT [On/Off]		Indicates starter relay status signal received from BCM on CAN communication line
IHBT RLY -REQ [On/Off]		Indicates starter control relay signal received from BCM on CAN communication
ST/INHI RLY [Off/ ST /INHI]		Indicates condition of starter relay and starter control relay
DETENT SW [On/Off]		Indicates condition of CVT shift selector (park position switch)
DTRL REQ [Off]		Indicates daytime running light request signal received from BCM on CAN com- munication line
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN commu- nication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

#### ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [On].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].

## DIAGNOSIS SYSTEM (IPDM E/R)

#### < SYSTEM DESCRIPTION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

Test item MOTOR FAN Description

 MOTOR FAN
 This test is able to check cooling fan operation [4/3/2/1].

 EXTERNAL LAMPS
 This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].

CAN DIAG SUPPORT MNTR

Refer to LAN-13, "CAN Diagnostic Support Monitor".

[WITHOUT INTELLIGENT KEY SYSTEM]

## ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

## List of ECU Reference

INFOID:000000012430460

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ECU	Reference	
	EC-71, "Reference Value"	
	EC-99. "Wiring Diagram"	
ECM	EC-83. "Fail Safe"	D
	EC-85, "DTC Inspection Priority Chart"	
	EC-87, "DTC Index"	
	PCS-13. "Reference Value"	E
	PCS-21, "Wiring Diagram"	
	PCS-19, "Fail-safe"	F
	PCS-20, "DTC Index"	
	BCS-101, "Reference Value"	
	BCS-117, "Wiring Diagram"	G
BCM	BCS-115. "Fail-safe"	
	BCS-115, "DTC Inspection Priority Chart"	—
	BCS-115, "DTC Index"	

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## WIRING DIAGRAM

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## Wiring Diagram

INFOID:000000012430461





ABKWA3101GB

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#### **NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)** [WITHOUT INTELLIGENT KEY SYSTEM] < WIRING DIAGRAM >

**Revision: August 2015** 

2016 Versa Note

ABKIA7108GB



**NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)** 

ABKIA7109GB

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WHITE

Connector Color

H.S.

F

E7

Connector No.

BLACK

Connector Color Connector Name

H.S.

E

Color of Wire

Terminal No. 83 84

٩ \_

ABKIA7110GB

ECM E16

Connector No.

## NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) < WIRING DIAGRAM > [WITHOUT INTELLIGENT KEY SYSTEM]



ABKIA7111GB

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Connector No.	F52	
Connector Name	TRANSMISSION RANGE SWITCH	
Connector Color	BLACK	
R.S.H	6         5         4         3           10         9         8         7	
Terminal No. W	or of ire Signal Name	

	低低 H.S.	Connector Color GRAY	Connector Name WIRE TO WIRE	Connector No. F55
--	------------	----------------------	-----------------------------	-------------------

Signal Name	I	I	
Color of Wire	щ	BR	
Terminal No.	7	6	

1 1

BH B

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ABKIA7112GB

## BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000012430462

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[WITHOUT INTELLIGENT KEY SYSTEM]

**OVERALL SEQUENCE** 



ALKIA2308GB

## DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

## DETAILED FLOW

## **1.**GET INFORMATION FOR SYMPTOM

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

#### >> GO TO 2.

## 2.CHECK DTC

- 1. Check DTC for BCM.
- 2. Perform the following procedure if DTC is displayed.
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

#### Is any symptom described and any DTC detected?

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

#### 3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT to the vehicle in "Data Monitor" and check real-time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

### **4.**CONFIRM THE SYMPTOM

Confirm the symptom described by the customer. Connect CONSULT to the vehicle in "Data Monitor" and check real-time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

## **5.**PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. If two or more DTCs are detected, refer to <u>BCS-115</u>, "<u>DTC Inspection Priority Chart</u>" (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 7.

NO >> Refer to <u>GI-42</u>, "Intermittent Incident".

**6.**DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

Detect malfunctioning system according to Symptom Table based on the confirmed symptom in step 4.

#### >> GO TO 7.

#### **1**.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system. **NOTE:** 

The Diagnostic Procedure is described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

>> GO TO 8.

