# SECURITY CONTROL SYSTEM

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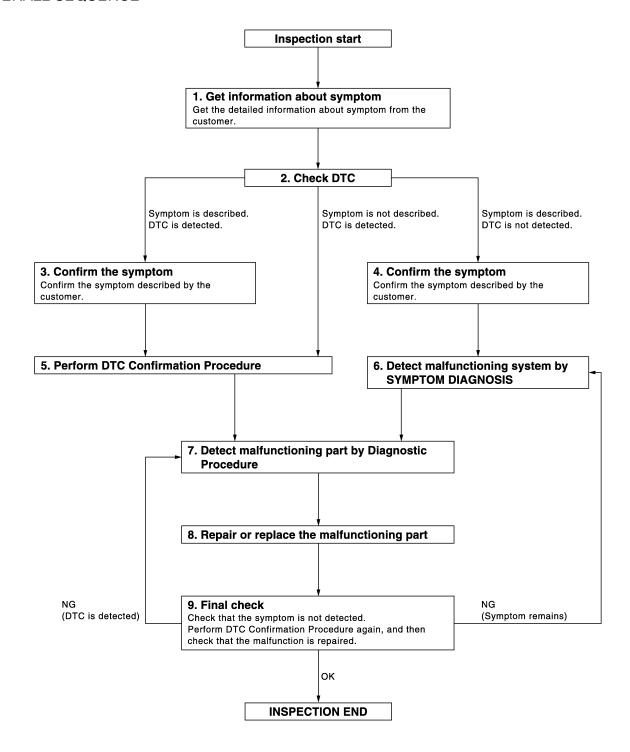
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## **BASIC INSPECTION**

## DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

#### **OVERALL SEQUENCE**



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#### DIAGNOSIS AND REPAIR WORK FLOW

#### < BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

## 1.GET INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

## 2.check dtc

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

#### Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.

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

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

## 3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in the "DATA MONITOR" mode and check real time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

## f 4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in the "DATA MONITOR" mode 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 detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time. If two or more DTCs are detected, refer to <a href="SEC-173">SEC-173</a>, "DTC Inspection Priority Chart" (BCM) or <a href="SEC-189">SEC-189</a>, "DTC Index" (IPDM E/R), and determine trouble diagnosis order.

#### Is DTC detected?

YES >> GO TO 7.

NO >> Refer to GI-35, "Intermittent Incident".

## 6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

>> GO TO 7.

## 7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

#### NOTE:

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

## Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check voltage of related BCM terminals using CONSULT-III.

## 8.REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.

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## **DIAGNOSIS AND REPAIR WORK FLOW**

#### < BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

- Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.
- 3. Check DTC. If DTC is detected, erase it.

>> GO TO 9.

## 9. FINAL CHECK

When DTC is detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction is repaired securely.

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

#### Does the symptom reappear?

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

YES (Symptom remains)>>GO TO 6.

NO >> INSPECTION END

## **INSPECTION AND ADJUSTMENT**

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

# INSPECTION AND ADJUSTMENT ECM RECOMMUNICATING FUNCTION

## ECM RECOMMUNICATING FUNCTION: Description

INFOID:0000000005491900

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

\*: New one means a virgin ECM that is never energized on-board. (In this step, initialization procedure by CONSULT-III is not necessary)

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#### NOTE:

- When registering new Key IDs or replacing the ECM that is not brand new, refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.
- If multiple keys are attached to the key holder, separate them before beginning work.
- Distinguish keys with unregistered key IDs from those with registered IDs.

## ECM RECOMMUNICATING FUNCTION : Special Repair Requirement

INFOID:0000000005491901

## 1. PERFORM ECM RECOMMUNICATING FUNCTION

- Install ECM.
- 2. Contact backside of registered Intelligent Key\* to push-button ignition switch, turn ignition switch to "ON".

  \*: To perform this step, use the key that is used before performing ECM replacement.
- 3. Maintain ignition switch in the "ON" position for 5 seconds or more.
- 4. Turn ignition switch to "OFF".
- 5. Start engine.

#### Can engine be started?

YES >> Procedure is complete.

NO >> Initialize control unit. Refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.

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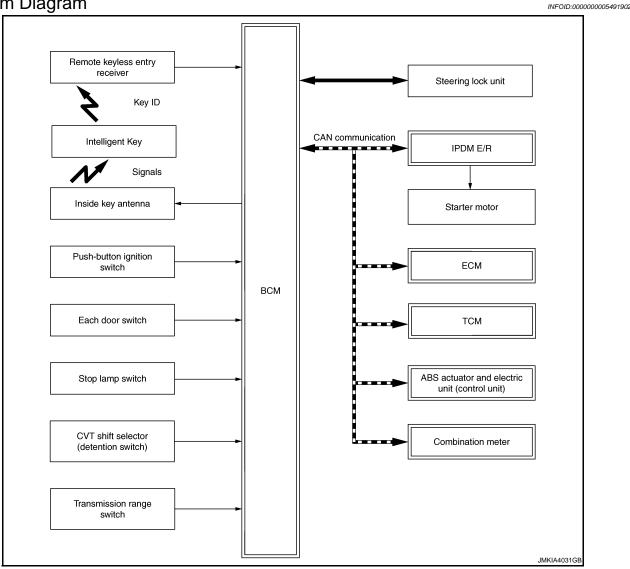
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## SYSTEM DESCRIPTION

## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram



## System Description

INFOID:0000000005491903

#### SYSTEM DESCRIPTION

The engine start function of Intelligent Key system is a system that makes it possible to start and stop the
engine without removing the key. It verifies an electronic ID using two-way communication when pressing
the push-button ignition switch while carrying the Intelligent Key, which operates based on the results of
electronic ID verification of Intelligent Key using two-way communication between the Intelligent Key and the
vehicle.

#### NOTE:

The driver should carry the Intelligent Key at all times.

- Intelligent Key has 2 IDs [Intelligent Key and NVIS (NATS)]. It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- When Intelligent Key battery is discharged, engine can be started by operating push-button ignition switch
  after contacting Intelligent Key backside to push-button ignition switch. At that time, verification is performed
  by immobilizer ID.
- If the ID is successfully verified, when push-button ignition switch is pressed, steering lock is released and the engine can be started.

## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

#### < SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

• Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.

#### NOTE:

Refer to <u>DLK-16</u>, "INTELLIGENT KEY SYSTEM: System Description" for any functions other than engine start function of Intelligent Key system.

#### PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

In the Intelligent Key system, the transponder [the chip for NVIS (NATS) ID verification] is integrated into the Intelligent Key. (For the conventional models, it is integrated into the mechanical key.) Therefore, ID verification cannot be performed by mechanical key only and engine cannot be started. In that case, immobilizer ID verification can be performed when Intelligent Key backside is contacted to push-button ignition switch. If verification result is OK, engine can be started.

#### OPERATION WHEN INTELLIGENT KEY IS CARRIED

- When the push-button ignition switch is pressed, the BCM activates the inside key antenna and transmits the request signal to the Intelligent Key.
- The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the BCM via the remote keyless entry receiver.
- The Intelligent Key receives the Intelligent Key ID signal and verifies it with the registered ID.
- 4. BCM transmits the steering lock unlock signal to steering lock unit and IPDM E/R if the verification results are OK.
- 5. IPDM E/R turns the steering lock relay ON and supplies power supply to the steering lock unit.
- The steering lock releases.
- 7. BCM transmits the power supply stop signal to IPDM E/R when detecting that the steering lock is in the unlock condition.
- 8. IPDM E/R turns the steering lock relay OFF and stops power supply to the steering lock unit.
- BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
- 10. IPDM E/R turns the ignition relay ON and starts the ignition power supply.
- 11. BCM detects that the selector lever position and brake pedal operating condition.
- 12. BCM transmits the starter request signal via CAN communication to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition is satisfied.
- 13. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
- 14. Power supply is supplied through the starter relay and the starter control relay to operate the starter motor and start cranking.

#### **CAUTION:**

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

15. 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 "POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION".

#### OPERATION RANGE

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

# ENGINE START OPERATION WHEN INTELLIGENT KEY IS HELD CLOSE TO PUSH-BUTTON IGNITION SWITCH

When Intelligent Key battery is discharged, immobilizer ID verification between transponder in Intelligent Key and BCM is performed when Intelligent Key backside is contacted to push-button ignition switch. Engine can be started.

#### BATTERY SAVER SYSTEM

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# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

#### < SYSTEM DESCRIPTION >

When all the following conditions are met for 60 minutes, the battery saver system cuts off the power supply to prevent battery discharge.

- The ignition switch is in the ACC position
- · All doors are closed
- Selector lever is in the P position

#### Reset Condition of Battery Saver System

In order to prevent the battery from discharging, the battery saver system cuts off the power supply when all doors are closed, the selector lever is in the P position, and the ignition switch is left in the ACC position for 60 minutes. If any of the following conditions are met the battery saver system is released and the steering changes automatically to the lock position from the OFF position.

- · Opening any door
- Operating door lock using door request switch
- Operating door lock using Intelligent Key

Press push-button ignition switch and ignition switch changes to the ACC position from the OFF position.

#### STEERING LOCK OPERATION

Steering is locked by steering lock unit when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.

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

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

The power supply position changing operation can be performed with the following operations.

#### NOTE:

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

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

	Engine start/stop condition		Push-button ignition switch
Power supply position	Selector lever	Brake pedal operation condition	operation frequency
$LOCK \to ACC$	_	Not depressed	1
$LOCK \to ACC \to ON$	_	Not depressed	2
$LOCK \to ACC \to ON \to OFF$	_	Not depressed	3
$\begin{array}{c} LOCK \to START \\ ACC \to START \\ ON \to START \end{array}$	P or N position	Depressed	1
Engine is running → OFF	_	_	1

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

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

Emergency stop operation

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

**Component Parts Location** 

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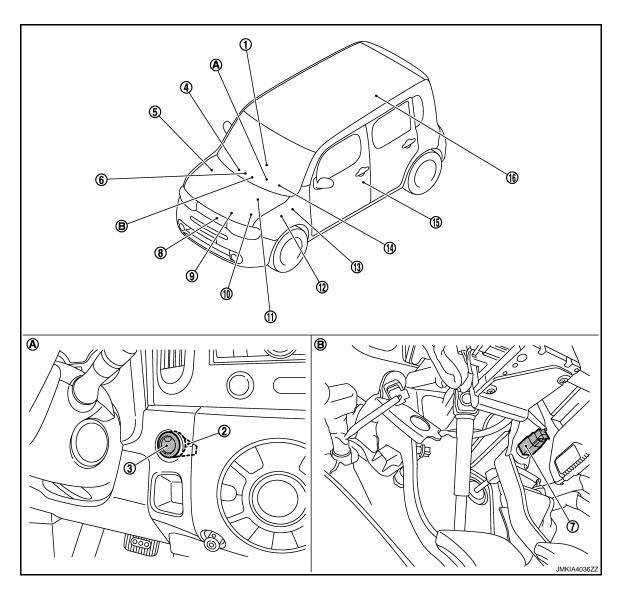
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- CVT shift selector (detention switch) 2. M58
- Remote keyless entry receiver M52 5. Refer to DLK-18, "INTELLIGENT **KEY SYSTEM:** Component Parts Location"
- Stop lamp switch E115
- 10. IPDM E/R E10, E11, E12, E13, E14, 11. ECM E16 Refer to PCS-6, "Component Parts Location".
- 13. BCM M68, M69, M70, M71 Refer to BCS-9, "Component Parts Location".
- 16. Inside key antenna (luggage room)
- Behind push-button ignition switch

- NATS antenna amp. M26
- ABS actuator and electric unit (control unit) E36 Refer to BRC-12, "Component Parts Location".
- Horn E50, E51
- 14. Security indicator lamp (combination meter) M34
- Behind instrument lower cover LH

- Push-button ignition switch M101 3.
- Inside key antenna (instrument center) M105
- Transmission range switch F21
- 12. TCM E18
- 15. Front door switch (driver side) B34

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# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

## < SYSTEM DESCRIPTION >

**Component Description** 

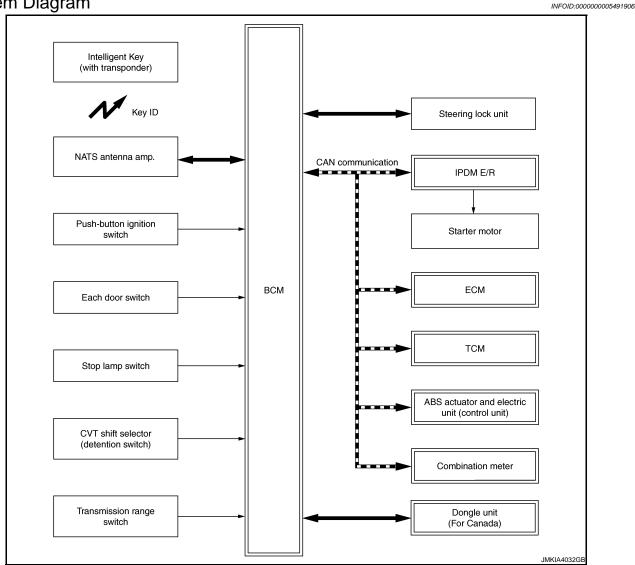
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Component	Reference
BCM	<u>SEC-82</u>
Steering lock unit	<u>SEC-75</u>
Push-button ignition switch	<u>SEC-51</u>
Door switch	DLK-55
CVT shift selector (detention switch)	<u>SEC-106</u>
Inside key antenna	<u>DLK-44</u>
Remote keyless entry receiver	<u>DLK-75</u>
Stop lamp switch	<u>SEC-49</u>
TCM	<u>SEC-65</u>
Steering lock relay	<u>SEC-84</u>
Starter relay	<u>SEC-70</u>
Starter control relay	<u>SEC-101</u>
Security indicator lamp	<u>SEC-113</u>
Key warning lamp	<u>DLK-88</u>

## [WITH INTELLIGENT KEY SYSTEM]

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

## System Diagram



## System Description

INFOID:0000000005491907

### SYSTEM DESCRIPTION

The NVIS (NATS) is an anti-theft system that registers an Intelligent Key ID to the vehicle and prevents the
engine from being started by an unregistered Intelligent Key. It has higher protection against auto theft
involving the duplication of mechanical keys.

It performs ID verification when starting the engine in the same way as the Intelligent system, but it performs
the NVIS (NATS) ID verification when inserting the Intelligent Key and performs the Intelligent Key ID verification when carrying the Intelligent Key.

- The mechanical key integrated in the Intelligent Key cannot start the engine. When the Intelligent Key battery is discharged, the NVIS (NATS) ID verification memorized to the transponder integrated with Intelligent Key backside is contacted to push-button ignition switch. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator lamp and apply the anti-theft system equipment sticker that warns that the NVIS (NATS) is onboard the model.
- Security indicator lamp always blinks when the power supply position is in any position except the ON position.
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.

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## **NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS**

#### < SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- Specified registration is required when replacing ECM, BCM, or Intelligent Key. For the registrations procedures for NVIS (NATS) and Intelligent Key when installing the BCM, refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.
- Possible symptom of NVIS (NATS) malfunction is "Engine cannot start". The engine can be started with the Intelligent Key system and NVIS (NATS). Identify the possible causes according to "Work Flow". Refer to SEC-6, "Work Flow".
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to <u>EC-16</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT</u>: Special Repair Requirement".

#### PRECAUTIONS FOR KEY REGISTRATION

- The key registration is a procedure that erases the current NVIS (NATS) ID once, and then reregisters a new ID operation. Therefore a registered Intelligent Key is necessary for this procedure. Before starting the registration operation collect all registered Intelligent Keys from the customer.
- When registering the Intelligent Key, perform only one procedure to simultaneously register both ID (NVIS "NATS" ID and Intelligent Key ID).
  - The NVIS (NATS) ID registration is the procedure that registers the ID stored into the transponder (integrated in Intelligent Key) to BCM.
  - The Intelligent key ID registration is the procedure that registers the ID to BCM.
- When performing the Intelligent Key system registration only, the engine cannot be started by Intelligent Key backside is contacted to push-button ignition switch. When performing the NVIS (NATS) registration only, the engine cannot be started by the operation when carrying the key. The registrations of both systems should be performed.

#### SECURITY INDICATOR LAMP

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

#### NOTE:

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

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

- 1. When brake pedal is depressed while selector lever is in the P position, BCM activates immobilizer antenna amplifier that is located on push-button ignition switch backside.
- When Intelligent Key (transponder built-in) backside is contacted to push-button ignition switch, immobilizer ID verification is started between Intelligent Key built-in transponder and immobilizer antenna amplifier.
- 3. When immobilizer ID verification result is OK, buzzer in combination meter sounds.
- 4. BCM transmits immobilizer ID verification result to ECM via CAN communication.
- 5. When push-button ignition switch is pressed, BCM transmits steering unlock signal to steering lock unit and IPDM E/R.
- IPDM E/R supplies power supply to steering lock unit via steering lock relay.
- 7. When unlocking steering lock, steering lock unit unlocks steering lock.
- 8. When BCM detects that steering is unlocked, power supply stop signal is transmitted to IPDM E/R.
- 9. IPDM E/R turns steering lock relay OFF and stops power supply to steering lock unit.
- BCM turns ACC relay ON and transmits ignition power supply ON signal to IPDM E/R.
- 11. IPDM E/R turns ignition relay ON and starts ignition power supply.
- 12. BCM detects that the shift position is P or N.
- 13. BCM transmits starter request signal to IPDM E/R via CAN communication.

  When engine start conditions\* are satisfied, BCM turns starter motor relay in IPDM E/R ON.
- 14. When starter request signal is received, IPDM E/R turns starter motor control relay ON.
- 15. IPDM E/R supplies power supply via starter motor relay and starter motor control relay, activates starter motor, and starts cranking.
- 16. When BCM receives engine start or speed feedback signal from ECM, BCM transmits stop signal to IPDM E/R, turns starter motor relay OFF, and stops cranking.

# POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

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

#### < SYSTEM DESCRIPTION >

The power supply position changing operation can be performed with the following operations. NOTE:

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

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

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

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

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

Emergency stop operation

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

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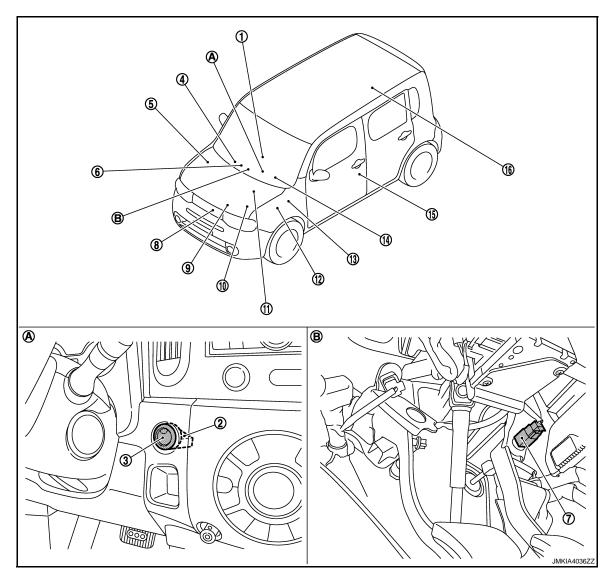
**SEC-17** Revision: 2009 October 2010 Z12

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## [WITH INTELLIGENT KEY SYSTEM]

## **Component Parts Location**

INFOID:0000000005491908



- CVT shift selector (detention switch) 2. M58
- Remote keyless entry receiver M52 5. Refer to DLK-18, "INTELLIGENT **KEY SYSTEM:** Component Parts Location"
- 7. Stop lamp switch E115
- 10. IPDM E/R E10, E11, E12, E13, E14, 11. ECM E16 E15, E17
  - Refer to PCS-6, "Component Parts Location".
- 13. BCM M68, M69, M70, M71 Refer to BCS-9, "Component Parts Location".
- 16. Inside key antenna (luggage room)
- Behind push-button ignition switch

- NATS antenna amp. M26
- ABS actuator and electric unit (con- 6. trol unit) E36 Refer to BRC-12, "Component Parts Location".
- Horn E50, E51
- 14. Security indicator lamp (combination meter) M34
- Behind instrument lower cover LH

- Push-button ignition switch M101
- Inside key antenna (instrument center) M105
- Transmission range switch F21
- 12. TCM E18
- 15. Front door switch (driver side) B34

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

# < SYSTEM DESCRIPTION > Component Description

## [WITH INTELLIGENT KEY SYSTEM]

INFOID:0000000005491909

Component	Reference
BCM	SEC-82
Steering lock unit	<u>SEC-75</u>
Push-button ignition switch	<u>SEC-51</u>
Door switch	<u>DLK-55</u>
CVT shift selector (detention switch)	<u>SEC-106</u>
Stop lamp switch	SEC-49
TCM	<u>SEC-65</u>
Steering lock relay	<u>SEC-84</u>
Starter relay	<u>SEC-70</u>
Starter control relay	<u>SEC-101</u>
Security indicator lamp	SEC-113

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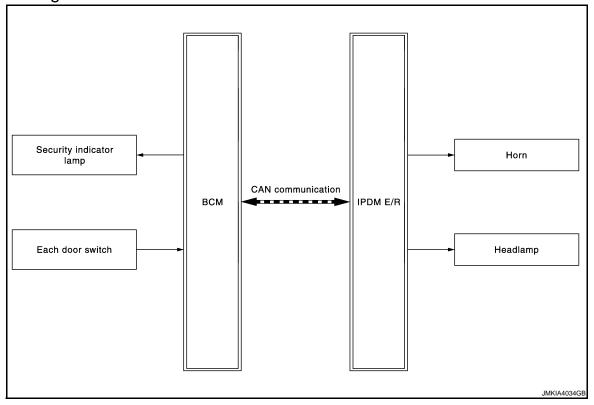
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## **VEHICLE SECURITY SYSTEM**

## System Diagram

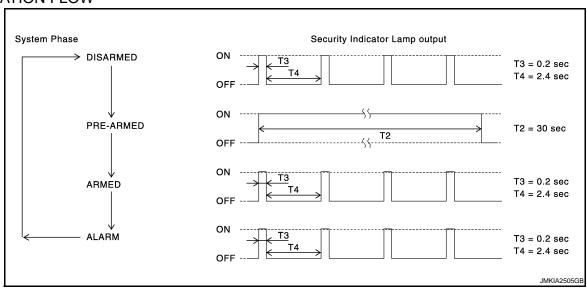
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## System Description

INFOID:0000000005491911

#### **OPERATION FLOW**



## SETTING THE VEHICLE SECURITY SYSTEM

#### **Initial Condition**

• Ignition switch is in the OFF position.