## $\mathbf{8}$ . REPAIR OR REPLACE THE MALFUNCTIONING PART

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

## **DIAGNOSIS AND REPAIR WORKFLOW**

< BASIC INSPECTION >	[WITHOUT INTELLIGENT KEY SYSTEM]	
3. Check DTC. If DTC is displayed, erase it.		
	A	L
9 EINAL CHECK		
When DTC was detected in step 8 perform DTC Confirmati	B B B B B B B B B B B B B B B B B B B B	j
again, and then check that the malfunctions have been fully rep	paired.	
When symptom was described by the customer, refer to the co the symptom is not detected.	nfirmed symptom in step 3 or 4, and check that C	r P
Does the symptom reappear?		
YES (DTC is detected)>>GO TO 7.	D	)
NO >> Inspection End.		
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### **INSPECTION AND ADJUSTMENT**

< BASIC INSPECTION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

## INSPECTION AND ADJUSTMENT

## ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION : Description

Performing following procedure can automatically perform re-communication of ECM and BCM, but only when the ECM has been replaced with a new one (\*1).

\*1: New one means an ECM which has never been energized on-board.

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

#### NOTE:

- When registering new Key IDs or replacing the ECM that is not brand new, refer to CONSULT Immobilizer mode and follow the on-screen instructions.
- If multiple keys are attached to the key holder, separate them before work.
- Distinguish keys with unregistered key ID from those with registered ID.

ECM RE-COMMUNICATING FUNCTION : Special Repair Requirement

INFOID:000000012430464

INFOID 000000012430463

## **1.**PERFORM ECM RE-COMMUNICATING FUNCTION

#### 1. Install ECM.

- Using a registered key (\*2), turn ignition switch to "ON".
   \*2: To perform this step, use the key that has been used before performing ECM replacement.
- 3. Maintain ignition switch in "ON" position for at least 5 seconds.
- 4. Turn ignition switch to "OFF".
- 5. Start engine.

#### Can engine be started?

YES >> Procedure is completed.

NO >> Initialize control unit. Refer to CONSULT Immobilizer mode and follow the on-screen instructions.

## DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE

## Description

When the starting operation is carried more than five times consecutively under the following conditions, NATS will shift to the mode which prevents the engine from being started.

• Unregistered mechanical key is used.

• BCM or ECM's malfunctioning.

## DTC Logic

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	E
P1610	LOCK MODE	<ul> <li>When the starting operation is carried out five or more times consecutively under the following conditions:</li> <li>Unregistered mechanical key</li> <li>BCM or ECM's malfunctioning.</li> </ul>	<ul> <li>Mechanical key</li> <li>BCM</li> <li>ECM</li> </ul>	F
DTC CONFI	RMATION PROCE	DURE		0
1.PERFORM	M DTC CONFIRMAT	ION PROCEDURE		Н
1. Turn igni 2. Check "S	tion switch ON. Self Diagnostic Result	t" using CONSULT		
Is DTC detec	ted?			I
YES >> F	Refer to <u>SEC-143, "D</u>	iagnosis Procedure".		
Diagnosis	Procedure			J
1 1	Tiocedure		INF-OID:000000012430467	
I.CHECK E	NGINE START FUN	CTION		SEC
1. Perform 1 2 Use CON	the check for DTC ex SULT to erase DTC	ccept DTC P1610. after fixing		
3. Check th	at engine can start w	ith registered mechanical key.		
Does the eng	ine start?			L
YES >> II NO >> 0	nspection End. GO TO 2.			
2.CHECK IN	ITERMITTENT INCI	DENT		Μ
Refer to <u>GI-4</u>	2, "Intermittent Incide	ent".		
				Ν
>>	nspection End.			
				0

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INFOID:000000012430465

INFOID:000000012430466

## B2190, P1614 NATS ANTENNA AMP.

#### < DTC/CIRCUIT DIAGNOSIS >

## B2190, P1614 NATS ANTENNA AMP.

## Description

Performs ID verification through BCM and NATS antenna amplifier when ignition key is inserted and ignition switch turned ON.

Prohibits the start of engine when an unregistered ID of ignition key is used.