#### **Disarmed Phase**

• When any door is open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.

### VEHICLE SECURITY SYSTEM

#### < SYSTEM DESCRIPTION >

#### [WITH INTELLIGENT KEY SYSTEM]

 When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 seconds. Α Pre-armed Phase and Armed Phase When the following operation 1 or 2 is performed, the vehicle security system turns into the "pre-armed" phase. (Security indicator lamp illuminates.) В BCM receives LOCK signal from door lock and unlock switch, door key cylinder switch door request switch or Intelligent Key, after all doors are closed. 2. All doors are closed after all doors are locked by mechanical key or door lock and unlock switch. CANCELING THE ARMED PHASE VEHICLE SECURITY SYSTEM When one of the following operations is performed, the armed phase is canceled. D Unlock all doors with the door lock and unlock switch, door key cylinder switch door request switch or Intelligent Key. 2. Turn ignition switch "ON" or "ACC" position. Е CANCELING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM When on of the following operations is performed, the alarm operation is canceled. Unlock all doors with the door request switch or Intelligent Key. F Turn ignition switch "ON" or "ACC" position. ACTIVATING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM Check that the system is in the armed phase. (Security indicator lamp blinks every 2.4 seconds.) When the following operations 1 or 2 is performed, the system sounds the horns and blinks the headlamps for about 50 seconds. Н Any door is open during the armed phase. 2. Disconnecting and connecting the battery connector before canceling the armed phase. PANIC ALARM OPERATION When BCM receives panic alarm signal from Intelligent Key, ground is supplied intermittently to both headlamp relay and horn relay. When headlamp relay and horn relay are energized, then power is supplied to headlamps (HI) and horn. J The headlamp (HI) blinks and the horn sounds intermittently. The alarm automatically turns off after 50 seconds or when BCM receives any signal from Intelligent Key or door request switch. SEC

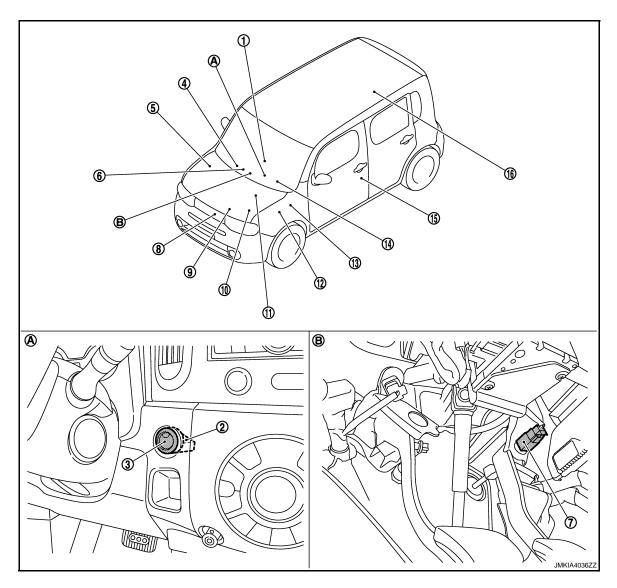
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## **Component Parts Location**

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- CVT shift selector (detention switch) 2. M58
- Remote keyless entry receiver M52 5. Refer to DLK-18, "INTELLIGENT **KEY SYSTEM:** Component Parts Location"
- 7. Stop lamp switch E115
- 10. IPDM E/R E10, E11, E12, E13, E14, 11. ECM E16 E15, E17

Refer to PCS-6, "Component Parts Location".

- 13. BCM M68, M69, M70, M71 Refer to BCS-9, "Component Parts Location".
- 16. Inside key antenna (luggage room)
- Behind push-button ignition switch

- NATS antenna amp. M26
- ABS actuator and electric unit (control unit) E36 Refer to BRC-12, "Component Parts Location".
- Horn E50, E51
- 14. Security indicator lamp (combination meter) M34
- Behind instrument lower cover LH

- Push-button ignition switch M101
- Inside key antenna (instrument center) M105
- Transmission range switch F21
- 12. TCM E18
- 15. Front door switch (driver side) B34

## **VEHICLE SECURITY SYSTEM**

< SYSTEM DESCRIPTION >

## [WITH INTELLIGENT KEY SYSTEM]

## **Component Description**

INFOID:0000000005491913

Component	Reference
BCM	SEC-82
Security indicator lamp	<u>SEC-113</u>
Door switch	<u>DLK-55</u>
Headlamp	SEC-117
Horn	<u>SEC-115</u>

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## **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

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

INFOID:0000000005491914

#### APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.	
Data Monitor	The BCM input/output signals are displayed.	
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	
Configuration	<ul> <li>Read and save the vehicle specification.</li> <li>Write the vehicle specification when replacing BCM.</li> </ul>	

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

x: Applicable item

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

#### FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT-III.

## **DIAGNOSIS SYSTEM (BCM)**

## < SYSTEM DESCRIPTION >

## [WITH INTELLIGENT KEY SYSTEM]

CONSULT screen item	Indication/Unit	Description		
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected		
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected		
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK")	
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)	
	LOCK>ACC		While turning power supply position from "LOCK" to "ACC"	
	ACC>ON		While turning power supply position from "ACC" to "IGN"	
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)	
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)	
	RUN>URGENT		While turning power supply position from "RUN" to "ACC" (Emergency stop operation)	
	ACC>OFF		While turning power supply position from "ACC" to "OFF"	
	OFF>LOCK	<b>D</b>	While turning power supply position from "OFF" to "LOCK"	
Vehicle Condition	OFF>ACC	Power position status of the moment a particular DTC is detected	While turning power supply position from "OFF" to "ACC"	
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"	
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode	
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is "LOCK".) to low power consumption mode	
	LOCK		Power supply position is "LOCK" (Ignition switch OFF with steering is locked.)	
	OFF		Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)	
	ACC		Power supply position is "ACC" (Ignition switch ACC)	
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)	
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)	
	CRANKING		Power supply position is "CRANKING" (At engine cranking)	
IGN Counter	0 - 39	<ul> <li>The number of times that ignition switch is turned ON after DTC is detected</li> <li>The number is 0 when a malfunction is detected now.</li> <li>The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever ignition switch OFF → ON.</li> <li>The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.</li> </ul>		
NTELLIGENT	KEY			
		0. II T III T	/DOM INTELLIGENT (C)	
NIELLIGENT	KEY: CON	SULI-III Function	1 (BCM - INTELLIGENT KEY) INFOID:000000005491915	
WORK SUPPORT				

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## [WITH INTELLIGENT KEY SYSTEM]

Monitor item	Description
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode
AUTO LOCK SET	Auto door lock time can be changed in this mode  • MODE 1: OFF  • MODE 2: 30 sec  • MODE 3: 1 minute  • MODE 4: 2 minutes  • MODE 5: 3 minutes  • MODE 6: 4 minutes  • MODE 7: 5 minutes
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operation in this mode  On: Operate  Off: Non-operation
ENGINE START BY I-KEY	Engine start function mode can be changed to operation with this mode  On: Operate  Off: Non-operation
TRUNK/GLASS HATCH OPEN	NOTE: This item is displayed, but cannot be monitored
PANIC ALARM SET	Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode  • MODE 1: 0.5 sec  • MODE 2: Non-operation  • MODE 3: 1.5 sec
TRUNK OPEN DELAY	NOTE: This item is displayed, but cannot be monitored
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operation with this mode  On: Operate  Off: Non-operation
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operation with this mode  On: Operate  Off: Non-operation
HAZARD ANSWER BACK	Hazard reminder function mode by door request switch and Intelligent Key button can be selected from the following with this mode  Lock Only: Door lock operation only  Unlock Only: Door unlock operation only  Lock/Unlock: Lock/unlock operation  Off: Non-operation
ANS BACK I-KEY LOCK	Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode  Horn Chirp: Sound horn  Buzzer: Sound Intelligent Key warning buzzer  Off: Non-operation
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operation with this mode  On: Operate  Off: Non-operation
SHORT CRANKING OUTPUT	Starter motor can operate during the times below
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode  On: Operate  Off: Non-operation

**SELF-DIAG RESULT** 

Refer to SEC-174, "DTC Index".

**DATA MONITOR** 

## [WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition
REQ SW -DR	Indicates [On/Off] condition of door request switch (driver side)
REQ SW -AS	Indicates [On/Off] condition of door request switch (passenger side)
REQ SW -BD/TR	Indicates [On/Off] condition of back door request switch
PUSH SW	Indicates [On/Off] condition of push-button ignition switch
CLUTCH SW*1	Indicates [On/Off] condition of clutch switch
BRAKE SW 1	Indicates [On/Off]*2 condition of brake switch power supply
BRAKE SW 2	Indicates [On/Off] condition of brake switch
DETE/CANCL SW	Indicates [On/Off] condition of P position
SFT PN/N SW	Indicates [On/Off] condition of P or N position
S/L -LOCK	Indicates [On/Off] condition of steering lock unit (LOCK)
S/L -UNLOCK	Indicates [On/Off] condition of steering lock unit (UNLOCK)
S/L RELAY -F/B	Indicates [On/Off] condition of steering lock relay
UNLK SEN -DR	Indicates [On/Off] condition of driver door UNLOCK status
PUSH SW -IPDM	Indicates [On/Off] condition of push-button ignition switch
IGN RLY1 -F/B	Indicates [On/Off] condition of ignition relay 1
DETE SW -IPDM	Indicates [On/Off] condition of P position
SFT PN -IPDM	Indicates [On/Off] condition of P or N position
SFT P -MET	Indicates [On/Off] condition of P position
SFT N -MET	Indicates [On/Off] condition of N position
ENGINE STATE	Indicates [Stop/Stall/Crank/Run] condition of engine states
S/L LOCK-IPDM	Indicates [On/Off] condition of steering lock unit (LOCK)
S/L UNLK-IPDM	Indicates [On/Off] condition of steering lock unit (UNLOCK)
S/L RELAY-REQ	Indicates [On/Off] condition of steering lock relay
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [Km/h]
VEH SPEED 2	Display the vehicle speed signal received from ABS or VDC or TCM by numerical value [Km/h]
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver side door status
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] condition of passenger side door status
ID OK FLAG	Indicates [Set/Reset] condition of key ID
PRMT ENG STRT	Indicates [Set/Reset] condition of engine start possibility
PRMT RKE STRT	NOTE: This item is displayed, but cannot be monitored
TRNK/HAT MNTR	NOTE: This item is displayed, but cannot be monitored
RKE-LOCK	Indicates [On/Off] condition of LOCK signal from Intelligent Key
RKE-UNLOCK	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key
RKE-TR/BD	NOTE: This item is displayed, but cannot be monitored
RKE-PANIC	Indicates [On/Off] condition of PANIC button of Intelligent Key
RKE-MODE CHG	Indicates [On/Off] condition of MODE CHANGE signal from Intelligent Key
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored

 $<sup>^{\</sup>star 1}$ : It is displayed but does not operate on M/T models.

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 $<sup>^{\</sup>star 2}$ : OFF is displayed when brake pedal is depressed while brake switch power supply is OFF.

## **ACTIVE TEST**

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operation    On: Operate    Off: Non-operation
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation  On: Operate  Off: Non-operation
INSIDE BUZZER	This test is able to check warning chime in combination meter operation  Take out: Take away warning chime sounds when CONSULT-III screen is touched  Key: Key warning chime sounds when CONSULT-III screen is touched  Knob: OFF position warning chime sounds when CONSULT-III screen is touched
INDICATOR	This test is able to check warning lamp operation  KEY ON: "KEY" Warning lamp illuminates when CONSULT-III screen is touched  "KEY" Warning lamp blinks when CONSULT-III screen is touched
INT LAMP	This test is able to check interior room lamp operation  On: Operate  Off: Non-operation
LCD	This test is able to check meter display information  BP N: Engine start operation indicator lamp indicate when CONSULT-III screen is touched  BP I: Engine start operation indicator lamp indicate when CONSULT-III screen is touched  ID NG: This item is displayed, but cannot be monitored  ROTAT: This item is displayed, but cannot be monitored  SFT P: Shift P warning lamp indicate when CONSULT-III screen is touched  INSRT: This item is displayed, but cannot be monitored  BATT: Key warning lamp indicator when CONSULT-III screen is touched  NO KY: This item is displayed, but cannot be monitored  OUTKEY: Engine start operation indicator lamp indicate when CONSULT-III screen is touched  LK WN: Engine start operation indicator lamp indicate when CONSULT-III screen is touched
FLASHER	This test is able to check security hazard lamp operation The hazard lamps are activated after "LH/RH/Off" on CONSULT-III screen is touched
HORN	This test is able to check horn operation The horn is activated after "ON" on CONSULT-III screen is touched
P RANGE	This test is able to check CVT shift selector power supply  On: Operate  Off: Non-operation
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation Push-ignition switch illumination illuminates when "ON" on CONSULT-III screen is touched
PUSH SWITCH INDICATOR	This test is able to check LOCK indicator in push-ignition switch operation LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched
TRUNK/BACK DOOR	NOTE: This item is displayed, but cannot be monitored

## THEFT ALM

## THEFT ALM : CONSULT-III Function (BCM - THEFT)

INFOID:0000000005491916

## **DATA MONITOR**

Monitored Item	Description
REQ SW -DR	Indicates [ON/OFF] condition of door request switch (driver side).
REQ SW -AS	Indicates [ON/OFF] condition of door request switch (passenger side).
REQ SW -RR	NOTE: This is displayed even when it is not equipped.

## **DIAGNOSIS SYSTEM (BCM)**

#### SYSTEM DESCRIPTION >

#### **IWITH INTELLIGENT KEY SYSTEM**

< SYSTEM DESCRIPTION	ON > [WITH INTELLIGENT KEY SYSTEM]
Monitored Item	Description
REQ SW -RL	NOTE: This is displayed even when it is not equipped.
REQ SW -BD/TR	Indicates [ON/OFF] condition of back door request switch.
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch
UNLK SEN -DR	Indicates [ON/OFF] condition of driver door UNLOCK status.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
DOOR SW-BK	Indicates [ON/OFF] condition of back door switch.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from door key cylinder.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from door key cylinder.
TR/BD OPEN SW	NOTE: This is displayed even when it is not equipped.
TRNK/HAT MNTR	NOTE: This is displayed even when it is not equipped.
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	NOTE: This is displayed even when it is not equipped.
WORK SUPPORT	
Service Item	Description
SECURITY ALARM SET	This mode is able to confirm and change security alarm ON-OFF setting.

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

## **ACTIVE TEST**

Test Item	Description	
THEFT IND	This test is able to check security indicator lamp operation. Security indicator lamp is turned on when "ON" on CONSULT-III screen is touched.	
VEHICLE SECURITY HORN	This test is able to check horn operation. Horn is activated for 0.5 seconds after "ON" on CONSULT-III screen is touched.	
HEADLAMP(HI)	This test is able to check headlamp operation. Headlamps are activated for 0.5 seconds after "ON" on CONSULT-III screen is touched.	
FLASHER	This test is able to check hazard warning lamp operation. Hazard warning lamps are activated after "ON" on CONSULT-III screen is touched.	

## **IMMU**

IMMU: CONSULT-III Function (BCM - IMMU)

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INFOID:0000000005491917

## **DIAGNOSIS SYSTEM (BCM)**

## < SYSTEM DESCRIPTION >

## [WITH INTELLIGENT KEY SYSTEM]

Monitor item	Content
CONFRM ID ALL	
CONFIRM ID4	Indicates [YET] at all time.
CONFIRM ID3	Switches to [DONE] when a registered Intelligent Key backside is contacted to push-button ignition
CONFIRM ID2	switch.
CONFIRM ID1	
NOT REGISTERED	Indicates [ID OK] when key ID that is registered is received or is not yet received. Indicates [ID NG] when key ID that is not registered is received.
TP 4	
TP 3	In director the growth on of IDs that are projectioned
TP 2	Indicates the number of IDs that are registered.
TP 1	
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.

## **ACTIVE TEST**

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

## **WORK SUPPORT**

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

### P1610 LOCK MODE

## < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

## DTC/CIRCUIT DIAGNOSIS

## P1610 LOCK MODE

Description INFOID:0000000005491918 В

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

DTC Logic INFOID:0000000005491919

#### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Check "Self-diagnosis result" using CONSULT-III. 2.

#### Is DTC detected?

YES >> Go to SEC-31, "Diagnosis Procedure".

>> INSPECTION END NO

## Diagnosis Procedure

## 1. CHECK ENGINE START FUNCTION

- Perform the check for DTC except DTC P1610.
- Use CONSULT-III to erase DTC after fixing. 2.
- Turn ignition switch OFF. 3.
- Turn ignition switch ON when registered Intelligent Key backside is contacted to push-button ignition switch and wait for 5 seconds.
- Turn the ignition switch OFF and wait 5 seconds.
- Repeat steps 4 and 5 twice (a total of 3 times).
- Check that engine can start when registered Intelligent Key backside is contacted to push-button ignition switch.

>> INSPECTION END

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INFOID:0000000005491920

## P1611 ID DISCORD, IMMU-ECM

Description INFOID:000000005491921

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

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC P1611 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39. "DTC Logic".
- If DTC P1611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-32, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005491923

## 1. PERFORM INITIALIZATION

Perform initialization using CONSULT-III. Reregister all Intelligent Keys.

For initialization and registration of Intelligent Key, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 2.

## 2.CHECK SELF-DIAGNOSIS RESULT

- 1. Perform "Self-diagnosis result" of ECM using CONSULT-III.
- Erase DTC
- 3. Perform DTC confirmation Procedure. Refer to EC-442, "DTC Inspection Priority Chart".

#### Is DTC detected?

YES >> GO TO 3.

NO >> INSPECTION END

## 3. REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization using CONSULT-III.
   For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 4.

## P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## 4.REPLACE ECM

1. Replace ECM. Refer to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

Perform initialization using CONSULT-III.
 For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 5.

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

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[WITH INTELLIGENT KEY SYSTEM]

## P1612 CHAIN OF ECM-IMMU

Description INFOID:000000005491924

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

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	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>

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-34, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005491926

## 1.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization using CONSULT-III.
   For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

#### Does the engine start?

YES >> INSPECTION END

NO >> GO TO 2.

## 2.REPLACE ECM

Replace ECM. Refer to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

>> INSPECTION END

## B2192 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2192 ID DISCORD, IMMU-ECM

Description INFOID:0000000005491927

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

DTC Logic INFOID:0000000005491928

#### DTC DETECTION LOGIC

#### NOTE:

 If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".

 If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC 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

## ${f 1}$ .PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-35, "Diagnosis Procedure".

NO >> INSPECTION END

1. PERFORM INITIALIZATION

## Diagnosis Procedure

Perform initialization using CONSULT-III. Reregister all Intelligent Keys.

For initialization and registration of Intelligent Key, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 2.

## 2.CHECK SELF-DIAGNOSIS RESULT

- Perform "Self-diagnosis result" of BCM using CONSULT-III.
- Erase DTC.
- Perform DTC Confirmation Procedure. Refer to SEC-173, "DTC Inspection Priority Chart".

#### Is DTC detected?

YES >> GO TO 3.

NO >> INSPECTION END

## 3.REPLACE BCM

- Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization using CONSULT-III.

For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 4.

4.REPLACE ECM

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

#### < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- 1. Replace ECM. Refer to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".
- Perform initialization using CONSULT-III.
   For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 5.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

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

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

Description INFOID:0000000005491930

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

DTC Logic INFOID:0000000005491931

#### DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-37, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

1.REPLACE BCM

- Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization using CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

#### Does the engine start?

YES >> INSPECTION END

NO >> GO TO 2.