## DTC Logic

## DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190	NATS ANTENNA AMP		Harness or connectors     (The NATE of the NATE)
P1614		<ul> <li>Inactive communication between NATS antenna amp. and BCM.</li> <li>Ignition key is malfunctioning.</li> </ul>	<ul> <li>(The NATS antenna amp. circui open or shorted.)</li> <li>Ignition key</li> <li>NATS antenna amp.</li> <li>BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Insert ignition key into the key cylinder.
- 2. Turn ignition switch ON.
- 3. Check "Self Diagnostic Result" using CONSULT.
- Is DTC detected?
- YES >> Refer to <u>SEC-144</u>, "Diagnosis Procedure".
- NO >> Inspection End.

### **Diagnosis** Procedure

INFOID:000000012430470

Regarding Wiring Diagram information, refer to <u>SEC-132, "Wiring Diagram"</u>.

## **1.**CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to <u>SEC-159</u>, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

#### Does the engine start?

- YES >> Ignition key ID chip is malfunctioning.
  - Replace the ignition key.
  - Perform initialization with CONSULT.
    - For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

NO >> GO TO 3.

 $\mathbf{3.}$  CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

1. Turn ignition switch ON.

2. Check voltage between NATS antenna amp. connector M21 terminal 1 and ground.

INFOID:000000012430468

INFOID:000000012430469
## B2190, P1614 NATS ANTENNA AMP.

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITHOUT INTELLIGENT KEY SYSTEM]

NATS antenna amp.			Voltage		
C	onnector	Terminal	Ground	(Approx.)	
	M21	1		Battery voltage	_
the inspect	ion result nor	mal?			
(ES >> (	GO TO 4.	<b>.</b> .			
NO >> F	Repair or repla	ace fuse or harness.			
.CHECK N	ATS ANTENN	IA AMP. GROUND LINE CI	RCUIT		
Turn igni Disconne Check co	tion switch Of ect NATS ante ontinuity betwo	F. nna amp. connector. een NATS antenna amp. co	nnector M21 terminal 3 and	ground.	
	NATS a	intenna amp.		Continuity	—
C	onnector	Terminal	Ground	Continuity	
	M21	3		Yes	
	NOTE: If harness is CONSULT. I instructions.	OK, replace BCM <u>BCS-137</u> For initialization, refer to C	7, "Removal and Installation ONSULT Immobilizer mode	. Perform initialization	with
CHECK N	ATS ANTENN	A AMP. SIGNAL LINE- 1			reen
CHECK N Connect Turn igni Check vo	ATS ANTENN NATS antenn tion switch Of oltage betwee	NA AMP. SIGNAL LINE- 1 a amp. connector. N. n NATS antenna amp. conn	ector M21 terminal 2 and gro	ound with analog tester	reen
CHECK N Connect Turn igni Check vo	ATS ANTENN NATS antenn tion switch Of bltage betwee	NA AMP. SIGNAL LINE- 1 a amp. connector. N. n NATS antenna amp. conn	ector M21 terminal 2 and gro Voltage (V	ound with analog tester	
CHECK N Connect Turn igni Check vo Terr (+)	ATS ANTENN NATS antenn tion switch Of oltage betwee ninals (-)	A AMP. SIGNAL LINE- 1 a amp. connector. N. n NATS antenna amp. conn	ector M21 terminal 2 and gro Voltage (V (Approx.)	ound with analog tester	
CHECK N Connect Turn igni Check vo Terr (+)	ATS ANTENN NATS antenn tion switch Of bltage betwee ninals (-)	NA AMP. SIGNAL LINE- 1 a amp. connector. N. n NATS antenna amp. conn - Position of ignition key cylinder Before inserting ignition key	ector M21 terminal 2 and gro Voltage (V (Approx.) Battery volta	ound with analog tester	reen
CHECK N Connect Turn igni Check vo Terr (+)	ATS ANTENN NATS antenn tion switch Of oltage betwee ninals (-) Ground	AMP. SIGNAL LINE- 1 a amp. connector. N. NATS antenna amp. conn Position of ignition key cylinder Before inserting ignition key After inserting ignition key	ector M21 terminal 2 and gro Voltage (V (Approx.) Battery volta Pointer of tester should move fo then return to batter	ound with analog tester ) ge r approx. 30 seconds, ry voltage	reen

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM <u>BCS-137, "Removal and Installation"</u>. Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

## 6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

Check voltage between NATS antenna amp. connector M21 terminal 4 and ground with analog tester.