## 2.replace ecm

Replace ECM. Refer to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

>> INSPECTION END

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## **B2195 ANTI-SCANNING**

Description INFOID:0000000005491933

When ignition switch is turned ON, BCM performs ID verification with ECM. If ID verification that is out of the specified specification is detected, BCM prohibits further ID verification and engine cranking.

DTC Logic

#### 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 under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SEC-38</u>, "Diagnosis Procedure".

NO >> INSPECTION END.

## Diagnosis Procedure

INFOID:0000000005491935

# 1. CHECK SELF-DIAGNOSIS RESULT-1

- 1. Perform "Self-diagnosis result" of BCM using CONSULT-III.
- Erase DTC.
- 3. Perform DTC Confirmation Procedure. Refer to <a href="SEC-38">SEC-38</a>, "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 >> Replace BCM. Refer to BCS-81, "Removal and Installation".

# 3.CHECK SELF-DIAGNOSIS RESULT-2

- Obtain the customers approval to remove unspecified accessory part related to engine start, and then remove it.
- Perform "Self-diagnosis result" of BCM using CONSULT-III.
- Erase DTC.
- Perform DTC Confirmation Procedure. Refer to <u>SEC-38</u>, "DTC Logic".

#### Is DTC detected?

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

NO >> INSPECTION END

#### [WITH INTELLIGENT KEY SYSTEM]

## **B2196 DONGLE UNIT**

Description INFOID:000000005491936

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

DTC Logic

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Turn ignition switch OFF.
- 3. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 4. Check "Self-diagnosis result" using CONSULT-III.

### Is the DTC detected?

YES >> Refer to <u>SEC-39</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END.

# Diagnosis Procedure

# 1. PERFORM INITIALIZATION

1. Perform initialization with CONSULT-III. Reregister all mechanical keys. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

Start the engine.

### Dose the engine start?

YES >> INSPECTION END

NO >> GO TO 2.

# 2. CHECK DONGLE UNIT CIRCUIT

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

всм		Dongle unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M68	24	M75	7	Existed

4. Check continuity between BCM harness connector and ground.

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## **B2196 DONGLE UNIT**

### < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

В	CM		Continuity	
Connector Terminal		Ground	Continuity	
M68	24		Not existed	

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# 3.CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dong	le unit		Continuity	
Connector Terminal		Ground	Continuity	
M75	1		Existed	

## Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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INFOID:0000000005491941

## B2198 NATS ANTENNA AMP.

Description INFOID:0000000005491939

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

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2198	NATS ANTENNA AMP.	Inactive communication between NATS antenna amp. and BCM.	<ul><li> Harness or connectors</li><li> NATS antenna amp.</li><li> BCM</li></ul>

## DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE 1

- 1. Intelligent Key backside is contacted to push-button ignition switch.
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-41, "Diagnosis Procedure".

NO >> GO TO 2.

# 2.PERFORM DTC CONFIRMATION PROCEDURE 2

- 1. Press the push-button ignition switch.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to <u>SEC-41, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

# Diagnosis Procedure

1.check fuse

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

Signal name	Fuse No.
Battery power supply	43

#### Is the fuse fusing?

YES >> Is the blown fuse after repairing the affected circuit if a fuse is blown.

NO >> GO TO 2.

# 2.CHECK NATS ANTENNA AMP. POWER SUPPLY

- Turn ignition switch OFF.
- 2. Disconnect NATS antenna amp. connector.
- 3. Check voltage between NATS antenna amp. harness connector and ground.

(+) NATS antenna amp.		(–)	Voltage (V) (Approx.)	
Connector	Terminal		<b>,</b>	
M26	1	Ground	Battery voltage	

### Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

## < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

# ${f 3.}$ CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

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

IPDM E/R		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E14	45	M26	1	Existed

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

IPDI	M E/R		Continuity	
Connector Terminal		Ground	Continuity	
E14	45		Not existed	

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> Repair or replace harness.

# 4. CHECK NATS ANTENNA AMP. OUTPUT SIGNAL 1

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

(+) BCM Connector Terminal		(-)	Voltage (V) (Approx.)	
M68 21		Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

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

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

В	ВСМ		NATS antenna amp.	
Connector	Terminal	Connector Terminal		Continuity
M68	21	M26	2	Existed

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector Terminal		Ground	Continuity	
M68 21			Not existed	

#### Is the inspection result normal?

YES >> Replace NATS antenna amp.. Refer to <u>SEC-198</u>, "Removal and Installation".

NO >> Repair or replace harness.

# 6.CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL

- Connect BCM connector.
- Check voltage between BCM harness connector and ground using analog tester.

#### < DTC/CIRCUIT DIAGNOSIS >

### [WITH INTELLIGENT KEY SYSTEM]

_	(+) BCM		(–)	Condition	Voltage (V) (Approx.)	
_	Connector	Terminal			X 11 - 7	
	M68	21	Ground	Intelligent Key backside is contacted to push-button ignition switch, turn ignition switch ON.	Just after pressing push-button ignition switch. Pointer of analog tester should move.	

### Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace NATS antenna amp. Refer to <u>SEC-198, "Removal and Installation"</u>.

# 7.CHECK NATS ANTENNA AMP. OUTPUT SIGNAL 2

- 1. Disconnect BCM connector.
- 2. Check voltage between BCM harness connector and ground.

(+) BCM Connector Terminal		(-)	Voltage (V) (Approx.)	
M68 25		Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

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

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

В	ВСМ		NATS antenna amp.		
Connector	Terminal	Connector Terminal		Continuity	
M68	25	M26	3	Existed	

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector Terminal		Ground	Continuity	
M68	M68 25		Not existed	

#### Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to <u>SEC-198</u>, "Removal and Installation".

NO >> Repair or replace harness.

# 9.CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL

- Connect BCM connector.
- 2. Check voltage between BCM harness connector and ground using analog tester.

(	(+)			Voltogo (V)	
BCM		(–) Condition		Voltage (V) (Approx.)	
Connector	Terminal			<b></b> ,	
M68	25	Ground	Intelligent Key backside is contacted to push-button ignition switch, turn ignition switch ON.	Just after pressing push-button ignition switch. Pointer of analog tester should move.	

#### Is the inspection result normal?

YES >> GO TO 10.

NO >> Replace NATS antenna amp. Refer to <u>SEC-198</u>, "Removal and Installation".

# 10.CHECK NATS ANTENNA AMP. GROUND CIRCUIT

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### < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

NATS ant	enna amp.		Continuity	
Connector	Connector Terminal		Continuity	
M68	4		Existed	

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace harness.

11. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

## **B2013 STEERING LOCK UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

# **B2013 STEERING LOCK UNIT**

Description INFOID:0000000005491942

BCM performs the ID verification with the steering lock unit and releases the steering lock if both BCM and steering lock unit ID are same. BCM starts the communication with the steering lock unit when Intelligent Key is carried into the passenger compartment and the push-button ignition switch is pressed.

DTC Logic INFOID:0000000005491943

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2013	ID DISCORD BCM-S/L	The ID verification results between BCM and steering lock unit are NG.	Steering lock unit

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Lock steering.
- Press the push-button ignition switch.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-45, "Diagnosis Procedure".

>> INSPECTION END NO

## Diagnosis Procedure

# 1. PERFORM INITIALIZATION

Perform initialization using CONSULT-III.

For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

#### Does steering lock operate?

YES >> INSPECTION END

NO >> GO TO 2.

# 2.REPLACE STEERING LOCK UNIT

- Replace steering lock unit.
- Perform initialization using CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

#### Does steering lock operate?

YES >> INSPECTION END

NO >> GO TO 3.

# 3.check intermittent incident

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

**SEC-45** Revision: 2009 October 2010 Z12

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INFOID:0000000005491944

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[WITH INTELLIGENT KEY SYSTEM]

## **B2014 CHAIN OF STRG-IMMU**

Description INFOID.000000005491945

BCM performs the ID verification with the steering lock unit to release the steering. BCM starts the communication with the steering lock unit when Intelligent Key is carried into the passenger compartment and the push-button ignition switch is pressed.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2014	CHAIN OF S/L-BCM	Inactive communication between steering lock unit and BCM.	Harness or connectors     (Steering lock unit circuit is open or shorted)     Steering lock unit     BCM

### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Lock steering.
- Press the push-button ignition switch.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-46, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005491947

# 1. CHECK STEERING LOCK UNIT POWER SUPPLY

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

(+) Steering lock unit		(–) Cond		dition	Voltage (V) (Approx.)
Connector	Terminal				(11 - )
M12	7 Ground	Ground	Ignition switch	OFF or ACC	Battery voltage
IVITZ		Ground	Ignition switch	ON	0

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.CHECK STEERING LOCK UNIT POWER SUPPLY CIRCUIT

- Disconnect BCM connector.
- 2. Check continuity between steering lock unit harness connector and BCM harness connector.

Steering	Steering lock unit BCM		Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M12	7	M71	95	Existed	

Check continuity between steering lock unit harness connector and ground.

## [WITH INTELLIGENT KEY SYSTEM]

Steering	Steering lock unit		Continuity
Connector	Terminal	Ground	Continuity
M12	7		Not existed

#### Is the inspection result normal?

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

NO >> Repair or replace harness.

# 3.check steering lock unit ground circuit

Check continuity between steering lock unit and ground.

Steering lock unit			Continuity
Connector	Terminal	Ground	Continuity
M12	5	Ground	Existed
	6	-	Existed

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

# 4.CHECK STEERING LOCK UNIT COMMUNICATION SIGNAL

- 1. Connect steering lock unit connector and BCM connector.
- 2. Read voltage signal between steering lock unit harness connector and ground.

	+) lock unit Terminal	(–)	Condition		Voltage (V) (Approx.)		
				Lock status	12		
M12	2	Ground	Steering lock unit	Lock or unlock	(V) 15 10 5 0 50 ms JMKIA0066GB		
				For 15 seconds a unlock		For 15 seconds after unlock	12
				15 seconds or later after unlock.	0		

Steering is locked : Opening the door when ignition switch is ON to OFF.

Steering is unlocked : Ignition switch is OFF to ACC.

## Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> GO TO 5.

# 5. CHECK STEERING LOCK UNIT COMMUNICATION CIRCUIT

- 1. Disconnect steering lock unit and BCM connector.
- 2. Check continuity between steering lock unit harness connector and BCM harness connector.

Steering	lock unit	ВС	СМ	Continuity
Connector	Terminal	Connector Terminal		Continuity
M12	2	M71	94	Existed

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## **B2014 CHAIN OF STRG-IMMU**

## < DTC/CIRCUIT DIAGNOSIS >

### [WITH INTELLIGENT KEY SYSTEM]

3. Check continuity between steering lock unit harness connector and ground.

Steering	lock unit		Continuity
Connector	Terminal	Ground	Continuity
M12	2		Not existed

## Is the inspection result normal?

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

NO >> Repair or replace harness.

## [WITH INTELLIGENT KEY SYSTEM]

## **B2555 STOP LAMP**

Description INFOID:0000000005491948

BCM detects the stop lamp status and confirms the stop lamp switch ON/OFF status. BCM confirms the engine start condition according to the stop lamp switch ON/OFF status.

DTC Logic INFOID:0000000005491949

### DTC DETECTION LOGIC

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

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Depress the brake pedal and wait 1 second or more.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-49, "Diagnosis Procedure".

>> INSPECTION END NO

# Diagnosis Procedure

1. CHECK STOP LAMP SWITCH INPUT SIGNAL 1

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

(+) BCM		(-)	Voltage (V) (Approx.)	
Connector	Connector Terminal		, , ,	
M71	105	Ground	Battery voltage	

#### Is the inspection normal?

>> GO TO 2. YES

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

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

# 2.check stop lamp switch power supply circuit

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

(+) Stop lamp switch		(-)	Voltage (V) (Approx.)	
Connector	Connector Terminal		(	
E115	1	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness for open or short to stop lamp switch.

# 3.CHECK STOP LAMP SWITCH INPUT SIGNAL 2

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#### [WITH INTELLIGENT KEY SYSTEM]

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

<u>`</u>	+) CM	(–)	Con	dition	Voltage (V) (Approx.)
Connector	Terminal				(11 - /
M68	9	Ground	Brake pedal	Depressed	Battery voltage
IVIOO	9	Giodila	biake pedal	Not depressed	0

#### Is the inspecting result normal?

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

NO >> GO TO 4.

# 4. CHECK STOP LAMP SWITCH CIRCUIT

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

Stop lamp switch		ВСМ		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E115	2	M68	9	Existed

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

Stop lan	np switch		Continuity
Connector	Terminal	Ground	Continuity
E115	2		Not existed

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## **5.**CHECK STOP LAMP SWITCH

Refer to SEC-50, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace stop lamp switch. Refer to BR-17, "Exploded View".

#### **6.**CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

#### >> INSPECTION END

# Component Inspection

INFOID:0000000005491951

# 1. CHECK STOP LAMP SWITCH

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

Stop lamp switch		Condition		Continuity	
Terr	minal	Condition		Continuity	
1	2	Brake pedal	Not depressed	Not existed	
	2	biake pedal	Depressed	Existed	

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace stop lamp switch. Refer to <a href="mailto:BR-17">BR-17</a>, "Exploded View".

## **B2556 PUSH-BUTTON IGNITION SWITCH**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

# **B2556 PUSH-BUTTON IGNITION SWITCH**

Description INFOID:0000000005491952

The switch changes the power supply position. BCM maintains the power supply position status. BCM changes the power supply position with the operation of the push-button ignition switch.

DTC Logic INFOID:0000000005491953

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2556	PUSH-BTN IGN SW	BCM detects the push-button ignition switch stuck at ON for 100 seconds or more.	<ul> <li>Harness or connectors (Push-button ignition switch circuit is shorted.)</li> <li>Push-button ignition switch</li> <li>BCM</li> </ul>

#### DTC CONFIRMATION PROCEDURE

# 1 . PERFORM DTC CONFIRMATION PROCEDURE

- Start the engine and wait 100 seconds or more.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-51, "Diagnosis Procedure".

>> INSPECTION END NO

# Diagnosis Procedure

1. CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

(+) Push-button ignition switch		(–)	Voltage (V) (Approx.)	
Connector	Terminal		(11 /	
M101	8	Ground	12	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.check push-button ignition switch circuit

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

Push-button	ignition switch	BCM		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M101	8	M71	100	Existed	

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

Push-button ignition switch			Continuity
Connector	Terminal	Ground	Continuity
M101	8		Not existed

#### Is the inspection result normal?

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## **B2556 PUSH-BUTTON IGNITION SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

NO >> Repair or replace harness.

# 3.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
M101	4		Existed

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-52, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace push-button ignition switch. Refer to PCS-145, "Removal and Installation".

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

#### >> INSPECTION END

# Component Inspection

INFOID:0000000005491955

# 1. CHECK PUSH-BUTTON IGNITION SWITCH

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

Push-button ignition switch		Condition		Continuity
Terminal				Continuity
1	Ω	Push-button ignition	Pressed	Existed
<b>4</b>	0	switch	Not pressed	Not existed

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace push-button ignition switch. Refer to PCS-145, "Removal and Installation".

### **B2557 VEHICLE SPEED**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B2557 VEHICLE SPEED**

Description INFOID:0000000005491956

BCM receives 2 vehicle speed signals via CAN communication. 1 signal is transmitted by the "combination meter". Another signal is transmitted by "ABS actuator and electric unit (control unit.)". BCM compares both signals to detect the vehicle speed.

**DTC** Logic INFOID:0000000005491957

#### DTC DETECTION LOGIC

#### NOTE:

 If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic",

 If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Self-diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	BCM detects the following difference between the vehicle speed signal from "combination meter" and the one from "ABS actuator and electric unit" for 10 seconds continuously.  • One is 10 km/h (6.2 MPH) or more and the other is 4 km/h (2.5 MPH) or less	Combination meter     ABS actuator and electric unit (control unit)

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

Drive the vehicle at the vehicle speed of 10 km/h (6.2 MPH) or more and wait 10 seconds or more.

2. Check "Self-diagnosis result" using CONSULT-III.

### Is DTC detected?

YFS >> Go to SEC-53, "Diagnosis Procedure".

>> INSPECTION END NO

## Diagnosis Procedure

INFOID:0000000005491958

# ${f 1}$ .CHECK DTC WITH "ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)"

Check "Self-diagnosis result" using CONSULT-III. Refer to BRC-88, "DTC Index".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2.CHECK DTC WITH "COMBINATION METER"

Check "Self-diagnosis result" using CONSULT-III. Refer to MWI-63, "DTC Index".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

#### 3.CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END Р

**SEC-53** Revision: 2009 October 2010 Z12

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Description INFOID.000000005491959

BCM confirms the shift position with the following 4 signals.

- · Selector lever
- Transmission range switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

# DTC DETECTION LOGIC

#### NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".
- If DTC B2601 is displayed with DTC B2603, first perform the trouble diagnosis for DTC B2603. Refer to <u>SEC-54, "DTC Logic"</u>.

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

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 2 seconds or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to <u>SEC-54</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005491961

# 1. CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

(+) CVT shift selector (detention switch)		(-)	Voltage (V) (Approx.)
Connector	Terminal		(/ (pp.ox.)
M58	7	Ground	12

#### Is the inspection result normal?

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

# 2.CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

1. Disconnect BCM connector.

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

CVT shift selector (detention switch)BCMContinuityConnectorTerminalConnectorTerminalM587M71104Existed

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

CVT shift selector (detention switch)			Continuity
Connector	Terminal	Ground	Continuity
M58	7		Not existed

### Is the inspection result normal?

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

NO >> Repair or replace harness.

# 3.check cvt shift selector circuit (BCM)

Disconnect BCM connector and IPDM E/R connector.

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

CVT shift selector	(detention switch)	ВСМ		Continuity
Connector	Terminal	Connector Terminal		Continuity
M58	8	M68	37	Existed

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

CVT shift selector	(detention switch)		Continuity
 Connector Terminal		Ground	Continuity
M58	8		Not existed

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

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

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

CVT shift selector	CVT shift selector (detention switch)		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
M58	8	E17	64	Existed

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 5. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-56, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace CVT shift selector. Refer to TM-211, "Removal and Installation".

#### 6.CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

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#### < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> INSPECTION END

# Component Inspection

INFOID:0000000005491962

# 1. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

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

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

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace CVT shift selector. Refer to TM-211, "Removal and Installation".

Description INFOID:0000000005491963

BCM confirms the shift position with the following 4 signals.

- Selector lever
- Transmission range switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

**DTC** Logic INFOID:0000000005491964

### DTC DETECTION LOGIC

### NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT POSITION	BCM detects the following status for 10 seconds.  • Shift position is in the P position  • Vehicle speed is 4 km/h (2.5 MPH) or more  • Ignition switch is in the ON position	Harness or connectors     (CVT shift selector circuit is open or shorted)     CVT shift selector (detention switch)     BCM

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Start the engine under the following conditions and wait 10 seconds or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-57, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

 ${f 1}$  .CHECK DTC WITH "ABS ACTUATOR AND ELECTRIC UNIT"

Check "Self-diagnosis result" using CONSULT-III. Refer to BRC-88, "DTC Index".

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

(+) CVT shift selector (detention switch)		(–)	Voltage (V) (Approx.)
Connector	Terminal		(11 - 7
M58	7	Ground	Battery voltage

### Is the inspection result normal?

YES >> GO TO 4. SEC

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### < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NO >> GO TO 3.

# ${f 3.}$ CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

CVT shift selector	CVT shift selector (detention switch)		CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M58	7	M71	104	Existed

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

CVT shift selector	(detention switch)		Continuity
Connector Terminal		Ground	Continuity
M58	7		Not existed

#### Is the inspection result normal?

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

NO >> Repair or replace harness.

## 4. CHECK CVT SHIFT SELECTOR CIRCUIT

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

CVT shift selector (detention switch)		В	BCM	
Connector	Terminal	Connector	Terminal	Continuity
M58	8	M68	37	Existed

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

CVT shift selector	(detention switch)		Continuity
Connector	Connector Terminal		Continuity
M58	8		Not existed

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 5.check cvt shift selector (detention switch)

Refer to SEC-58, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace CVT shift selector. Refer to <a href="mailto:TM-211">TM-211</a>, "Removal and Installation".

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

#### >> INSPECTION END

# Component Inspection

INFOID:0000000005491966

# 1. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

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

## < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

CVT shift selector	CVT shift selector (detention switch)  Terminal		Condition	
Terr				
7	Q	Selector lever	P position	Not existed
,	0	Selector level	Other than above	Existed

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Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace CVT shift selector. Refer to TM-211, "Removal and Installation".

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Description INFOID:000000005491967

BCM confirms the shift position with the following 4 signals.

- · Selector lever
- Transmission range switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2603 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2603 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".
- If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to <u>SEC-54, "DTC Logic"</u>.

DTC No.	Self-diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSI STATUS	BCM detects the following status when ignition switch is in the ON position.  Transmission range switch: approx. 0 V  CVT shift selector (detention switch): approx. 0 V	Harness or connector     (CVT shift selector circuit is open or shorted)     Harness or connectors     (Transmission renge switch circuit is open or shorted)     CVT shift selector (detention switch)     Transmission range switch     BCM     IPDM E/R

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE 1

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-60, "Diagnosis Procedure".

NO >> GO TO 2.

# 2 PERFORM DTC CONFIRMATION PROCEDURE 2

- 1. After step 1 of DTC confirmation procedure, shift selector lever to a position other than P or N
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-60, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005491969

# 1.INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

#### Which procedure confirms DTC?

DTC confirmation procedure 1>>GO TO 2.

DTC confirmation procedure 2>>GO TO 7.

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

# $\overline{2.}$ CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

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

(+) Transmission range switch		(-)	Voltage (V) (Approx.)
Connector	Connector Terminal		(11 - 7
F21	1	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

# ${f 3.}$ CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT

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

Transmission	Transmission range switch		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
F21	1	E15	59	Existed

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

A/T as	A/T assembly		Continuity
Connector	Terminal	Ground	Continuity
F21	1		Not existed

#### Is the inspection result normal?

YES >> Check 10 A fuse (No. 56, located in the IPDM E/R).

NO >> Repair or replace harness.

## 4.CHECK BCM INPUT SIGNAL

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

	+) CM	(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				,
M71	102	Ground	Selector lever		Battery voltage
1017-1	102	Ground	Selector level	Other than above	0

#### Is the inspection result normal?

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

NO >> GO TO 5.

# 5. CHECK BCM INPUT SIGNAL CIRCUIT

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

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#### [WITH INTELLIGENT KEY SYSTEM]

#### < DTC/CIRCUIT DIAGNOSIS >

Transmission	range switch	В	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
F21	2	M71	102	Existed

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

Transmission	Transmission range switch		Continuity
Connector	Terminal	Ground	Continuity
F21	2		Not existed

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

## f 6.CHECK TRANSMISSION RANGE SWITCH

Refer to SEC-63, "Component Inspection (Transmission Range Switch)".

#### Is the inspection result normal?

YES >> GO TO 12.

NO >> Replace transaxle assembly. Refer to TM-230, "Exploded View".

# 7.CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

	+) r (detention switch)	()	Voltage (V) (Approx.)
Connector	Terminal		(/ .pp. 0/)
M58	7	Ground	12

#### Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

# 8.CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

CVT shift selector	CVT shift selector (detention switch)		BCM	
Connector	Terminal	Connector	Terminal	Continuity
M58	7	M71	104	Existed

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

CVT shift selector	CVT shift selector (detention switch)		Continuity
Connector	Terminal	Ground	Continuity
M58	7		Not existed

#### Is the inspection result normal?

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

NO >> Repair or replace harness.

# 9. CHECK CVT SHIFT SELECTOR CIRCUIT (BCM)

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

CVT shift selecto	r (detention switch)	В	BCM		
Connector	Terminal	Connector	Terminal	Continuity	
MEQ	0	M68	37	Existed	
M58 Check continuity b	etween CVT shift sele				
Check continuity b	etween CVT shift sele				
Check continuity b		ector (detention switch			

NO >> Repair or replace harness.

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

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

CVT shift selector	CVT shift selector (detention switch)		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
M58	8	E17	64	Existed

#### Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace harness.

# 11. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-63, "Component Inspection [CVT Shift Selector (Detention Switch)]".

#### Is the inspection result normal?

YES >> GO TO 12.

NO >> Replace CVT shift selector. Refer to TM-211, "Removal and Installation".

# 12. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

#### >> INSPECTION END

# Component Inspection (Transmission Range Switch)

# 1. CHECK TRANSMISSION RANGE SWITCH

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

Transmission	Transmission range switch		Continuity
Teri	minal	Condition	Continuity
1	2	P or N position	Existed
'	2	Other than above	Not existed

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace transaxle assembly. Refer to TM-230, "Exploded View".

# Component Inspection [CVT Shift Selector (Detention Switch)]

 ${f 1}$  .CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

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INFOID:0000000005491971

INFOID:0000000005491970

### < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

CVT shift selector	CVT shift selector (detention switch)  Terminal		dition	Continuity
Teri			uition	Continuity
7	0	Selector lever	P position	Not existed
1	0	Selector level	Other than above	Existed

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace CVT shift selector. Refer to TM-211, "Removal and Installation".

Description INFOID:0000000005491972

BCM confirms the shift position with the following 4 signals.

- Selector lever
- Transmission range switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

**DTC** Logic INFOID:0000000005491973

## DTC DETECTION LOGIC

### NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2604	PNP/CLUTCH SW	The following states are detected while ignition switch is ON.  There is park/neutral position signal input but shift position signal input (CAN) from TCM is other than P or N  There is not park/neutral position signal input but shift position signal input (CAN) from TCM is P or N	Harness or connectors     (Transmission range switch circuit is open or shorted)     Transmission range switch     BCM     IPDM E/R

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-65, "Diagnosis Procedure".

>> INSPECTION END NO

# Diagnosis Procedure

# 1. CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

- Turn ignition switch OFF.
- Disconnect transmission range switch connector.
- 3. Turn ignition switch ON.
- Check voltage between transmission range switch harness connector and ground.

,	+) n range switch	(-)	Voltage (V) (Approx.)	
Connector Terminal			(11 - /	
F21	1	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.check transmission range switch power supply circuit

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## < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

Transmission range switch		IPDM E/R		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
F21	1	E15	59	Existed	

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

Transmission	n range switch		Continuity	
Connector	Connector Terminal		Continuity	
F21 1			Not existed	

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> Repair or replace harness.

# 3. CHECK BCM INPUT SIGNAL

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

	(+) BCM		Condition		Voltage (V) (Approx.)
Connector	Terminal				, , ,
M71	102	Ground	Selector lever	P or N position	Battery voltage
1017-1	102	Ground	Selector level	Other than above	0

#### Is the inspection result normal?

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

NO >> GO TO 4.

# 4. CHECK BCM INPUT SIGNAL CIRCUIT

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

Transmission range switch		BCM		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
F21	2	M71	102	Existed	

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

Transmission	range switch		Continuity
Connector	Connector Terminal		Continuity
F21 2			Not existed

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 5. CHECK TRANSMISSION RANGE SWTICH

Refer to SEC-67, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 6.

## < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

NO >> Replace transaxle assembly. Refer to TM-230, "Exploded View".

# 6. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

## >> INSPECTION END

# Component Inspection

#### INFOID:0000000005491975

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# 1. CHECK TRANSMISSION RANGE SWITCH

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

Transmission range switch Terminal		Condition	Continuity	
		Condition	Continuity	
1	2	P or N position	Existed	
		Other than above	Not existed	

### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace transaxle assembly. Refer to <u>TM-230, "Exploded View"</u>.

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Description INFOID.000000005491976

BCM confirms the shift position with the following 4 signals.

- Selector lever
- Transmission range switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-68, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005491978

# 1. CHECK IPDM E/R INPUT SIGNAL

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

(+) IPDM E/R		(–)	Condition		Voltage (V) (Approx.)	
Connector	Terminal				(	
E15	47	Ground	Selector lever	P or N position	Battery voltage	
EIS	47	Ground	Selector level	Other than above	0	

### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> GO TO 2.

# 2.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

### < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

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

IPDM E/R		BCM		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E15	47	M71	102	Existed	

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

IPDI	M E/R		Continuity
Connector Terminal		Ground	Continuity
E15 47			Not existed

## Is the inspection result normal?

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

NO >> Repair or replace harness.

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## **B2608 STARTER RELAY**

Description INFOID:000000005491979

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

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to <u>SEC-70</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005491981

# 1. CHECK DTC WITH IPDM E/R

Check "Self-diagnosis result" using CONSULT-III. Refer to PCS-32, "DTC Index".

## Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.CHECK BCM POWER SUPPLY CIRCUIT

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

(+) BCM		(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
M71	97	Ground	Selector lever	N or P position	12
IVI7 I	97	Ground	Selector level	Other than above	0

#### Is the measurement value within the specification?

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

# 3. CHECK STARTER RELAY CIRCUIT

### **B2608 STARTER RELAY**

## < DTC/CIRCUIT DIAGNOSIS >

### [WITH INTELLIGENT KEY SYSTEM]

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

IPDM E/R		ВСМ		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E13	30	M71	97	Existed	

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

IPDI	M E/R		Continuity
Connector	Terminal	Ground	Continuity
E13	30		Not existed

Is the inspection result normal?

>> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> Repair or replace harness.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

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[WITH INTELLIGENT KEY SYSTEM]

# **B2609 STEERING STATUS**

Description INFOID:000000005491982

There are 2 switches in the steering lock unit (steering lock/unlock switch 1 and 2). BCM compares the 2 switch conditions to judge the present steering status.

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2609 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2609 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2609	S/L STATUS	Combination of steering lock state switch and steering unlock state switch is not normal or steering lock (or unlock) state that BCM recognizes is different from combination of steering lock state switch/ steering unlock state switch.	Harness or connectors     (Steering lock unit circuit is open or shorted)     Steering lock unit     BCM

#### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE-1

- 1. Press the push-button ignition switch and wait 1 second or more under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

## Is DTC detected?

YES >> Go to SEC-72, "Diagnosis Procedure".

NO >> GO TO 2.

# 2.PERFORM DTC CONFIRMATION PROCEDURE-2

- 1. Turn ignition switch ON.
- 2. Turn ignition switch OFF.
- 3. Press driver side door switch and wait 1second or more.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-72, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005491984

## 1.INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

#### Which procedure confirms DTC?

DTC confirmation procedure 1>>GO TO 2.

DTC confirmation procedure 2>>GO TO 4.

# 2.CHECK IPDM E/R INPUT SIGNAL

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

#### **B2609 STEERING STATUS**

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

(+) IPDM E/R		(–) Condit	lition	Voltage (V) (Approx.)	
Connector	Terminal				
	CE	One world	Ground Steering lock unit	Lock	0
F47	65			Unlock	Battery voltage
E17	68	Ground		Lock	Battery voltage
				Unlock	0

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> GO TO 3.

# 3.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Disconnect IPDM E/R connector and steering lock unit connector.

2. Check continuity between IPDM E/R harness connector and steering lock unit harness connector.

IPDM E/R		Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E17	65	M12	3	Existed
E17	68	IVITZ	8	Existed

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

IPDN	M E/R		Continuity
Connector	Terminal	Ground	Continuity
E17	65		Not existed
	68		Not existed

#### Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> Repair or replace harness.

## 4. CHECK BCM INPUT SIGNAL

Turn ignition switch OFF.

2. Check voltage between BCM harness connector and ground.

(+) BCM		(–) Con	dition	Voltage (V) (Approx.)	
Connector	Terminal				( ) ( )
	107	Ground	Steering lock unit	Lock	0
M71				Unlock	Battery voltage
IVI7 I				Lock	Battery voltage
				Unlock	0

#### Is the inspection result normal?

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

NO >> GO TO 5.

## CHECK BCM INPUT SIGNAL CIRCUIT

- 1. Disconnect BCM connector and steering lock unit connector.
- 2. Check continuity between BCM harness connector and steering lock unit harness connector.

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## **B2609 STEERING STATUS**

## < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

В	CM	Steering lock unit		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M71	107		3	Existed	
1917 1	108	M12	8	LAISIGU	

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M71	107	Ground	Not existed
IVI7 I	108		Not existed

## Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> Repair or replace harness.

#### **B260B STEERING LOCK UNIT**

## < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

## **B260B STEERING LOCK UNIT**

Description INFOID:0000000005491985

The steering lock unit performs the check by itself according to the steering status.

**DTC** Logic INFOID:0000000005491986

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260B	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit before steering unlocking.	Steering lock unit

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Turn ignition switch OFF.
- Press front door switch (driver side).
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-75, "Diagnosis Procedure".

>> INSPECTION END NO

## Diagnosis Procedure

# 1. INSPECTION START

- Turn ignition switch ON. 1.
- Check "Self-diagnosis result" using CONSULT-III.
- Touch "ERASE".
- Perform DTC Confirmation Procedure. See SEC-75, "DTC Logic".

## Is DTC detected?

YES >> Replace steering lock unit.

NO >> INSPECTION END **SEC** 

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## **B260C STEERING LOCK UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

INFOID:0000000005491990

## **B260C STEERING LOCK UNIT**

Description INFOID:0000000005491988

The steering lock unit performs the check by itself according to the steering status.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260C	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit before steering locking.	Steering lock unit

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- 2. Turn ignition switch OFF.
- 3. Press front door switch (driver side).
- 4. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-76, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

# 1.INSPECTION START

- Turn ignition switch ON.
- 2. Check "Self-diagnosis result" using CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-76</u>, "DTC Logic".

#### Is DTC detected?

YES >> Replace steering lock unit.

NO >> INSPECTION END

## **B260D STEERING LOCK UNIT**

## < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

## **B260D STEERING LOCK UNIT**

Description INFOID:0000000005491991

The steering lock unit performs the check by itself according to the steering lock status (before lock, after lock and unlock).

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260D	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit after steering locking.	Steering lock unit

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Turn ignition switch OFF.
- 3. Press front door switch (driver side).
- 4. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-77, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

# 1.INSPECTION START

- Turn ignition switch ON.
- 2. Check "Self-diagnosis result" using CONSULT-III.
- 3. Touch "ERASE".
- Perform DTC Confirmation Procedure. See <u>SEC-77</u>, "<u>DTC Logic</u>".

#### Is DTC detected?

YES >> Replace steering lock unit.

NO >> INSPECTION END

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#### **B260F ENGINE STATUS**

[WITH INTELLIGENT KEY SYSTEM]

## **B260F ENGINE STATUS**

Description INFOID:000000005491994

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

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260F	ENG STATE SIG LOST	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.	ECM

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-78, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005491996

# 1. INSPECTION START

- 1. Turn ignition switch ON.
- Check "Self-diagnosis result" using CONSULT-III.
- 3. Touch "ERASE".
- Perform DTC Confirmation Procedure.

See SEC-78, "DTC Logic".

#### Is the DTC B260F displayed again?

YES >> GO TO 2.

NO >> INSPECTION END

## 2.REPLACE ECM

Replace ECM. Refer to <u>EC-16</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

>> INSPECTION END

#### **B2612 STEERING STATUS**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B2612 STEERING STATUS**

Description INFOID:0000000005491997

There are 2 switches in the steering unit. IPDM E/R compares the 2 switch conditions to judge the present steering status and transmits the result to BCM via CAN communication.

DTC Logic INFOID:0000000005491998

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

	DTC No.	Self-diagnosis name	DTC detecting condition	Possible causes
_	B2612	S/L STATUS	The following 2 state signals are different.  • Steering lock state recognition of BCM  • Steering lock state signal from IPDM E/R	Harness or connectors     (Steering lock unit circuit is open or shorted)     Steering lock unit     BCM

#### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE-1

- Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-79, "Diagnosis Procedure".

NO >> GO TO 2.

## 2.PERFORM DTC CONFIRMATION PROCEDURE-2

- Turn ignition switch ON.
- Turn ignition switch OFF.
- Press door switch.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-79, "Diagnosis Procedure".

>> INSPECTION END NO

#### Diagnosis Procedure

## 1.INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

#### Which procedure confirms DTC?

DTC confirmation procedure 1>>GO TO 2.

DTC confirmation procedure 2>>GO TO 4.

# 2.CHECK IPDM E/R INPUT SIGNAL

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

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INFOID:0000000005491999

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#### **B2612 STEERING STATUS**

#### [WITH INTELLIGENT KEY SYSTEM]

(+) IPDM E/R		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				, , ,
	65 68	- Ground	Steering lock unit	Lock	0
E17				Unlock	Battery voltage
E17				Lock	Battery voltage
				Unlock	0

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> GO TO 3.

# 3.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Disconnect IPDM E/R connector and steering lock unit connector.

2. Check continuity between IPDM E/R harness connector and steering lock unit harness connector.

IPDI	M E/R	Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E17	65	M12	3	Existed
L17	68	IVITZ	8	LXISIEU

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E17	65	Ground	Not evieted
E17	68		Not existed

## Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> Repair or replace harness.

## 4. CHECK BCM INPUT SIGNAL

1. Turn ignition switch OFF.

2. Check voltage between BCM harness connector and ground.

(+) BCM		(–) Cor		dition	Voltage (V) (Approx.)
Connector	Terminal				(
	107			Lock	0
M71	107	Ground	Steering lock unit	Unlock	Battery voltage
IVI7 I	100	Giouna	Steering lock unit	Lock	Battery voltage
	108			Unlock	0

#### Is the inspection result normal?

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

NO >> GO TO 5.

## CHECK BCM INPUT SIGNAL CIRCUIT

1. Disconnect BCM connector and steering lock unit connector.

2. Check continuity between BCM harness connector and steering lock unit harness connector.

## **B2612 STEERING STATUS**

## < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

Е	BCM	Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M71	107	M12	3	Existed
IVI7 I	108	IVITZ	8	Existed

Check continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal	Ground	Continuity
M71	107	Ground	Not existed
IVI7 I	108		Not existed

## Is the inspection result normal?

YES >> Replace steering lock unit.

>> Repair or replace harness. NO

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## **B2619 BCM**

Description INFOID:0000000005492000

BCM (Body Control Module) controls the various electrical components. It inputs the information required to the control from CAN communication and the signal received from each switch and sensor.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2619	ВСМ	There is a difference between power supply output to steering lock unit and steering lock unit F/B result.	ВСМ

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

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

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492002

# 1. INSPECTION START

- Turn ignition switch ON.
- 2. Check "Self-diagnosis result" using CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-82</u>, "<u>DTC Logic"</u>.

#### Is DTC detected?

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

NO >> INSPECTION END

## **B26E9 STEERING STATUS**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

# **B26E9 STEERING STATUS**

Description INFOID:0000000005492003

There are 2 switches in the steering lock unit (steering lock/unlock switch 1 and 2). BCM compares the 2 switch conditions to judge the present steering status.

DTC Logic INFOID:0000000005492004

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26E9	LOCK MALFUNC- TION	BCM activates steering lock but steering state that BCM recognizes is unlock.	Steering lock unit

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- 2. Turn ignition switch OFF.
- 3. Press driver side door switch.
- Turn ignition switch ON.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Refer to SEC-83, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

# 1. INSPECTION START

- Turn ignition switch ON.
- 2. Check "Self-diagnosis result" using CONSULT-III.
- Touch "ERASE".
- Perform DTC Confirmation Procedure. Refer to SEC-83, "DTC Logic".

## Is DTC detected?

YES >> Replace steering lock unit.

>> INSPECTION END NO

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#### **B26EF STEERING LOCK RELAY**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B26EF STEERING LOCK RELAY**

Description INFOID:000000005492006

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication. IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26EF is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B26EF is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".
- If DTC B26EF is displayed with DTC B2612, first perform the trouble diagnosis for DTC B2612. Refer to SEC-79, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26EF	STRG LCK RELAY OFF	BCM requests to turn steering lock relay in IPDM E/R ON but BCM cannot receive steering lock relay ON signal from IPDM E/R via CAN communication within 2 seconds.	<ul> <li>Harness or connector (Steering lock unit circuit is open or short)</li> <li>Steering lock unit</li> <li>IPDM E/R</li> </ul>

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to <u>SEC-84, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005492008

# 1. CHECK STEERING LOCK UNIT POWER SUPPLY

Check voltage between steering lock unit harness connector and ground.

	(+) Steering lock unit		Condition		Voltage (V) (Approx.)
Connector	Terminal				(, ,pp,0,,)
			Ignition switch OFF	A few seconds after opening the driver door	Battery voltage
M12	1	Ground	Ignition switch LOCK	Press the push-button ignition switch	Battery voltage
			Ignition switch	ACC or ON	0

#### Is the inspection normal?

YES >> Replace steering lock unit.

NO >> GO TO 2.

# 2.CHECK STEERING LOCK RELAY CIRCUIT

- Disconnect IPDM E/R connector and steering lock unit connector.
- 2. Check continuity IPDM E/R harness connector and steering lock unit harness connector.

## **B26EF STEERING LOCK RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

IPDI	M E/R	Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E14	42	M12	1	Existed

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E14	42		Not existed

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> Repair or replace harness.

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## **B26F0 STEERING LOCK RELAY**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B26F0 STEERING LOCK RELAY**

Description INFOID:000000005492009

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication. IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B26F0 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B26F0 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F0	STRG LCK RELAY ON	BCM requests to turn steering lock relay in IPDM E/R OFF but BCM cannot receive steering lock relay OFF signal from IPDM E/R via CAN communication within 2 seconds.	Harness or connector (Steering lock unit circuit is open or short circuit)     IPDM E/R     BCM

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 2 seconds or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-86, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005492011

## 1.CHECK DTC WITH IPDM E/R

Check "Self-diagnosis result" using CONSULT-III. Refer to PCS-32, "DTC Index".

## Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

## 2. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

## **B26F3 STARTER CONTROL RELAY**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B26F3 STARTER CONTROL RELAY**

Description INFOID:0000000005492012

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in the N or P position and the steering is locked or unlocked. It is installed parallel to the starter relay.