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## B2190, P1614 NATS ANTENNA AMP.

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITHOUT INTELLIGENT KEY SYSTEM]

Terminals		Position of ignition key cylinder	r Voltage (V)	
(+)	(+) (-)		(Approx.)	
	Ground After i Just after	Before inserting ignition key	Battery voltage	
4		After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage	
		Just after turning ignition switch ON	Pointer of tester should move for approx. 1 second, then return to battery voltage	

#### Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning. Replace NATS antenna amp. Refer to <u>SEC-159, "Removal</u> <u>and Installation"</u>.

>> • Repair or replace harness.

NOTE:

NO

If harness is OK, replace BCM, refer to <u>BCS-137</u>, "<u>Removal and Installation</u>". Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

#### < DTC/CIRCUIT DIAGNOSIS >

## B2191, P1615 DIFFERENCE OF KEY

#### Description

Performs ID verification through BCM when mechanical key is inserted in the ignition key cylinder. Prohibits the release of steering lock or start of engine when an unregistered ID of mechanical key is used.

### DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2191	DIFFERENCE OF	The ID verification results between BCM and me-	Mechanical key	
P1615	KEY	chanical key are NG. The registration is necessary.		

#### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- Insert mechanical key into the key cylinder. 1.
- 2. Check "Self Diagnostic Result" using CONSULT.

#### Is DTC detected?

- YES >> Refer to SEC-147, "Diagnosis Procedure". NO
- >> Inspection End.

### Diagnosis Procedure

## **1.**PERFORM INITIALIZATION

Perform initialization with CONSULT. Re-register all mechanical keys.

For initialization and registration of mechanical key. Refer to CONSULT Immobilizer mode and follow the onscreen instructions.

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

- YES >> Mechanical key was unregistered.
- NO >> BCM is malfunctioning.
  - Replace BCM. Refer to <u>BCS-137</u>, "Removal and Installation".
  - · Perform initialization again.

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#### < DTC/CIRCUIT DIAGNOSIS >

## B2192, P1611 ID DISCORD, IMMU-ECM

### Description

BCM performs the ID verification with ECM that allows the engine to start. BCM starts the communication with ECM if ignition switch is turned ON and starts the engine if the ID is OK. ECM prevents the engine from starting if the ID is not registered.

## DTC Logic

DTC DETECTION LOGIC

#### NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-127, "DTC Logic"</u>.
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-128, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD BCM-	The ID verification results between BCM and ECM	• BCM
P1611	ECM	are NG. The registration is necessary.	• ECM

#### DTC CONFIRMATION PROCEDURE

#### **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self Diagnostic Result" using CONSULT.

#### Is DTC detected?

- YES >> Refer to <u>SEC-148, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

## Diagnosis Procedure

## **1.**PERFORM INITIALIZATION

Perform initialization with CONSULT. Re-register all mechanical keys.

For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the onscreen instructions.

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

- YES >> ID was unregistered.
- NO >> GO TO 2.

2.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-137, "Removal and Installation"</u>.
- 2. Perform initialization with CONSULT. Re-register all mechanical keys.
- For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

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

YES >> BCM is malfunctioning.

NO >> GO TO 3.

## **3.**REPLACE ECM

- 1. Replace ECM. Refer to EC-477, "Removal and Installation".
- 2. Perform initialization with CONSULT. Re-register all mechanical keys.
- For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

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

YES >> ECM is malfunctioning.

NO >> GO TO 4.

INFOID:000000012430474

INFOID:000000012430475

INFOID:000000012430476

B2192, P1611 ID D < DTC/CIRCUIT DIAGNOSIS >	ISCORD, IMMU-ECM [WITHOUT INTELLIGENT KEY SYSTEM]
4. CHECK INTERMITTENT INCIDENT	
Refer to GI-42, "Intermittent Incident".	A
>> Inspection End.	В
	C
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#### < DTC/CIRCUIT DIAGNOSIS >

## B2193, P1612 CHAIN OF ECM-IMMU

### Description

BCM performs the ID verification with ECM that allows the engine to start. BCM starts the communication with ECM if ignition switch is turned ON and starts the engine if the ID is OK. ECM prevents the engine from starting if the ID is not registered.