DTC Logic INFOID:0000000005492013

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F3	START CONT RLY ON	BCM requests IPDM E/R to turn starter motor control relay OFF but starter motor control relay OFF state signal is not transmitted from IPDM E/R.	IPDM E/R

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn the power supply position to start under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

>> Go to SEC-87, "Diagnosis Procedure". YES

>> INSPECTION END

1. CHECK DTC WITH IPDM E/R

## Diagnosis Procedure

Check "Self-diagnosis result" using CONSULT-III. Refer to PCS-32, "DTC Index".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

## 2.CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

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## **B26F4 STARTER CONTROL RELAY**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B26F4 STARTER CONTROL RELAY**

Description INFOID.000000005492015

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

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-39, "DTC Logic".
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F4	START CONT RELAY OFF	BCM requests IPDM E/R to turn starter motor control relay ON but starter motor control relay ON state signal is not transmitted from IPDM E/R.	Harness or connector (Transmission range switch circuit is open or short).     IPDM E/R     BCM

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to <u>SEC-88</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005492017

## 1. CHECK IPDM E/R INPUT SIGNAL

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

(+) IPDM E/R		(-)	Condition		Voltage (V) (Approx.)	
Connector	Terminal				(	
E15	47	Ground	Selector lever	P or N position	Battery voltage	
	47	Ground	Selector level	Other than above	0	

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

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

## **B26F4 STARTER CONTROL RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

В	ВСМ		IPDM E/R		
Connector	Terminal	Connector Terminal		- Continuity	
M71	102	E15	47	Existed	

4. Check continuity between BCM harness connector and ground.

	В	CM		Continuity
	Connector Terminal		Ground	Continuity
_	M71	102		Not existed

## Is the inspection result normal?

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

NO >> Repair or replace harness.

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## **B26F5 STEERING LOCK STATUS SWITCH**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B26F5 STEERING LOCK STATUS SWITCH

Description INFOID.000000005492018

There are 2 switches in the steering unit. IPDM E/R compares the 2 switch conditions to judge the present steering status and transmits the result to BCM via CAN communication.

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B210A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B210A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F5	STRG LCK STS SW	When BCM performs steering lock request to IPDM E/R, steering lock state signal from IPDM E/R is already in lock state.	Harness or connectors (Steering lock unit status switch circuit is open or shorted) Steering lock unit IPDM E/R BCM

#### DTC CONFIRMATION PROCEDURE

## 1.PERFORM DTC CONFIRMATION PROCEDURE-1

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-90, "Diagnosis Procedure".

NO >> GO TO 2.

## 2.PERFORM DTC CONFIRMATION PROCEDURE-2

- 1. Turn ignition switch ON.
- Turn ignition switch OFF.
- 3. Press driver side door switch and wait 1 second or more.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-90, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492020

## 1.INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

#### Which procedure confirms DTC?

DTC confirmation procedure 1>>GO TO 2.

DTC confirmation procedure 2>>GO TO 4.

# 2.CHECK IPDM E/R INPUT SIGNAL

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

## **B26F5 STEERING LOCK STATUS SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

(+) IPDM E/R		(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				( ) 1 - /
	65	- Ground	Staaring look unit	Lock	0
E47				Unlock	Battery voltage
E17			Steering lock unit	Lock	Battery voltage
	68			Unlock	0

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> GO TO 3.

# 3.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Disconnect IPDM E/R connector and steering lock unit connector.

2. Check continuity between IPDM E/R harness connector and steering lock unit harness connector.

IPDM E/R		Steering	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E17	65	M12	3	Existed
	68	IVITZ	8	Existed

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

IPDN	M E/R		Continuity
Connector	Terminal	Ground	Continuity
E17	65	Giodila	Not existed
EII	68		Not existed

#### Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> Repair or replace harness.

## 4. CHECK BCM INPUT SIGNAL

Turn ignition switch OFF.

2. Check voltage between BCM harness connector and ground.

(+) BCM		(-)	Cond	dition	Voltage (V) (Approx.)
Connector	Terminal				(11 - 7
	107	- Ground	Steering lock unit	Lock	0
M71				Unlock	Battery voltage
	100			Lock	Battery voltage
	108			Unlock	0

#### Is the inspection result normal?

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

NO >> GO TO 5.

## 5. CHECK BCM INPUT SIGNAL CIRCUIT

- 1. Disconnect BCM connector and steering lock unit connector.
- 2. Check continuity between BCM harness connector and steering lock unit harness connector.

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## **B26F5 STEERING LOCK STATUS SWITCH**

## < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

ВСМ		Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M71	107	M12	3	Existed
IVI7 I	108	IVITZ	8	Existed

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

В	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M71	107		Not existed	
IVI / I	108		Not existed	

## Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> Repair or replace harness.

#### [WITH INTELLIGENT KEY SYSTEM]

## B26F7 BCM

Description INFOID:0000000005492021

BCM (Body Control Module) controls the various electrical components. It inputs the information required to the control from CAN communication and the signal received from each switch and sensor.

DTC Logic

#### 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. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-94, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnosis result" using CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-94</u>, "<u>DTC Logic"</u>.

#### Is DTC detected?

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

NO >> INSPECTION END

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#### [WITH INTELLIGENT KEY SYSTEM]

#### B26F8 BCM

Description INFOID:000000005492024

BCM (Body Control Module) controls the various electrical components. It inputs the information required to the control from CAN communication and the signal received from each switch and sensor.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F8	BCM	When BCM turns starter motor control replay in IPDM E/R ON, input from feedback circuit does not match.	ВСМ

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to <u>SEC-94</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492026

# 1. INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnosis result" using CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-94</u>, "DTC Logic".

#### Is DTC detected?

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

NO >> INSPECTION END

#### **B26FC KEY REGISTRATION**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B26FC KEY REGISTRATION**

Description INFOID:0000000005492027

When door request switch or push-button ignition switch is pressed, BCM verifies Intelligent Key that is registered to the vehicle. If verification result is OK, door lock, door unlock, and engine start are allowed.

**DTC** Logic INEOID:0000000005492028

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26FC	KEY REGISTRA- TION	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 using CONSULT-III. Reregister all Intelligent Keys. For initialization and registration of Intelligent Key, refer to "CONSULT-III Operation Manual NATS-IVIS/ NVIS".
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-95, "Diagnosis Procedure"

>> INSPECTION END NO

## Diagnosis Procedure

# 1. REPLACE INTELLIGENT KEY

- Replace Intelligent Key that matches the vehicle.
- Perform initialization using CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

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

NO >> INSPECTION END **SEC** 

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INFOID:0000000005492029

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**SEC-95** Revision: 2009 October 2010 Z12

## **B2108 STEERING LOCK RELAY**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B2108 STEERING LOCK RELAY**

Description INFOID:000000005492030

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication. IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

If DTC B2108 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2108	STRG LCK RELAY ON	When comparing steering lock state switches 1 and 2, a malfunction is detected for 1 second.	IPDM E/R

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-96, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492032

## 1. CHECK STEERING LOCK RELAY

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

	+) // E/R	(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				( P1 0 m)
			Ignition switch OFF	A few seconds after opening the driver door	Battery voltage
E14	42	Ground	Ignition switch LOCK	Press the push-button ignition switch	Battery voltage
			Ignition switch	ACC or ON	0

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

## 2.CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

#### **B2109 STEERING LOCK RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B2109 STEERING LOCK RELAY**

Description INFOID:000000005492033

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication. IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2109 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B2109 may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2109	STRG LCK RELAY OFF	When comparing steering lock state switches 1 and 2, a malfunction is detected for 1 second.	Harness or connector (Power supply circuit)     IPDM E/R     Battery

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

## Is DTC detected?

YES >> Go to SEC-97, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

1. CHECK POWER SUPPLY CIRCUIT

Check IPDM E/R power supply circuit. Refer to <u>SEC-111, "IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM): Diagnosis Procedure".</u>

## Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

## 2.CHECK FUSE

- 1. Turn ignition switch OFF.
- 2. Check 10 A fuse (No. 44, located in IPDM E/R).

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

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Revision: 2009 October SEC-97 2010 Z12

#### **B210A STEERING LOCK UNIT**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B210A STEERING LOCK UNIT**

Description INFOID.000000005492036

There are 2 switches in the steering unit. IPDM E/R compares the 2 switch conditions to judge the present steering status and transmits the result to BCM via CAN communication.

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

If DTC B210A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210A	STRG LCK STATE SW	When comparing steering lock state switches 1 and 2, input malfunctions of ON/OFF and others are simultaneously detected continuously for 1 second.	Harness or connectors     (Steering lock unit status switch circuit is open or shorted)     Steering lock unit     IPDM E/R     BCM

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE-1

- 1. Press push-button ignition switch under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-98, "Diagnosis Procedure".

NO >> GO TO 2.

## 2. PERFORM DTC CONFIRMATION PROCEDURE-2

- 1. Turn ignition switch ON.
- 2. Turn ignition switch OFF.
- Press driver side door switch and wait 1 second or more.
- 4. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-98, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005492038

## 1. INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

#### Which procedure confirms DTC?

DTC confirmation procedure 1>>GO TO 2.

DTC confirmation procedure 2>>GO TO 4.

# 2.CHECK IPDM E/R INPUT SIGNAL

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

## **B210A STEERING LOCK UNIT**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

(+) IPDM E/R		(–) Condit		dition	Voltage (V) (Approx.)
Connector	Terminal				(
	0.5			Lock	0
E47	65	Onesia	Crown d Chapring look with	Unlock	Battery voltage
E17	Ground	Steering lock unit	Lock	Battery voltage	
	68			Unlock	0

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> GO TO 3.

# 3.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Disconnect IPDM E/R connector and steering lock unit connector.

2. Check continuity between IPDM E/R harness connector and steering lock unit harness connector.

IPDI	M E/R	Steering lock unit		Continuity
Connector	Connector Terminal		Terminal	Continuity
E17	65	M12	3	Existed
	68	IVITZ	8	Existed

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

IPDN	IPDM E/R		
Connector	Terminal	Ground	Continuity
E17	65		Not existed
EII	68		Not existed

#### Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> Repair or replace harness.

## 4. CHECK BCM INPUT SIGNAL

1. Turn ignition switch OFF.

2. Check voltage between BCM harness connector and ground.

	(+) BCM		(–) Cond		Voltage (V) (Approx.)
Connector	Terminal				( 44.5)
	107		Ground Steering lock unit	Lock	0
M71	107	Ground		Unlock	Battery voltage
IVI / I	400			Lock	Battery voltage
	108			Unlock	0

#### Is the inspection result normal?

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

NO >> GO TO 5.

## 5. CHECK BCM INPUT SIGNAL CIRCUIT

1. Disconnect BCM connector and steering lock unit connector.

2. Check continuity between BCM harness connector and steering lock unit harness connector.

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## **B210A STEERING LOCK UNIT**

## < DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

E	BCM	Steering	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M71	107	M12	3	Existed
IVI7 I	108	IVITZ	8	LAISIEU

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M71	107	Ground	Not existed	
IVI7 I	108		Not existed	

## Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> Repair or replace harness.

## **B210B STARTER CONTROL RELAY**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B210B STARTER CONTROL RELAY**

Description INFOID:0000000005492039

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in the N or P position and the steering is locked or unlocked. It is installed parallel to the starter relay.

DTC Logic INFOID:0000000005492040

#### DTC DETECTION LOGIC

#### NOTE:

If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210B	START CONT RLY ON	<ul> <li>When comparing the following items, a malfunction is detected for 1 second or more.</li> <li>Starter motor relay ON signal (CAN) from BCM</li> <li>Starter motor control relay conditions of contact side and coil side</li> <li>Transmission range switch input</li> </ul>	IPDM E/R

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

>> Go to SEC-101, "Diagnosis Procedure". YES

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492041

# 1. INSPECTION START

- Turn ignition switch ON.
- Check "Self-diagnosis result" for IPDM E/R using CONSULT-III. 2.
- Touch "ERASE". 3.
- Perform DTC Confirmation Procedure. See SEC-101, "DTC Logic".

#### Is DTC detected?

YES >> Replace IPDM E/R. Refer PCS-34, "Removal and Installation".

NO >> INSPECTION END

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## **B210C STARTER CONTROL RELAY**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## **B210C STARTER CONTROL RELAY**

Description INFOID:000000005492042

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in the N or P position and the steering is locked or unlocked. It is installed parallel to the starter 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-39, "DTC Logic".
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210C may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210C	START CONT RLY OFF	When comparing the following items, a malfunction is detected for 1 second or more.  Starter motor relay ON signal (CAN) from BCM  Starter motor control relay conditions of contact side and coil side  Transmission range switch input	IPDM E/R

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-102, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492044

## 1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnosis result" for IPDM E/R using CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure.

See SEC-102, "DTC Logic".

#### Is DTC detected?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> INSPECTION END

## **B210D STARTER RELAY**

## < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

## **B210D STARTER RELAY**

Description INFOID:0000000005492045

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

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210D	STARTER RELAY ON	When comparing the following items, a malfunction is detected for 1 second or more.  Starter motor relay ON signal (CAN) from BCM  Starter motor control relay conditions of contact side and coil side  Transmission range switch input	IPDM E/R

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait for 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-103, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

1. INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnosis result" for IPDM E/R using CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See SEC-103, "DTC Logic".

#### Is DTC detected?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> INSPECTION END

INFOID:0000000005492047

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## **B210E STARTER RELAY**

Description INFOID:0000000005492048

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

DTC Logic INFOID:0000000005492049

#### DTC DETECTION LOGIC

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B210E is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to SEC-68, "DTC Logic".
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210F may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210E	STARTER RELAY OFF	When comparing the following items, a malfunction is detected for 1 second or more.  Starter motor relay ON signal (CAN) from BCM  Starter motor control relay conditions of contact side and coil side  Transmission range switch input	<ul> <li>Harness or connector (Starter relay circuit is open or short)</li> <li>IPDM E/R</li> <li>Battery</li> <li>BCM</li> </ul>

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-104, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492050

## 1. CHECK STARTER RELAY OUTPUT SIGNAL

Check voltage between BCM harness connector and ground.

	+) onnector	(–)	Condition  Ignition switch Brake pedal Selector lever		Voltage (V) (Approx.)	
Connector	Terminal				Selector lever	( 44)
-					P or N	Battery voltage
M71	97	Ground	ON	Depressed	Other than above	0

#### Is the inspection result normal?

YES >> GO TO 3.

>> GO TO 2. NO

# 2.check starter relay output signal circuit

- Turn ignition switch OFF.
- Disconnect BCM connector M71.
- Disconnect IPDM E/R connector E13.
- Check continuity between BCM harness connector and IPDM E/R harness connector.

## **B210E STARTER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

В	ВСМ		IPDM E/R	
Connector	Terminal	Connector Terminal		Continuity
M71	97	E13	30	Existed

Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector Terminal		Ground	Continuity
M71	97		Not existed

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> Repair or replace harness.

# 3.CHECK STARTER RELAY CIRCUIT

Turn ignition switch OFF.

2. Disconnect IPDM E/R connector E10.

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

(+) IPDM E/R		(-)	Voltage (V) (Approx.)	
Connector	Terminal		\ 11 · 7	
E10	4	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Check harness for open or short between IPDM E/R and battery. Refer to PCS-27, "Wiring Diagram — IPDM E/R —".

# 4. REPLACE BCM

- Replace BCM. Refer to BCS-5, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Special Repair Requirement" and BCS-81, "Removal and Installation".
- 2. Perform DTC CONFIRMATION PROCEDIURE. Refer to <a href="SEC-104">SEC-104</a>, "DTC Logic".

#### Is the inspection result normal?

>> INSPECTION END YES

NO >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

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# B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

Description INFOID:000000005492051

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

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

DTC Logic (INFOID:000000005492052

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B210F is displayed with DTC B2603, first perform the trouble diagnosis for DTC B2603. Refer to <u>SEC-60, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTER LOCK/PNP SW ON	There is a difference between input from transmission range switch and shift position signal from BCM.	Harness or connectors     (Transmission range switch circuit is open or shorted)     Transmission range switch     IPDM E/R     BCM

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to SEC-106, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005492053

# 1. CHECK IPDM E/R INPUT SIGNAL

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

	(+) M E/R (–)		Condition		Condition		Voltage (V) (Approx.)
Connector	Terminal				(11 - 7		
E15	47	Ground	Selector lever N or P position		Battery voltage		
LIS	77	Ground	Selector level	Other than above	0		

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK IPDM E/R SIGNAL CIRCUIT SHORT

- Disconnect transmission range switch connector.
- Check continuity between IPDM E/R harness connector and ground.

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

## < DTC/CIRCUIT DIAGNOSIS >

(+) IPDM E/R		(-)	Voltage (V) (Approx.)	
Connector	Connector Terminal		,	
E15	47	Ground	0	

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Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> Repair or replace harness.

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## **B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

Description INFOID:000000005492054

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

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

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2110	INTER LOCK/PNP SW	There is a difference between input from transmission range switch and shift position signal from BCM.	Harness or connectors     (Transmission range switch circuit is open or shorted)     Transmission range switch     IPDM E/R	

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn the ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Go to <u>SEC-108</u>, "Diagnosis Procedure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005492056

# 1. CHECK IPDM E/R INPUT SIGNAL

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

(+) IPDM E/R		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(, (pp.o)
E15	47	Ground	Selector lever	P or N position	Battery voltage
				Other than above	0

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

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

# B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH [WITH INTELLIGENT KEY SYSTEM]

#### < DTC/CIRCUIT DIAGNOSIS >

Transmission range switch		IPDI	M E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
F21	2	E15	59	Existed

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

Transmission range switch			Continuity
Connector	Terminal	Ground	Continuity
F21	2		Not existed

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

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

(+) Transmission range switch		(-)	Voltage (V) (Approx.)
Connector	Terminal		(11 /
F21	1	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.
- 3. Check continuity between transmission range switch harness connector and IPDM E/R harness connector

Transmission	Transmission range switch		M E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
F21	1	E15	59	Existed

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

Transmission	Transmission range switch		Continuity
Connector	Terminal	Ground	Continuity
F21	1		Not existed

**SEC-109** 

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".

NO >> Repair or replace harness.

### **5.**CHECK TRANSMISSION RANGE SWTICH

#### Refer to SEC-110, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace transaxle assembly. Refer to <u>TM-230, "Exploded View"</u>.

#### 6. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

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## **B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

#### >> INSPECTION END

## Component Inspection

INFOID:0000000005492057

# 1.CHECK TRANSMISSION RANGE SWITCH

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

Transmission range switch		Condition	Continuity
Terminal		Condition	
1	2	P or N position	Existed
	2	Other than above	Not existed

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace transaxle assembly. Refer to TM-230, "Exploded View".

#### **POWER SUPPLY AND GROUND CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

# POWER SUPPLY AND GROUND CIRCUIT

**BCM** 

BCM : Diagnosis Procedure

INFOID:0000000005492058

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### 1. CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.
Battery power supply	G
Battery power Supply	8

#### Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown

NO >> GO TO 2.

## 2. CHECK POWER SUPPLY CIRCUIT

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

(	+)	(-)	Voltage
BCM			(Approx.)
Connector	Terminal Ground		
M70	70		Battery voltage
WI7 O	57		Battery Voltage

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

## 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

ВСМ			Continuity
Connector Terminal		Ground	Continuity
M70	67		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure

## 1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible links are not blown.

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Revision: 2009 October SEC-111 2010 Z12

#### **POWER SUPPLY AND GROUND CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

Signal name	Fuses and fusible link No.
Battery power supply	С
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#### Is the fuse fusing?

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

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

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

Terminals			
(+)		( )	Voltage (Approx.)
IPDM E/R		(-)	
Connector	Terminal		
E9	1	Ground	
L9	2	Ground	Battery voltage
E10	8		

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

## 3. CHECK GROUND CIRCUIT

Check continuity between IPDM E/R harness connectors and the ground.

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E11	9		Existed
E12	19		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

#### SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

#### SECURITY INDICATOR LAMP

Description INFOID:0000000005492060

- Security indicator lamp is located on combination meter.
- NVIS (Nissan Vehicle Immobilizer System) and vehicle security system conditions are indicated by blink or illumination of security indicator lamp.

## Component Function Check

## 1. CHECK FUNCTION

- Perform "THEFT IND" in the "ACTIVE TEST" mode using CONSULT-III.
- Check security indicator lamp operation.

Test	item	Desc	ription
THEFT IND	ON	Security indicator lamp	Illuminates
INEFI IND	OFF	Security indicator lamp	Does not illuminate

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Go to SEC-113, "Diagnosis Procedure".

## Diagnosis Procedure

1. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect combination meter connector.
- Check voltage between combination meter harness connector and ground.

( Combina	(+) Combination meter		Voltage (V) (Approx.)	
Connector	Terminal		(11 - 7	
M34	27	Ground	Battery voltage	

#### Is the inspection result normal?

>> GO TO 2. YES

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

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

## 2.CHECK SECURITY INDICATOR LAMP SIGNAL

- Connect combination meter connector.
- Disconnect BCM connector.
- Check voltage between BCM harness connector and ground.

(+) BCM			Voltage (V) (Approx.)	
		(–)		
Connector	Terminal		(11 - /	
M68	23	Ground	Battery voltage	

#### Is the inspection result normal?

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

NO >> GO TO 3.

## 3.CHECK SECURITY INDICATOR LAMP CIRCUIT

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

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#### **SECURITY INDICATOR LAMP**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

Combina	Combination meter		ВСМ	
Connector	Terminal	Connector Terminal		Continuity
M34	18	M68	23	Existed

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

Combina	Combination meter		Continuity
Connector	Terminal	Ground	Continuity
M34	18		Not existed

#### Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-97, "Removal and Installation".

NO >> Repair or replace harness.

#### [WITH INTELLIGENT KEY SYSTEM]

### HORN FUNCTION

Description INFOID:0000000005492063

Perform answer-back for each operation with horn.

## Component Function Check

## 1. CHECK FUNCTION

- Perform "VEHICLE SECURITY HORN" in the "ACTIVE TEST" mode using CONSULT-III.
- Check the horn operation.

Test item		Description	
VEHICLE SECURITY HORN	ON	Horn	Sounds (for 20 ms)

#### Is the operation normal?

YES >> Horn function is OK.

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

### Diagnosis Procedure

## 1. CHECK HORN FUNCTION

Check horn function with horn switch.

#### Do the horn sound?

YES >> GO TO 2.

>> Refer to HRN-2, "Wiring Diagram - HORN -". NO

## 2.CHECK IPDM E/R POWER SUPPLY

- 1. Disconnect IPDM E/R connector.
- Check voltage between IPDM E/R harness connector and ground.

	(+) IPDM E/R		Voltage (V) (Approx.)
Connector	Terminal		(Арргох.)
E13	34	Ground	Battery voltage

#### Is the inspection result normal?

>> Replace IPDM E/R. Refer to PCS-64, "Removal and Installation". YES

NO >> GO TO 3.

## 3.CHECK IPDM E/R POWER SUPPLY CIRCUIT

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

IPDI	IPDM E/R		Horn relay	
Connector	Terminal	Connector Terminal		Continuity
E13	34	E5	1	Existed

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

IPDN	/I E/R		Continuity
Connector	Terminal	Ground	Continuity
E13	34		Not existed

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness. **SEC** 

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4. CHECK INTERMITTENT INCIDENT

>> INSPECTION END

#### **HEADLAMP FUNCTION**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

HEADL	AMP.	FUN	CTI	ON

Description INFOID:0000000005492066

Headlamp lighting when vehicle security system is alarm phase.

## Component Function Check

# 1.CHECK FUNCTION

- 1. Perform "HEAD LAMP(HI)" in the "ACTIVE TEST" mode using CONSULT-III.
- 2. Check headlamp operation.

Test	item	Desc	ription
HEAD LAMP (HI)	ON	HEADLAMP (HI)	Lighting
HEAD LAWIP (HI)	OFF	TIENDEAWIF (TII)	Does not lighting

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to <u>SEC-117</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

1. CHECK HEADLAMP FUNCTION

Refer to EXL-47, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2. CHECK INTERMITTENT INCIDENT

>> INSPECTION END

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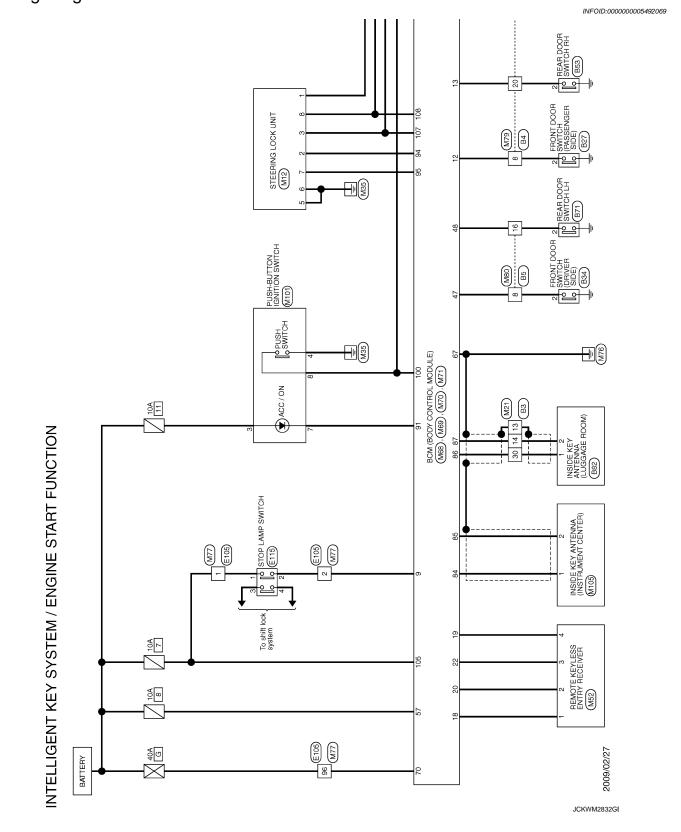
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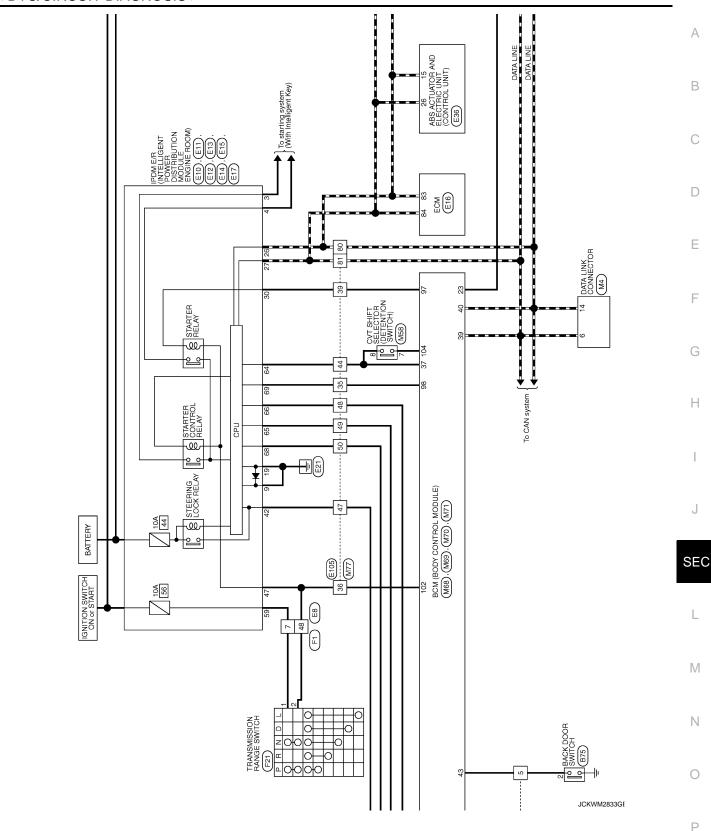
## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

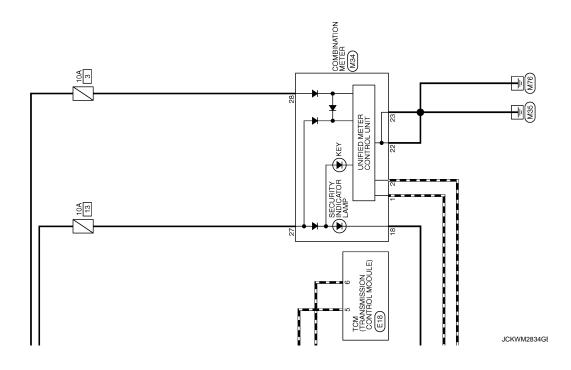
Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -



# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION T DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >





## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION [WITH INTELLIGENT KEY SYSTEM]

### < DTC/CIRCUIT DIAGNOSIS >

INTELLIGENT KEY SYSTEM / ENGINE START FUNCTION

B53 REAR DOOR SWITCH RH			Signa	R DOOR 3	re Signal Name [Specification]	A03FW A03FW Signal Name [Specification]	
Connector No. B53	Connector Type	₽. H.S.	Terminal Color No. of Wire 2 LG	Connector No. 871 Connector Name REA Connector Type A03	Terminal Color Nu. of Wire 2 W	Connector Name Commettor Type  Terminal Color No. of Wire  1 L 2 W	
			ER SIDE)		fication]	fration	
1 1		1 1 1 1	B27 FRONT DOOR SWTCH (PASSENGER SIDE) A03FW		Signal Name [Specification]  B34 FRONT DOOR SWITCH (DRIVER SIDE) A03FW	Signal Name [Specification]	
> > 1	n R	O GR W	9 m		9 8 Sign	of Wire	
9		11 13 11 19	Connector No. Connector Type	H.S.	Connector Na Connector Na Connector Typ	Terminal No. 2	
B4 WIRE TO WIRE	W-NH	1 2 3 4 5 6 7 8 9 10 11 11 12 13 14 5 15 17 14 14 14 14 15 15 17 17 17 17 17 17 17 17 17 17 17 17 17	Signal Name [Specification]	1 1 1 1 1 1 1		85 WIRE TO WIRE THIGMW-NH  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  Signal Name [Specification]	
Connector No. B4 Connector Name WIRE 1	П	HS. 1234	Terminal   Color   No. of Wire   No. of Wi	+++++	12 S. G. R.	Connector No.   B5	
	$\prod$	14 15 16 30 31 32	31     1				
B3 WIRE TO WIRE	TH32MW-NH	7 8 9 10 11 12 13 33 24 25 26 27 28 29	ignal Name				
	П	1 2 3 4 5 6	Color of Wire	SHIELD CA	SHIELD SH	0 2 3 8 8 8 8 6 6 8	
Connector No.	Connector Type	是 H.S.	Terminal No.	<del>1111111</del>	<del></del>	2 2 2 2 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5	

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## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

INTELLIGENT KEY SYSTEM / ENGINE	START FUNCTION		
	26 B – 27 GR –	Connector No. E11	Terminal Golor Signal Name [Specification]
	H	Connector Name ENGINE ROOM)	24 LG -
Connector Type RK02FL	29 V –	Connector Type M06FB-LC	25 Y –
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	>>>	t	Connector Name Engine ROOM)
7/1 2	╀		Connector Type NetoEBD_Ce
		-	1902 1912 1917 03
Connector No	3 0		Œ
Τ	r	- N +	A STORY
Connector Name WIRE TO WIRE	\$ (	I	
т	+	Connector Name FAR (INTELLIGENT POWER DISTRIBUTION MODULE FINANCE FINANCE FORM)	
Connector Type SAA35MB-RSTU-SUZZ	- BK	Т	46 45 44 43 42 41 40
q.		Connector Type NS08FBK-CS	
UMN 123456789	ſ	₫.	
101112131415161718	Connector No. E10	子	ŀ
19 20 21 22 23 24	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE PROME BOOM)		Terminal Color Signal Name [Specification]
3	т	17 🗀	ot Wire
31/32/33/34/36/36/37/38/39	Connector Type M06FW-LC	22 21 20 19 18	> :
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	生力		9
Terminal Color Signal Name [Specification]		ı,	_
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2 LG -	8 7 6	X	42 W –
3 У		19 B/W –	43 G –
4 W –		21 W -	44 P –
-	lal	22 V –	45 Y –
- 8S 8	No. of Wire		- 0 94
- 7 6	3 BR –		
- v 01	4 SB -	Connector No. E13	
	PT -	PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE	
12 BR –	9		
	- X L	Connector Type TH12FW-NH	
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# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION T DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

	10 R –		7	13 SB –	14 P	$\dashv$	18 BR –	19 R –	20 SB -	21	┨		Connector No. E36	Connector Name ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)	T	Connector Type BAA22FB-AHZ4-RH	ą.	A STATE OF THE PROPERTY OF THE		5 17 18 19 20 21 25		]		la I	No. of Wire		>		B 8	>-	*	8 0		κ (-	ב ב	¥5 "	Ŧ	NO.	2 2	> 8	SB	w	21 P VDC OFF SW	25 R CAN-H	Г							
NOTION	BNCSW	AVCC-APS2	APS2	GNDA-APS2	VBR	AVCC-APS1	GND	APS1	GNDA-APS1		E17	JPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE	ENGINE ROOM)	TH10FB-NH			<u></u>	R7 R6 R5 R4 R3	5 2	99 69 07 17 77		91110	olgriai ivame Lopecinication	1	1	1	1	1			E18	TCM (TRANSMISSION CONTROL MODULE)	H7704015	I N24FW				o 4	10 11 12 13 14 15 18	19 20 21	<u>.</u>		[aciteoficeof] smeN lensis	7.0000000000000000000000000000000000000	1	1	1	1	1			
START FUNCTION	Ĥ	_	4	_	105 G	4	108 B	110 BR	Т111		Connector No.	Connector Name	Colliector Ivallie	Connector Type	á	季	S					Terminal Color	No. of Wire	64 R	65 Y	+	_	¥ 69			Connector No.	Connector Name	Contractor Time	connector 1 ype	Œ	至	SH		<u>=</u>	<u>I</u>	<u>1</u> ]		lal	No. of Wire	- -	2 LG	3 BR	H	╀	9 0		
INTELLIGENT KEY SYSTEM / ENGINE	E15	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE	ENGINE HOUM)	NS16FW-CS				53 52 51 50 0 49 48 47	62 61 60 50 58 57 56 55 51	100000000000000000000000000000000000000		Simal Nama [Spacification]	ognal Name Lopechication	1	ı	-	1			1	ı	- [With CVT]	- [With M/T]	1	-	1	1			E16	ECM	- 000	KINZ4FB-KZ0-L-KIN			11 93 105 109	94 102	83   95 99 103 107 111	84 88 100 104 108 112			Signal Name [Specification]		CAN-L	CAN-H	K LINE	IGNSW	ASCDSW	GNDA-ASCDSW	WSGSA-ASIG	DRANE	
ELLIGE	Connector No.	Connector Name	П	Connector Type					<u> </u>	劃		⊢	of Wire	BR	×	GR	۵ ا	- E	5 0	- 67	g	œ	¥	<b>&gt;</b>	>	Μ	7		ſ	Connector No.	Connector Name	Т	٦.	•	9	ri.				IJ	L		of Wire	۵	٦	ΓC	7	SB	╀	+	-	
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## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

INTE	LLIGE	INTELLIGENT KEY SYSTEM / ENGINE		RT F	START FUNCTION					
Connector No.		E105	70	SHIELD	07	Connector No.	o. F1		46 GR –	
Connector Name		WIRE TO WIRE	71	GR		Connector Name	ame WIRE TO WIRE		<b>*</b>	Π
			72	LG					48 BR –	_
Connector Type		TH80MW-CS16-TM4	73	Ф	-	Connector Type	ype SAA36FB-RS10-SJZ2			
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修			76	>	-	手	108288843911		Connector No. F21	
Ē		9 12 12 12 12 12 12 12 12 12 12 12 12 12	77	LG		Š	181716151413121110		Gonnector Name TRANSMISSION BANGE SWITCH	
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		12 20 20 20 20 20 20 20 20 20 20 20 20 20	79	ŋ	_		25 30 29 28 27 26 1	19	Connector Type RK08FG	_
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		20 20 20 20 20 20 20 20 20 20 20 20 20 2	8	-	1		48 47 46 45 44 43 42 41 40	<u></u>	<b>人</b>	
			82	≥	-					
Terminal	Color	Simal Name [Specification]	83	BR		Ja	Color Simal Name [Specification]	oification	1	
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35	Υ	1				17	- Н			
36	BR	1	Conne	Connector Name	6 SIOP LAMP SWILCH	18	BR -		Connector No. M4	Г
39	SB	1	Connec	Connector Type	M04FW-LC	21	5		COTTONIA NAME OF THE PARTY OF T	Π
44	œ	П	ſ			23	M		Connector Name DATA LINA CONNECTOR	
45	>	1	1	_		24	~		Connector Type BD16FW	Γ
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48	7	ı			7	27				
49	<b>\</b>	П			1 2	28	^		19 11 11	
20	М	1				59	^			
51	BR	- [With CVT]				30	BR -		1456/8	
19	8	- [With M/T]	Terminal		lu de la companya de	31				
23	SB	П	Š	of Wire		┞	BR -			
54	×	- [With CVT]	-	>	1	33	M		Terminal Color	Г
54	0	- [With M/T]	2	>	1	34			of Wire	
23	57	1	ო	0		35	^		4 B	Г
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67	GR	- [With CVT]				42	5		~	Г
67	>	- [With M/T]				43			1	1
69	۵					44				

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## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

			N		А
	No. M88  Name BOM (BODY CONTROL MODULE)  Type TH40FB-NH  T12 3 4 5 6 7 1 8 9 00 11 6 18 14 6 5 17 18 18 18 18 18 18 18 18 18 18 18 18 18	Signal Name (Specification)  COMBL SW INPUT 5  COMBL SW INPUT 3  COMBL SW INPUT 2  COMBL SW INPUT 2  COMBL SW INPUT 2  COMBL SW INPUT 2  COMBL SW INPUT 3  MCO F SW AGO F SW AGO F SW REAR PH DOOR SW REAR PH DOOR SW	OPTICAL SENSOR  REAR WINDOW DEFOGGER SW OPTICAL SENSOR POWER SUPPLY RECEIVER Y SENSOR GND LESS ENTRY RECEIVER POWER SUPPLY KE'LESS ENTRY RECEIVER COMM NATS ANTENNA AMP KE'LESS ENTRY RECEIVER RESI SECURITY INDICATOR RAND	DOMGLE LINK NATS ANTENNA AMP. A.C. SW A.C. SW BLOWER FAN SW HAZARD SW DR DOOR HULLO'S ESTRICOR COMBI SW OUTPUT 5 COMBI SW OUTPUT 1	В
	Ocumettr No. M88 Connector Name BOM Connector TH44 H.S. H.S.	Terminal   Color	L/B   W/L   W/L   W/L   W/C   W/C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C
	R GROUND SUPPLY AND AND SIGNAL ARNING SIGNAL SCOUNTE SIGNAL IGNAL	Receiver freation]		freation	Е
	FUEL LEVEL STROS GROUND  VOC GROUND  BATTERY POWER SUPPLY GANTON STRONL  PASSENGER SEAT BELT WARNING SIGNAL AND AND OWNE CONDANT TEMPERATURE SIGNAL ALTERNATOR SIGNAL  MAZZ	REMOTE KEYLESS ENTRY RECEIVER JABOAFB  T 2 3 4  Signal Name [Specification] SIGNAL SIGNAL	IFT SELEC	Signal Name (Specification)	F
	<del></del>	or Type Color of Wire	3 W/G  4 BR  Connector No. M58  Connector Name CVT SHI  Connector Type TK08FW	Color   O Wire   O	G
ļ	24 25 27 27 27 28 31 31 31 38 38 38 38 38 38 38 38 38 38 38 38 38	Connect Connect I S. I S	Conne	Terminal 1	Н
				VEHICLE SPEED SIGNAL (S-PULSE) FUEL LEVEL SERISOR SIGNAL AIR BAG SIGNAL OVERDRIVE CONTROL SIGNAL EAT BELL EVELE SWITCH SIGNAL ILLUMINATION CONTROL SIGNAL ACC POWITROL	I
FUNCTION		M34 COMBINATION METER TH466FW-NH		VEHIOLE SY VEHIOLE SY A OVERDRAVE DEAT BUCK BRAKE FLUI ILLUMINNY ILLUMINNY AMBIEN AMBIEN AMBIEN	J
START FUN	16 SB 11 LG 18 SHELD 18 SHELD 19 BR 19 BR 19 SHELD 19 BR 19 BR 19 SHELD 19	P P LG LG C No.	Terminal Color No. of Wire 2		SE
ENGINE					L
INTELLIGENT KEY SYSTEM / EI	00K UNIT	Signal Name (Specification) S./L12V (MECHANICAL) S./L12V (MECHANICAL) S./L12V (GPU) S./L12V (GPU) S./L12V (GPU) S./LCONDITION 2 WIRE	10 9 8 7 6 5 4 3 2 28 25 12 12 19 19 18	Signal Name [Specification]	M
ENT KEY	STEEPING LOCK UNIT	M21 WIRE TO	2 11 2 11 2 11 2 11 2 11 2 11 2 11 2 1		Ν
TELLIGI	Connector No. Connector Type	Terminal   Color	S	Color   Colo	0
Z	Conn	N N O O O O O O O O O O O O O O O O O O	<u>Gorn</u>	JCKWM3599G£	,

**SEC-125** 2010 Z12 Revision: 2009 October

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION T DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