## DTC Logic

INFOID:000000012430478

INFOID:000000012430479

INFOID:000000012430477

[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 BCS-127, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-128, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193			Harness or connectors
P1612	CHAIN OF BCM- ECM	Inactive communication between ECM and BCM.	<ul><li>(The CAN communication line is open or short)</li><li>BCM</li><li>ECM</li></ul>

#### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self Diagnostic Result" using CONSULT.

#### Is DTC detected?

- YES >> Refer to <u>SEC-150, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

#### **Diagnosis** Procedure

## **1**.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-137, "Removal and Installation"</u>.
- Perform initialization with CONSULT.
   For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

#### Does the engine start?

NO

- YES >> Inspection End.
  - >> ECM is malfunctioning.
    - Replace ECM.
    - Perform ECM re-communicating function.

### B2195 ANTI-SCANNING [WITHOUT INTELLIGENT KEY SYSTEM]

#### < DTC/CIRCUIT DIAGNOSIS >

## **B2195 ANTI-SCANNING**

## DTC Logic

INFOID:000000012430480

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	l rouble diagnosis name	DTC detecting condition	Possible cause
B2195	ANTI SCANNING	ID verification between BCM and ECM is de- tected out of specification.	ID verification request out of specification.
TC CONF	IRMATION PROCED	URE	
1.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
1. Turn igni 2. Check D	tion switch ON. TC in "Self Diagnostic I	Result" of "BCM" using CONSULT.	
Is DTC detec	ted?	an a sia. Dao ao dama "	
NO >>1	refer to <u>SEC-151, "Diag</u> nspection End.	gnosis Procedure".	
Diagnosis	Procedure		INFOID:000000012430
1 <u>о</u> цеок с			
	ELF DIAGNUSTIC RE		
1. Select "S 2. Erase D	Self Diagnostic Result" ( TC.	of "BCM" using CONSULT.	
3. Perform	DTC Confirmation Proc	cedure for DTC P2195. Refer to <u>SEC-15</u>	<u>1, "DTC Logic"</u> .
Is DTC detec	ted?		
NO >>1	nspection End.		
<b>^</b>	•		
<b>2.</b> CHECK E	QUIPMENT OF THE V	'EHICLE	
2.CHECK E	QUIPMENT OF THE V	'EHICLE art related to engine start is not installed	
CHECK E Check that u	QUIPMENT OF THE V nspecified accessory part related	'EHICLE art related to engine start is not installed d to engine start installed?	
CHECK E Check that u Is unspecified YES >> (	QUIPMENT OF THE V nspecified accessory pa d accessory part related GO TO 3.	'EHICLE art related to engine start is not installed d to engine start installed?	
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S	QUIPMENT OF THE V nspecified accessory part <u>d accessory part related</u> GO TO 3. GO TO 4.	'EHICLE art related to engine start is not installed d to engine start installed?	
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S 1. Obtain th	QUIPMENT OF THE V nspecified accessory part <u>d accessory part related</u> GO TO 3. GO TO 4. ELF DIAGNOSTIC RE	'EHICLE art related to engine start is not installed d to engine start installed? SULT 2	related to engine start, and the
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S 1. Obtain th remove i	QUIPMENT OF THE V nspecified accessory part <u>d accessory part related</u> GO TO 3. GO TO 4. ELF DIAGNOSTIC RE ne customer's approva t.	'EHICLE art related to engine start is not installed d to engine start installed? SULT 2 I to remove unspecified accessory part	related to engine start, and the
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S 1. Obtain th remove i 2. Select "S 3. Erase D	QUIPMENT OF THE V nspecified accessory part d accessory part related GO TO 3. GO TO 4. ELF DIAGNOSTIC RE ne customer's approva t. Self Diagnostic Result" o TC.	'EHICLE art related to engine start is not installed <u>d to engine start installed?</u> SULT 2 I to remove unspecified accessory part of "BCM" using CONSULT.	related to engine start, and the