#### < DTC/CIRCUIT DIAGNOSIS >

Connector No.   M89	Connector Connector Connector Terminal	M71   BCM (BODY CONTROL MODULE)   TH40FW-NH	nal ctor ctor	Vame WRE TO WRE  I'ype   TH80FW-CS16-TM4	2	R W/G W/G W/G W/G W/G W/G W/G W/G	
RI READER BCM (80 FEAG9FB BCM		BLANGER PROBLEM PROBLI	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>				
Color   Signal Name [Specification]	997 L/R 99 W/R 99 W/R 100 L/O 102 C 104 Y/R 105 B/O 106 P/L 107 L/W 108 P/L 110 BR/W	STARTER RELAY CONT  IGN RELAY (IPDM E/R) CONT  IGN RELAY CONT  TOTAL SW  SHIFT NP  CVT SHIFT SELECTOR POWER SUPPLY  S/L CONDITION 1  S/L CONDITION 2  ITRE PRESS POWER SUPPLY  TIRE PRESS POWER SUPPLY	80 50 51 53 54 60 60 60 60 60 60 60 70 70 87	P./L   P./L			

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# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

[WITH INTELLIGENT KEY SYSTEM] < DTC/CIRCUIT DIAGNOSIS >

START FUNCTION	Connector Name PUSH-BUTTON IGNITION SWITCH Connector Type TK08FBR  TK08FBR  TK08FBR	Terminal   Color   Signal Name   Specification   Color   Signal Name   Specification   Speci		Terminal   Color   Signal Name [Specification]
INTELLIGENT KEY SYSTEM / ENGINE Connector No. M/9 Connector Name WIRE TO WIRE Connector Type TH24FW-NH  T2 11110 9 8 7 6 5 4 3 2 1  24 23 22 21 20 19 18 17 16 15 14 13	le i	7 KRB	22 L	Terminal Color   Col

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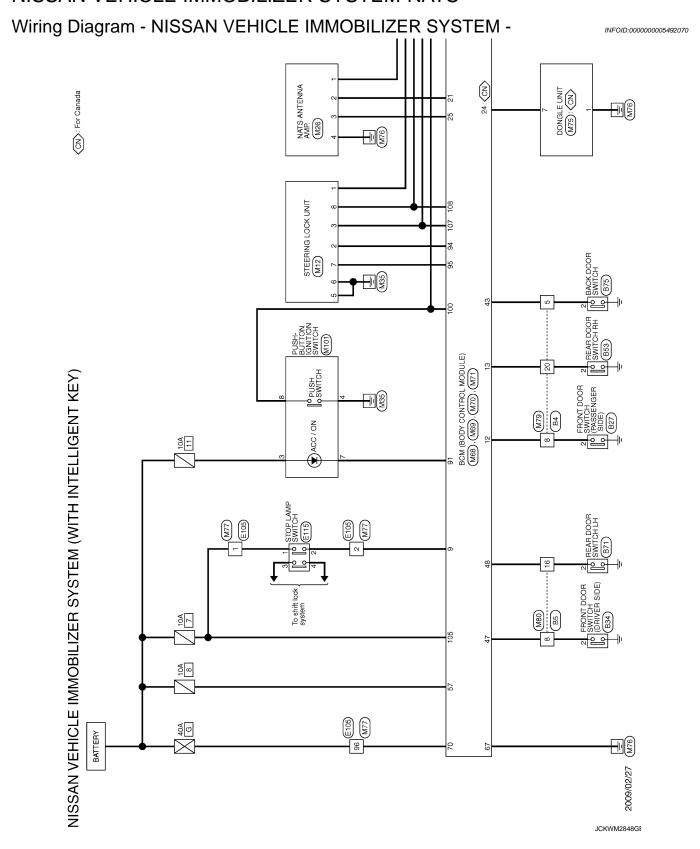
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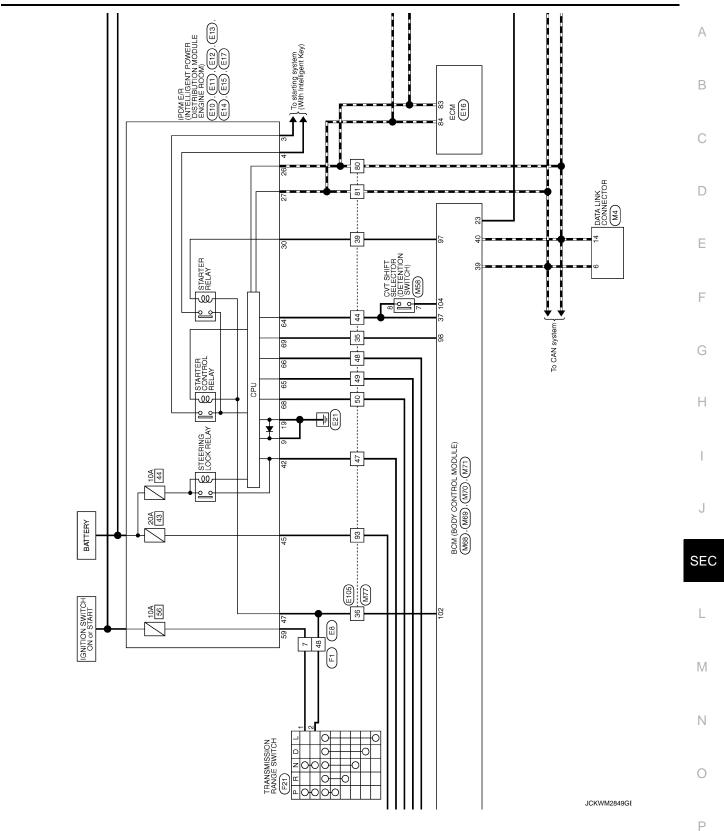
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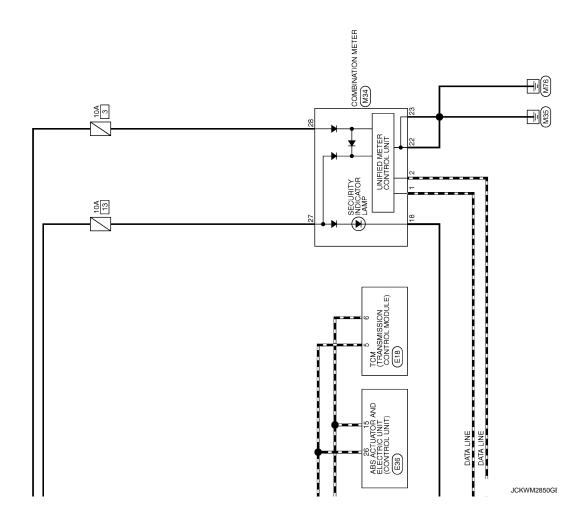
**SEC-127** Revision: 2009 October 2010 Z12



< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]





Connector No BES	Эе	Connector Type A03FW				Terminal Color Signal Name [Specification]	П		Connector No. 1871	T,	т	Connector Type Aust-W				2		]	lai	re	2 W =			Connector Name BACK DOOR SWITCH	Connector Type A03FW	<b>E</b>	<u> </u>	lal Color	of Wire		
NISSAN VEHICLE IMMOBILIZER SYSTEM (WITH INTELLIGENT KEY)	$^{+}$	2 &	11 0	. *	$\Box$	Connector Name FRONT DOOR SWITCH (PASSENGER SIDE) Connector Type A03FW	ı	E	HS.	C	7		Terminal Color	No. of Wire Ognal Name Lopecinication	2 SB -		Connector No.   B34	(adia dayida) Hotima dood tinoda		Connector Type A03FW		E STATE OF THE STA	3. I	N		Terminal Color Signal Name [Specification]					
VEHICLE IMMOBILIZER SYS		TH24MW-NH		1 2 3 4 5 6 7 8 9 10 11 12	147167177170781101171101161141	r Signal Name [Specification]	-				1		1	1	-			1	_	-	1			B5	WIRE TO WIRE	TH16MW-NH		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	r Signal Name [Specification]		
NISSAN \	Connector Name	Connector Type TH24MW-NH	售	Z Z	<u> </u>	Terminal Color No. of Wire	. W	Н	ε 4 Ο α	H	M 9	- «	+	Н	+	+	17 GR	18 L	19 Y	20 LG	+	23 BR	-	Connector No.	Connector Name	Connector Type	修		Terminal Color	1 v oi with	

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Revision: 2009 October SEC-131 2010 Z12

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS (GNOSIS > [WITH INTELLIGENT KEY SYSTEM]

NISS	AN VE	EHICLE IMMOBILIZER SYS	NISSAN VEHICLE IMMOBILIZER SYSTEM (WITH INTELLIGENT KEY)		
Connecto	Connector No.	E8 WIRE TO WIRE	44 R 46 W	Connector No. E12 Connector Name Pow Er Untelligent Power DISTRBUTION MODULE	Connector No. E14 Connector Name POW EY BYTELLOENT POWER DISTRBUTION MODULE
Connector Type	П	SAA36MB-RS10-SJZ2	47 G – 48 BR – 48 BR – 48 BR – 48 BR – 48 – 48 BR – 48 – 48 – 48 – 48 – 48 – 48 – 48 – 4	- 1 - 1	
匮		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Connector No. E10	<b>E</b>	偃
	_	19 20 21 22 23 24 25 25 25 25 25 25 25 25 25 25 25 25 25	Connector Name Prote a instruction Protein control account programment protein connector Type MUGFW-LC	17   16   15   22   21   20   19   18	39 38 <b>- 37</b> 36 35 46 45 44 43 42 41 40
Terminal No.	Color of Wire	Signal Name [Specification]	S.	Terminal Color Signal Name [Specification]	Terminal Color Signal Name [Specification]
-		ī	4	т	Ħ
2	p,	-	8 7 6		H
n 4	- ≥			21 W	38 < 2
_	: <b>&gt;</b> -	1	<u></u>	$\cdot$	-
80	SB	1	of Wire		H
6	٦	1	3 BR –	Connector No. E13	42 W –
9	> 1	1	+	Connector Name PROMETRICENT POWER DISTRIBUTION MODULE	+
= 5	a 8	1 1	- FG		44 P
13 12	<u> </u>		95 >	7	
5 4	3 >	1			1
15	SB	1			
16	٦	1			
17	Α	ı	Connector No. E11	2/ 26 25 24	
18	0	1	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE	34 33 32 31 30 29	
21	5 E	1	т		
23	88 ::	1	Connector Type M06FB-LC	L	
24	≥ 6	1	Œ.	Terminal Color Signal Name [Specification]	
26	<u> 6</u> a	1		T	
27	GR	1	0.01	H	
28	Ь	-	0	26 P –	
29	>	1	14 13 12	1	
30	5 C	1 1		28 P	
5	,			+	
33	3		Signal Name [Specification]	33 >	
34 8	: >-	1	t	) ac	
35	>	1	H	$\mathbf{I}$	
36	Ь	1	13 W –		
37	ΓG	1			
39	SB	1			
40	S.	1			
14	0 ;				
45	> (	1			
£4 £4	2 س	= [With CVT] = [With M/T]			
2	2	_ [with w/ 1]			

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	-	1	-	1	1	1	1	1	1	1	1			E30	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)	BAA22FB-AHZ4-RH				6 17 18 19 20 21   2	1		-	Signal Name [Specification]	GND (MIB)	BAT (MTR)	BAT (SOL)	GND (SOL)	DS FL	DP RL	DP RR	DP FR	DS FR	K LINE	CAN-L	CAN-L	DP FL	DS RL	IGN	DS RR	STOP LAMP SW	VDC OFF SW	CAN-H	CAN-H					
	۳	*	_	SS	3 0	. >	8	۵	SB	>	GR			OL ING.	Connector Name	or Type			Į	-			ı.	Color	a a	>	٦	В	<b>&gt;</b>	×	0	٦	œ	LG	gR	۵.	땲	g	>	SB	Α	۵	۵	_					
	10	11	12	13	14	- 2	18	19	20	21	22			Corniector INC.	Connect	Connector Type	ą	手	/H.S.					Terminal	NO.	. 2	3	4	2	9	8	6	10	Ξ	14	12	91	17	18	19	20	21	52	56					
NISSAN VEHICLE IMMOBILIZER SYSTĘM (WITH INTELLIGENT KEY)	SB	L	9	NS a		) A		BB	N9			Connector No. E17	Connector Name FARINTELLIGENT POWER DISTRIBUTION MODULE	Connector Type TH10FB-NH	1			62 66 65 64 65	9 8			la l	of Wire	α;	- 60	- M 89	_			Connector No. E18	Connector Name TCM (TRANSMISSION CONTROL MODULE)	T	Connector Type TK24FW	Q	在方		1 2 3 4 5 6	10 11 12 13 14 15	2 [	13 20 21		a	No. of Wire	- -	$\dashv$	3 BR -		- I 9	-
'EHICLE IMMOBILIZER S'	E15	IPDM E/R CINTELLIGENT POWER DISTRIBUTION MODULE	ENGINE ROOM)	NS16FW-CS				50 E0 E1 E0 F	00 +0	62 61 60 59 58 57 56 55 54			Signal Name [Specification]			r	ı	1	1 1	,	ı	- [With CVT]	− [With M/T]	1	1 1	ı			E16	ECM		RH24FB-RZ8-L-RH			11 93 105 109	94 102 106 110	83 95 99 103 107 111	88 100 104	201 101 101		Signal Name [Specification]		CAN-L	CAN-H	K LINE	IGNSW	ASCDSW	GNDA-ASCDSW	BDANE
AN V	ır No.		Connector Name	Connector Type					<i>)</i> [	ע	J		Color	a de	>	GR	œ	۵	¥ 0	. G	ŋ	œ	>	> 3	> 3	-			ır No.	Connector Name		Connector Type							-		Color	of Wire	۵	_	S	٦	SB	BR	,
<b>JISS</b>	Connector No.		onnecto	onnecto		\ @		į.					Ferminal N.	47	49	50	51	25	34 24	3 12	57	58	58	59	61	62			Connector No.	nnecto		onnecto	4	手	HS	1					[erminal	S	83	84	88	93	94	92	00

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[WITH INTELLIGENT KEY SYSTEM]

46 GR	Connector No. F21 Connector Name TRANSMISSION RANGE SWITCH Connector Type RK08FG	(8 3 7 5) (1 6 4 2 2)	Terminal Color Signal Name [Specification]	1 V L	$\mathbb{H}$	Н		Connector Name BATA LINK CONNECTOR  Connector Type BDISFW	HS.	Terminal   Color   Signal Name [Specification]   No. of Wire   Signal Name [Specification]
Gonnector No. F1 Connector Name WIRE TO WIRE Connector Type SAA36FB-RS10-SJZ2	(18) (18) (18) (18) (18) (18) (18) (18)	Terminal   Color   Signal Name [Specification]   No. of Virte   Signal Name [Specification]   1   Signal Name [Specification]   2   Color		8 8 G I I I I I I I I I I I I I I I I I	11 Y	+++	- BR	> ≥ ∝ ∝ m	287 SB	N
MIT STATE	76 Y	++++	+++	95 V	H		<u>0</u> n		Terminal Color Signal Name [Specification]	<del>                                     </del>
NISSAN VEHICLE IMMOBILIZER SYS Connector No. E105 Connector Name WIRE TO WIRE Connector Type   TH80MW-CS16-TM4	* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Terminal Color   Signal Name [Specification]   No. of Vive   Signal Name [Specification]   No. of Vive   Color   Col	+++	2 × 3 × 3	₩	R GR	- > BR	3 ∝ > σ ≫	48 L	<del>                                     </del>

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< DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

OPTICAL SENSOR POWER SUPPLY RECEIVER / SENSOR OND KEVLESS ENTRY RECEIVER POWER SUPPLY KEYLESS ENTRY RECEIVER COMM NATS ANTENNA AND KEYLESS ENTRY RECEIVER COMM NATS ANTENNA AND KEYLESS ENTRY RECEIVER ROSI SECURITY INDIGATOR LAMP DONOLE LINK NATS ANTENNA AND HAZZARD SW DR DOOR INALOCK SENSOR COMBI SW OUTPUT 5 COMBI SW OUTPUT 4	COMBI SW OUTPUT 3   COMBI SW OUTPUT 2   COMBI SW OUTPUT 1   COMB	REAR WIPER STOR POSITION CENTRAL DOOR LOUK SW CENTRAL DOOR SW REAR LH DOOR SW REAR LH DOOR SW REAR WIPER OUTPUT REAR DOOR UNLOCK OUTPUT  REAR DOOR UNLOCK OUTPUT  REAR DOOR UNLOCK OUTPUT  REAR DOOR UNLOCK OUTPUT  REAR DOOR UNLOCK OUTPUT  REAR DOOR UNLOCK OUTPUT  REAR DOOR UNLOCK OUTPUT
17   RVG   OPTICAL   18   V   NEGE   SW   SW   SW   SW   SW   SW   SW   S	34   W   COMBISWOUTP   35   R/L   COMBISWOUTP   36   L/O   COMBISWOUTP   38   C   C   C   C   C   C   C   C   C	0 GR BR W GR W G GR G
T SELECTOR  4 3 2 7  Signal Name [Specification]	DY CONTROL MODULE)  NH  B g on 11 23 31 44 55 67 75 85 94 85 85 75 85 94 85 85 75 85 94 85 85 75 85 94 85 85 75 85 94 85 85 75 85 94 85 85 75 85 94 85 85 75 85 94 85 85 75 85 94 85 85 75 85 94 85 95 85 75 85 94 85 85 75 85 94 85 95 85 94 85 95 95 95 94 95 95 95 95 95 95 95 95 95 95 95 95 95	COMBIS SWIND'S COMBIS
Connector No.   MISS	S	
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		ENGINE COOLONIA SIGNAL ALTERATOR SIGNAL
TH INTELL No. M34 COMBINA Type TH40FW- Type TH40FW- Type TH6FW- Type TH70FW- Type T		SEC
_	2	
NISSAN VEHICLE IMMOBILIZER SYS  Permeter No. MI2  Connector Name STEERING LOOK UNIT  Connector Type THOSFW-NH  M.S. 12 1  R 7 6 5  R 7 6 5  R 7 8 7 1199 Manne (Specification)  THOSP MANNE (Specification)  THOSP MANNE (Specification)  THOSP MANNE STATUS (MECHANICAL)	K. LINE	DATA [With GND [Without CAD] [
NISSAN VEHICLE Connector No. M12 Connector Name STEERING L Connector Type THOBEW-NH  Miss Color Sign Terminal Color Sign	2   V/R	
		JCKWM3612GE

**SEC-135** Revision: 2009 October 2010 Z12

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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Connector No. M70	83 B/	'W BACK DOOR ANT-	Connector No.	M77	73	Я	1	
(THIRDW IODEWOO MOOD) MOOD	84 Y/G	BOOM ANT+		TOWN OF TOWN	74	. L/Y	1	
	85 Y/L		Connector Name	WIRE TO WIRE	76	5/M	1	
Connector Type FEA09FB-FHA6-SA	86 P	LUGGAGE ROOM ANT+	Connector Type	TH80FW-CS16-TM4	77	GR/R	1	
	87 L	LUGGAGE ROOM ANT-	    -		78	0	1	
	1/M 06	L PUSH-BUTTON IGNITION SW ILL POWER			79	PC	1	
	H	H	3 =	83 60 83 50 111 81 21 81 81 81 81 81 81 81 81 81 81 81 81 81	8	-	1	
<b>1.3. 1.</b> 56 57 58 59 60 61 62 63 64	92 BR/R	R PUSH-BUTTON IGNITION SW ILL GND	ė Į	97 99 81 82 82 82 82 82 82 82 82 82 82 82 82 82	81	٦	1	
65 67 68 60 70	93 GR/W	W I-KEY WARN BUZZER		2 2 2 8 2 8 2 8 2 8 2 8 2 8	82	GR	-	
	94 Y/R	S/L UNIT COMM		1 01 01 01 01 01 01 01 01 01 01 01 01 01	83	G/R	-	
	95 W/G	3 S/L UNIT POWER SUPPLY		81 W 82 83 83 83 83 83 83 83 83 83 83 83 83 83	84	B .	-	
	D 96				87	5	_	
	97 L/R	R STARTER RELAY CONT	Terminal Color		91	œ	1	
No. of Wire Signal Name [Specification]	98 BR	IGN RELAY (IPDM E/R) CONT	No. of Wire	oignal Name [opecinication]	92	0	1	
56 L INTERIOR ROOM LAMP POWER SUPPLY	99 W/R	R IGN RELAY CONT	1 B/0	1	93	>	1	
57 Y BAT (FUSE)	100	PUSH SW	2 R	1	94	R/B	1	
J	102 G		3 G/R	1	92	H	1	
M/B	ľ	CVT SHIFT SE	H	1	96	H	1	
M/L	H		2	1	97	_	1	
88	╁	BLOWER	9		86	BR/W		
>	╀	S/I CONDITION 1	7 W/R	1	66	t	1	
. I /B	H		W/5	1	1001	F	1	
a	╀	TIDE	t			┨		
<u>-</u>	┨	N.	+					
t			t					
M/1			+					
/0 Y BAI (F/L)	Connector No.	M/5	+	1				
	Connector Name	DONGLE UNIT	7	1				
١		┪	+	1				
Connector No. M71	Connector Type	NS08FBR-CS	7	1				
Connector Name BCM (BODY CONTROL MODULE)	Q		+	1				
П	厚		┪	1				
Connector Type TH40FW-NH	Ţ		44 G/O	-				
ú	113		45 LG/R	-				
B			46 GR/W	-				
			47 BR/Y	-				
			48 L/0	ı				
80 81 82 83 84 85 86 87			49 L/W	1				
91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 101 108 109 110	Terminal Color		20 P/L	1				
	_	Signal Name [Specification]	51 B/W	1				
	- B		53 R/L	1				
Terminal Color	7 GR/R	1	╁	1				
			H	1				
t			+					
W/A			<u> </u> "	1				
<b>1</b> 2			t					
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W			+					
re			7	ı				
>			9 FG	_				
80 BR/Y PASSENGER DOOR ANT+			70 SHIELD	- Q				
- Γ/λ			H	1				
82 W/B BACK DOOR ANT+			72 R/G	-				