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S 1. Obtain tt remove i 2. Select "S 3. Erase D 4. Perform	QUIPMENT OF THE V nspecified accessory part <u>d accessory part related</u> GO TO 3. GO TO 4. ELF DIAGNOSTIC RE te customer's approva t. Self Diagnostic Result" of TC. DTC CONFIRMATION	EHICLE art related to engine start is not installed <u>d to engine start installed?</u> SULT 2 I to remove unspecified accessory part of "BCM" using CONSULT. PROCEDURE for DTC B2195. Refer to	related to engine start, and the SEC-151, "DTC Logic".
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S 1. Obtain th remove i 2. Select "S 3. Erase D 4. Perform Is DTC detect	QUIPMENT OF THE V nspecified accessory part d accessory part related GO TO 3. GO TO 4. ELF DIAGNOSTIC RE- ne customer's approva t. Self Diagnostic Result" of TC. DTC CONFIRMATION	'EHICLE art related to engine start is not installed d to engine start installed? SULT 2 I to remove unspecified accessory part of "BCM" using CONSULT. PROCEDURE for DTC B2195. Refer to	related to engine start, and the SEC-151, "DTC Logic".
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S 1. Obtain th remove i 2. Select "S 3. Erase D 4. Perform Is DTC detect YES >> ( NO >> 1	QUIPMENT OF THE V nspecified accessory part d accessory part related GO TO 3. GO TO 4. ELF DIAGNOSTIC RE te customer's approva t. Self Diagnostic Result" of TC. DTC CONFIRMATION ted? GO TO 4. nspection End	EHICLE art related to engine start is not installed d to engine start installed? SULT 2 I to remove unspecified accessory part of "BCM" using CONSULT. PROCEDURE for DTC B2195. Refer to	related to engine start, and the SEC-151. "DTC Logic".
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S 1. Obtain tt remove i 2. Select "S 3. Erase D 4. Perform Is DTC detec YES >> ( NO >> I 4.REPLACE	QUIPMENT OF THE V nspecified accessory part <u>d accessory part related</u> GO TO 3. GO TO 4. ELF DIAGNOSTIC RE te customer's approva t. Self Diagnostic Result" of TC. DTC CONFIRMATION <u>eted?</u> GO TO 4. nspection End.	EHICLE art related to engine start is not installed <u>d to engine start installed?</u> SULT 2 I to remove unspecified accessory part of "BCM" using CONSULT. PROCEDURE for DTC B2195. Refer to	related to engine start, and the SEC-151, "DTC Logic".
2.CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3.CHECK S 1. Obtain th remove i 2. Select "S 3. Erase D 4. Perform IS DTC detect YES >> ( NO >> I 4.REPLACE 1. Replace	QUIPMENT OF THE V nspecified accessory part d accessory part related GO TO 3. GO TO 4. ELF DIAGNOSTIC RE the customer's approva t. Self Diagnostic Result" of TC. DTC CONFIRMATION ted? GO TO 4. nspection End. E BCM BCM. Refer to BCS-13	<ul> <li>'EHICLE</li> <li>art related to engine start is not installed</li> <li>d to engine start installed?</li> <li>SULT 2</li> <li>I to remove unspecified accessory part</li> <li>of "BCM" using CONSULT.</li> <li>PROCEDURE for DTC B2195. Refer to</li> <li>7. "Removal and Installation".</li> </ul>	related to engine start, and the <u>SEC-151, "DTC Logic"</u> .
2. CHECK E Check that u Is unspecifie YES >> ( NO >> ( 3. CHECK S 1. Obtain tl remove i 2. Select "S 3. Erase D 4. Perform Is DTC detect YES >> ( NO >> I 4. REPLACE 1. Replace 2. Perform	QUIPMENT OF THE V nspecified accessory part d accessory part related GO TO 3. GO TO 4. ELF DIAGNOSTIC RE the customer's approva t. Self Diagnostic Result" of TC. DTC CONFIRMATION ted? GO TO 4. nspection End. E BCM BCM. Refer to <u>BCS-13</u> initialization of BCM an	<ul> <li>ZEHICLE</li> <li>art related to engine start is not installed</li> <li>d to engine start installed?</li> <li>SULT 2</li> <li>I to remove unspecified accessory part</li> <li>of "BCM" using CONSULT.</li> <li>PROCEDURE for DTC B2195. Refer to</li> <li>Art registration of all ignition keys using Consultation</li> </ul>	SEC-151, "DTC Logic".

## B2196 DONGLE UNIT

### Description

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

## DTC Logic

INFOID:000000012430483

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

## 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

- 2. Turn ignition switch OFF.
- 3. Turn ignition switch ON.
- 4. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

#### Is the DTC detected?

YES >> Refer to <u>SEC-152</u>, "Diagnosis Procedure".

## NO >> Inspection End. Diagnosis Procedure

INFOID:000000012430484

Regarding Wiring Diagram information, refer to SEC-132, "Wiring Diagram".

## **1.**PERFORM INITIALIZATION

- Perform initialization of BCM and registration of all mechanical keys using CONSULT. For initialization and registration procedures, refer to CONSULT Immobilizer mode and follow the onscreen instructions
- 2. Start the engine.

#### Dose the engine start?

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

2. CHECK DONGLE UNIT CIRCUIT

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

B	CM	Dong	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M18	24	M6	1	Yes	

4. Check continuity between BCM harness connector and ground.

BC	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M18	24		No	

Is the inspection result normal?

[WITHOUT INTELLIGENT KEY SYSTEM]

## **B2196 DONGLE UNIT**

## **WITHOUT INTELLIGENT KEY SYSTEM1**

< DTC/CIRCUIT DIAGNOSIS >		[WITHOUT INTELLIGENT KEY SYSTI		
YES >> GO TO 3.				
<b>3</b> CHECK DONCLE LINIT OD				
Check continuity between dans		or and around		
Check continuity between doing	le unit namess connect	or and ground.		
Dongle u	ınit		Continuity	
Connector	Terminal	Ground		
M6 4			Yes	
Is the inspection result normal?				
NO >> Replace dongle un	it. Jarness.			

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## POWER SUPPLY AND GROUND CIRCUIT BCM

**BCM** : Diagnosis Procedure

INFOID:000000012542538

Regarding Wiring Diagram information, refer to BCS-117, "Wiring Diagram".

## 1. CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
37		8 (10A)
42	Battery power supply	12 (10A)
50	*	G (40A)
11	Ignition switch ACC or ON	18 (10A)
38	Ignition switch ON or START	2 (10A)

#### Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connectors.

3. Check voltage between BCM connector and ground.

BCM		Ground	Ignition switch position		
Connector	Terminal		OFF	ACC	ON
	11		0 V	Batteny voltage	
M18	37		Battery voltage	Dattery voltage	
	38		0 V	0 V	Battery voltage
M19 42 50		Pattony voltago	Detterrustione		
	50		Ballery vollage		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

**3.**CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

BCM		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
M19	55	—	Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

### VEHICLE SECURITY INDICATOR

# < DTC/CIRCUIT DIAGNOSIS > VEHICLE SECURITY INDICATOR

- Vehicle security indicator is built in combination meter.
- NATS (Nissan Anti-Theft System) condition is indicated by blink or illumination of vehicle security indicator.

## Component Function Check

## **1.**CHECK FUNCTION

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

2. Check vehicle security indicator operation.

	Test item		scription
	ON		ON
THEFTIND	OFF	Venicle security indicator	OFF
Is the inspection result no	mal?		i
YES >> Inspection En NO >> Refer to <u>SEC</u> -	d. 155, "Diagnosis P	rocedure (Type B)" or <u>SEC-156, "</u>	Diagnosis Procedure (Type A)".
Diagnosis Procedure	e (Type B)		INFQID:000000012430488
Regarding Wiring Diagram	information, refer	to <u>SEC-132, "Wiring Diagram"</u> .	
1.SECURITY INDICATOR	R LAMP ACTIVE 1	TEST	
With CONSULT			
Check "THEFT IND"" in "A	ctive Test" of "IMN	1U".	
Without CONSULT			
1. Disconnect BCM.			

Connector	Terminals		Condition	Voltage (V)	-
Connector	(+) (-) Condition	Condition	(Approx.)	l	
M19	22	Ground	ON	0	-
IVITO	23	Ground	OFF	Battery voltage	-
Is the inspection resu	It normal?				-

YES >> Security indicator lamp is OK.

NO >> GO TO 2.

2. SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace combination meter. Refer to <u>MWI-115</u>, "Removal and Installation".

**3**.CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.

2. Disconnect BCM and security indicator lamp connector.

 Check continuity between BCM connector M18 terminal 23 and combination meter connector M24 terminal 18.

## SEC-155

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### < DTC/CIRCUIT DIAGNOSIS >

## [WITHOUT INTELLIGENT KEY SYSTEM]

В	СМ	Combination meter Connector Terminal		Continuity	
Connector	Terminal			Continuity	
M18	23	M24	18	Yes	

#### 4. Check continuity between BCM connector M18 terminal 23 and ground.

BCM			Continuity	
Connector Terminal		Ground	Continuity	
M18	23		No	

#### Is the inspection result normal?

- YES >> Check the following:
  - 10A fuse No. 8, located in fuse block (J/B)
  - Harness for open or short between security indicator lamp and fuse.
- NO >> Repair or replace harness.

## Diagnosis Procedure (Type A)

Regarding Wiring Diagram information, refer to <u>SEC-132, "Wiring Diagram"</u>.

#### **1**.SECURITY INDICATOR LAMP ACTIVE TEST

#### (I) With CONSULT

Check "THEFT IND"" in "Active Test" of "IMMU".

#### Without CONSULT

1. Disconnect BCM.

2. Check voltage between BCM harness connector M18 terminal 23 and ground.

Connector –	Terminals		Condition	Voltage (V)	
	(+)	(-)	Condition	(Approx.)	
M18	23	Ground	ON	0	
WITO	20	Orband	OFF	Battery voltage	

#### Is the inspection result normal?

YES >> Security indicator lamp is OK.

NO >> GO TO 2.

## 2. SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace combination meter. Refer to <u>MWI-54, "Removal and Installation"</u>.

## **3.**CHECK HARNESS CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM and security indicator lamp connector.
- Check continuity between BCM connector M18 terminal 23 and combination meter connector M82 terminal 18.

B	BCM		Combination meter		
Connector	Terminal	Connector Terminal		Continuity	
M18	23	M82	18	Yes	

4. Check continuity between BCM connector M18 terminal 23 and ground.

INFOID:000000012430489

## **VEHICLE SECURITY INDICATOR**

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITHOUT INTELLIGENT KEY SYSTEM]

	BCM		Continuity		
	Connector	Terminal	Ground		
	M18	23		No	
ls the in	spection result norma	al?			-
YES NO	<ul> <li>&gt;&gt; Check the follo</li> <li>10A fuse No. 8</li> <li>Harness for op</li> <li>&gt;&gt; Repair or replace</li> </ul>	owing: 8, located in fuse block (J/E 9en or short between secur e harness.	<ol> <li>ity indicator lamp and fuse</li> </ol>		

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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:000000012430490

#### NOTE:

- Before performing the diagnosis in the following table, check "SEC-139, "Work Flow"".
- 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-155</u>
Security indicator does not turn ON or hash.	2. Check Intermittent Incident	<u>GI-42</u>

- 1. Remove combination switch. Refer to <u>BCS-75, "Removal and Installation"</u>.
- 2. Remove the NATS antenna amp bolt (A).

< REMOVAL AND INSTALLATION >

3. Disconnect the harness connector (B) from the NATS antenna amp. (1) and remove.

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.

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#### NATS ANTENNA AMP. [WITHOUT INTELLIGENT KEY SYSTEM]

## **REMOVAL AND INSTALLATION** NATS ANTENNA AMP. Removal and Installation

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## < REMOVAL AND INSTALLATION >

## REMOTE KEYLESS ENTRY RECEIVER

## Removal and Installation

#### REMOVAL

- 1. Remove the glove box. Refer to IP-25, "Removal and Installation".
- 2. Disconnect the harness connector (A) from remote keyless entry receiver (1).
- 3. Remove screw (B) and remove remote keyless entry receiver.



INSTALLATION Installation is in the reverse order of removal. INFOID:000000012430492