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

< DTC/CIRCUIT DIAGNOSIS >

ITELLIGENT KEY)	1 1	1	1	r	1	1		TO IM		PUSH-BUTTON IGNITION SWITCH	TK08FBR				1 9	/ 0			Signal Name [Specification]		1			1	1														
ITH IN	W/L	BR/Y	۲	0 0	W/B	5/M		I	Т	П	П								Color	or wire	۵ ۵	D W/	BR/R	<b>\</b>	0/7														
M (W	5	8	6 ;	= \$	14	16		Connector No		Connector Name	Connector Type	Q.	手	Ś					Terminal	No.	n •	- 4	9	7	8														
>	Connector No. M79 Connector Name MIRE TO MIRE	Т	Connector Type TH24FW-NH				12 11 10 9 8 7 6 5 4 3 2 1	19 10 17 10 13			of Wire	- 9/M		B/8			$\exists$	+	+	G/R	K/G	t	BR/Y	H	- X	GR/L –	+	T//	-	Connector No. M80	Connector Name WIRE TO WIRE	Connector Type TH16FW-NH			8 7 6 5 4 3 2	[16] 15] 14] 13] 12] 11] 10] 9]	nal Color Signal Name [Specification]	Ħ	H
NIS	Conne	Ď.	Conne	QE	手	Ĭ				Terminal	Š	- 0	7 6	4	2	9	7	80	= :	2 5	5 4	5 4	17	18	19	20	22	23	24	Conne	Connec	Conne	Œ	4			Terminal No.	-	7

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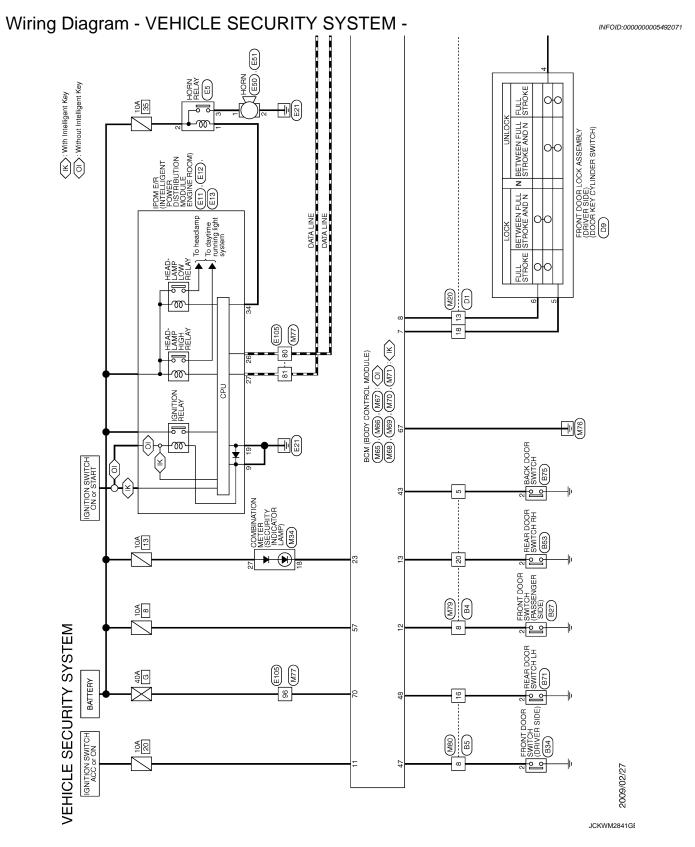
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## VEHICLE SECURITY SYSTEM



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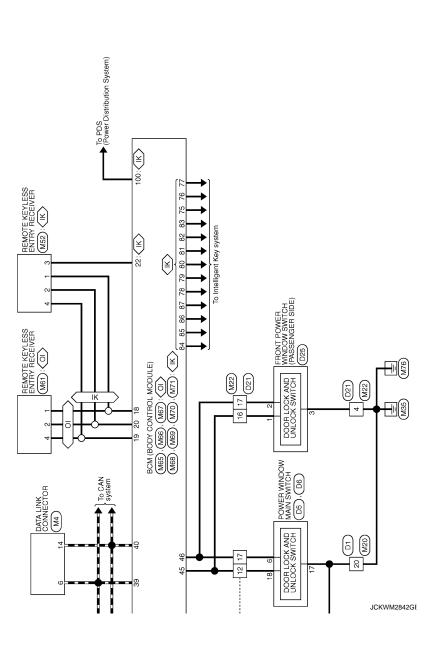
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⟨IK⟩: With Intelligent Key
⟨OI⟩: Without Intelligent Key

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#### **VEHICLE SECURITY SYSTEM**

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Connector No. B4	_	Connector No. B53	Connector No. D1
Connector Name WIRE TO WIRE	M 9	Connector Name REAR DOOR SWITCH RH	Connector Name WIRE TO WIRE
Connector Type TH24MW-NH	Н	Connector Type A03FW	Connector Type NH10FW-CS10
<b>6</b>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
	d.		
_	16 W =		
13 14 15 16 17 18 19 20 21 22 23 24	Γ	5	20 19 13 12 11 10 9 8 7
	CONTRECTOR INC. BZ/		1
Terminal Color Signal Name [Specification]	Т	la	la
of Wire	Connector Type A03FW	No. of Wire	No. of Wire
		3	2 - S
0			
ď		Connector No. B71	LG
× :	2	Connector Name REAR DOOR SWITCH LH	
M 0	Γ	Connector Type A03EW	
	]		+
ł			+
L	No. of Wire Signal Name [Specification]		GR
1	2 SB -	1.3	W
15 R –		<u> </u>	
GR	ſ	7	>
BR	Connector No. B34		۳.
	Connector Name FRONT DOOR SWITCH (DRIVER SIDE)	Toursiant	
20 18	Connector Type A03FW		20 B
7 >	1	t	
23 BR –			
$\dashv$	K		
Connector No. B5	5	Connector Name BACK DOOR SWITCH	
Connector Name WIRE TO WIRE		Connector Type A03FW	
Connector Type TH16MW-NH			
	۰		
F	2 LG –		
1		2	
1 2 3 4 5 6 7 8			
9 10 11 12 13 14 15 16		Terminal Color Signal Name [Specification]	
T			
		2 w	
> 6			
2 GR =			

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### **VEHICLE SECURITY SYSTEM**

< DTC/CIRCUIT DIAGNOSIS >

## [WITH INTELLIGENT KEY SYSTEM]

E11  ModFB-LC  ModFB-LC  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]	A E	
Connector No.   E11   Connector No.   E12   Connector Name   Prove the Character Provent Connector Name   Provent Conne		
	E	Ξ
1   1   2   2   2   2   2   2   2   2	F	
18   V   W   W   W   W   W   W   W   W   W	H	-
Frowt Door Lock AssetMeLy (Drover SIDE)	I	l J
Color Name   Col	SE	EC
Comm	L	_
SECURITY SYSTEM  105  POWER WINDOW MAIN SWITCH  INSTIGNATION  Signal Name [Specification]	N.	
Connector Na   Conn	JCKWM3603GE	)
		$\supset$

**SEC-141** 2010 Z12 Revision: 2009 October

VEHICLE SECURITY SYSTEM	Connector No   Est		88	-	,	Connector No.
	1		2 \$	,		
Connector Name From EVR UNTELLIGENT POWER DISTRIBUTION MODULE FROM FROM (1997)	Connector Name HORN		50 43	- 3	1 1	Connector Name DATA LINK CONNECTOR
Connection Line Titted Mill	Consocial Time		3 2	: 6	Date: O.C.	Connected Line Dodge
add 1 Mag	7		5 [	śα	- [With O'1]	24. 1
4	•		5 5	g	f	€
	ditt		54	3 3	- [With GVT]	
	E.S.		54	. 0	- [With M/T]	191 191
28 27 26 25 24 23	To			9 -	F1 /W 15117	
7 7 7	7		6 6	3 -	1 1	4 5 6 7 8
34 33 32 31 30 29	]		8	,		
			9	٥	1	
	- 1-		19	5	1	ŀ
Terminal Color Signal Name [Specification]	Terminal Color Signal Name [Specification]	ecification	62	*	I	a
of Wire	of Wire		63	_	I	re
24 LG –	2 B/W -		67	æ	- [With CVT]	$\dashv$
25 Y –			67	>	– [With M/T]	5 B -
26 P –			69	۵	_	- T 9
27 L –	Connector No. E105		70	SHIELD	1	7 GR/R –
28 P –	Omerand Name TO WIDE		71	GR	-	- 0 8
30 SB -			72	ΡΠ	-	Ь
31 W -	Connector Type TH80MW-CS16-TM4		73	Д	-	16 LG/R -
33 0			74	>	-	
34 R			9/	Υ	1	
			77	ΓC	1	
		28	78	0	1	
Connector No. E50	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8	79	g	1	
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Connector Name HORN	5 10 BB	u u	8 2	-	1	
Connector Type P01FB-A		7	83	*	1	
7	, olo		70	2	11 11	
₫.	No. No. of Mirror Signal Name [Specification]	ecification]	20 20	ž d	1	
CHI-T			8 E	n 5	1	
[]	> ;		ò	5	İ	
	M :		5	8	1	
•	SB		35	<u>.</u>	I	
	.5		83	>	1	
	- B		94	r	1	
	- R		92	>	ı	
Terminal Color Signal Name [Specification]	7 Y		96	ΓC	ı	
of Wire	- 0 8		6	œ	1	
- ^ I	- M 6		86	SB	1	
	H		66	ŋ	1	
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	32 R					
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	SB					
	4					
	- 45 V					
	- 46 P					
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	l					

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#### **VEHICLE SECURITY SYSTEM**

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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Connector No.   MZD   Connector No.   MZD   Connector No.   MZD    7   R   24   25   BR   PASSENGER SEAT BELT WARRINGS SIGNAL     8   V   2   2   31   R   A.C. ALITO AND CONTROL HIGH SIGNAL     9   CAR   2   38   GR   ENGINE COOLANT TEMPERATURE SIGNAL     10   LG   2   38   GR   A.C. ALITO AND COLANT TEMPERATURE SIGNAL     11   R   2   3   GR   A.C. ALITO AND COLANT TEMPERATURE SIGNAL     12   G   2   4   4   4   4   4     13   GAP   2   4   4   4   4   4     14   GAP   2   4   4   4   4     15   GR   2   4   4   4   4     16   GAP   2   4   4   4     17   GAP   3   4   4   4     18   CAP   CAP   CAP   CAP   CAP   CAP   CAP   CAP     19   GAP   CAP   CAP   CAP   CAP   CAP   CAP   CAP   CAP     10   GAP   CAP   CAP   CAP   CAP   CAP   CAP   CAP   CAP     11   GAP   CAP   CAP	1		
MAZO   WIRE TO WIRE   Signa    0 0 1 1 1 1 1 1 2 1 3 1 9 2 0 1 1 1 1 1 1 9 2 0	Name [Specification   1   1   2   1   3   4   4   5   5   5   5   5   5   5   5		
Connector Numerical Nume	nector Name WIRE TO WIRE rougher contor Type NH10MW-CSI(	WIRE TO NHIOMW. 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	

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### **VEHICLE SECURITY SYSTEM**

Connector No. M71 Connector Name BCM (BODY CONTROL MODULE) Connector Type ITH4DFW-NH  TH4DFW-NH  TS TTREET THE THE THE THE THE THE THE THE THE	Terminal Color No. of Wire 71 R 72 R/W 75 SB	SW   76 G	88 B/W 84 Y/G 85 Y/L 87 Y/L 80 W/L 91 W/L 93 GR/M 94 Y/R 95 W/G 96 Y/R	1
Oonnector No.   M69	of Wire W LG GR	46   BR		Terminal   Color   Signal Name [Spacification]
Connector No. M68 Connector Name BCM (BODY CONTROL MODULE) Connector Type   TH40FB-NH	Color Sign of Wire BR.W GR	G   COMBIS WINDUT 2	REA OPTIC PETEN OPTIC PETEN PE	LG
Connector No Connector Na Connector Ty H.S.	Terminal No.	0 10 10 11	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3
VEHICLE SECURITY SYSTEM  Domestor No. M66  Domestor Name BCM (BODY CONTROL MODULE)  Domestor Type FEASFW-FHAR-SA    A		CERTITAL DOOR BUILCOKS W PREAR LH DOOR SW A.C. INDICATOR OUTPUT REAR WHER OUTPUT	Connector No. M67  Connector Name BCM (BODY CONTROL MODULE)  Connector Type FEA09FB-FHA6-SA  FA09FB-FHA6-SA  FA09FB-FHA6-SA  FA09FB-FHA6-SA  FA09FB-FHA6-SA  FA09FB-FHA6-SA  FA09FB-FHA6-SA  FA09FB-FHA6-SA  FA09FB-FHA6-SA	Signal Name [Specification]  INTERIOR ROOM LAMP POWER SUPPLY BAY (1988)  DRIVER DOOR UNLOCK DITPUT TURN SIGNAL, LH OUTPUT TURN SIGNAL, LH OUTPUT TURN SIGNAL, LH OUTPUT TURN SIGNAL, LH OUTPUT TURN SIGNAL, RH OUTPUT ROOM LAMP TIMER CONTROL ROOM LAMP TIMER CONTROL RANSENGER DOOR FOUR SUPPLY PASSENGER DOOR REAR DOOR OUTPUT POWER WINDOW POWER SUPPLY (IBAN) POWER WINDOW POWER SUPPLY (IBAN)
Connector No. Connector Name Connector Type M.S. H.S.	Color   Color	BR/Y W/G W/G	Connector No. Connector Type HS	Color   Colo

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#### **VEHICLE SECURITY SYSTEM**

18 V 20 GR/L		Connector Type TTH16FW-NH  H.S.  8 7 6 5 4 3 2 1  16 15 14 13 12 11 10 9	Terminal   Color   Signal Name [Specification]   No. of Wire   Signal Name [Specification]   No. of Wire   Signal Name [Specification]   Signal Name   Specification]   Specification   Spec	
1 1 1 1			TO WIRE FFW-NH  1	Signal Name (Specification)
R L/7		0 × × × × × × × × × × × × × × × × × × ×		Of Wine W.G
74 76 77	81 83 83 83 83 83 83 83 83 83 83 83 83 83	91 92 93 94 95 96 96	Connec Connec	Terminal No. No. No. 1 1 2 2 2 2 2 2 2 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1
VEHICLE SECURITY SYSTEM Connector No. M77 Connector Name WIRE TO WIRE Connector Type TH89FW-CS16-TM4		Signal Name [Specification]		
r No.		Color of Wire B/O R G/R G/B	W/R G/W W M/L W/B W/B B/B B/B B/B G/O G/O G/O L/G/R G/N L/B B/B B/B B/B G/N G/N G/N G/N G/N G/N G/N G/N	L/W   B/N   B/N   B/N   B/N   B/N   B/N   B/N   C   C   C   C   C   C   C   C   C
VEHICLE Connector No. Connector Name Connector Type	是 H.S.	Terminal No. 2 2 3 4 4 5 5 5 6	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	50 50 51 53 53 54 55 60 60 60 67 67 70 71

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# **ECU DIAGNOSIS INFORMATION**

# BCM (BODY CONTROL MODULE)

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
FR WIPER TI	Front wiper switch HI	On
ED WIDED LOW	Other than front wiper switch LO	Off
FR WIPER LOW	Front wiper switch LO	On
ED WACHED CW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
ED WIDED INT	Other than front wiper switch INT/AUTO	Off
FR WIPER INT	Front wiper switch INT/AUTO	On
FR WIPER STOP	Front wiper is not in STOP position	Off
FR WIPER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
DD WIDED ON	Other than rear wiper switch ON	Off
RR WIPER ON	Rear wiper switch ON	On
RR WIPER INT	Other than rear wiper switch INT	Off
RR WIPER INT	Rear wiper switch INT	On
DD WACHED CW	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
KK WIPER STOP	Rear wiper is not in STOP position	On
TURN SIGNAL R	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
TORN SIGNAL L	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
TAIL LAWIP SVV	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
HI BEAIN SW	Lighting switch HI	On
HEAD LAMB CW/4	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
HEAD LAWP SW 2	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
VIITO LICHT SW	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
ED EOG SW	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On

#### < ECU DIAGNOSIS INFORMATION >

## [WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status			
DOOR SW-DR	Driver door closed	Off			
JOOK SW-DK	Driver door opened	On			
DOOR SW-AS	Passenger door closed	Off			
DOOR SW-AS	Passenger door opened	On			
DOOD SW DD	Rear RH door closed	Off			
DOOR SW-RR	Rear RH door opened	On			
DOOR SW-RL	Rear LH door closed	Off			
DOOR SW-RL	Rear LH door opened  Back door closed				
DOOR SW-BK	Back door closed	Off			
DOOR SW-BN	Back door opened	On			
SDL LOCK SW	Other than power door lock switch LOCK	Off			
CDL LOCK SW	Power door lock switch LOCK	On			
DI TINI OOK OM	Other than power door lock switch UNLOCK	Off			
CDL UNLOCK SW	Power door lock switch UNLOCK	On			
ZEV CVL LIZ CW	Other than driver door key cylinder LOCK position	Off			
KEY CYL LK-SW	Driver door key cylinder LOCK position	On			
ZEV CVI LINI CWI	Other than driver door key cylinder UNLOCK position	Off			
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On			
IAZADD CW	Hazard switch is OFF	Off			
HAZARD SW	Hazard switch is ON	On			
DEAD DEE CW	Rear window defogger switch OFF	Off			
REAR DEF SW	Rear window defogger switch ON	On			
FR/BD OPEN SW	NOTE: The item is indicated, but not monitored.	Off			
FRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off			
FAN ON SIG	Blower fan OFF	Off			
-AIN ON SIG	Blower fan ON	On			
ND COND OW	Air conditioner OFF (A/C switch indicator OFF)	Off			
AIR COND SW	Air conditioner ON (A/C switch indicator ON)	On			
DIVE I OOK	LOCK button of the key is not pressed	Off			
RKE-LOCK	LOCK button of the key is pressed	On			
	UNLOCK button of the key is not pressed	Off			
RKE-UNLOCK	UNLOCK button of the key is pressed	On			
OVE TO/DD	BACK DOOR OPEN button of the key is not pressed	Off			
RKE-TR/BD	BACK DOOR OPEN button of the key is pressed	On			
DIZE DANIC	PANIC button of the key is not pressed	Off			
RKE-PANIC	PANIC button of the key is pressed	On			
DIVE MODE CLIC	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off			
RKE-MODE CHG	LOCK/UNLOCK button of the key is pressed and held simultaneously	On			
ODTI OENI (DTOT)	Bright outside of the vehicle	Close to 5 V			
OPTI SEN (DTCT)	Dark outside of the vehicle	Close to 0 V			
ODTI OEN (EUT)	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V			
OPTI SEN (FILT)	Dark outside of the vehicle (Lighting switch AUTO)	Close to 1.50 V			

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#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
OPTICAL SENSOR	NOTE: The item is indicated, but not monitored.	Off
RAIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -DR	Driver door request switch is not pressed	Off
REQ SW -DR	Driver door request switch is pressed	On
DEO 014/ A 0	Passenger door request switch is not pressed	Off
REQ SW -AS	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
INLQ 3W -BB/TK	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
FU3H 3W	Push-button ignition switch (push switch) is pressed	On
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
DDAKE OM 4	The brake pedal is not depressed	Off
BRAKE SW 1	The brake pedal is depressed	On
	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW 2	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
DETE/CANOL CVA	Selector lever in P position	Off
DETE/CANCL SW	Selector lever in any position other than P	On
CET DAI/ALOVA/	Selector lever in any position other than P and N	Off
SFT PN/N SW	Selector lever in P or N position	On
0/1 1 001/	Steering is locked	Off
S/L -LOCK	Steering is unlocked	On
0/1 1/1/1/ 00//	Steering is unlocked	Off
S/L -UNLOCK	Steering is locked	On
0// 5=/ 41/ =/5	Steering is unlocked	Off
S/L RELAY-F/B	Steering is locked	On
11N1111 OEN DD	Driver door is locked	Off
UNLK SEN -DR	Driver door is unlocked	On
DIJOH OW IDE:	Push-button ignition switch (push-switch) is not pressed	Off
PUSH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On
ION DIVA E/D	Ignition switch in OFF or ACC position	Off
IGN RLY1 -F/B	Ignition switch in ON position	On
DETE OW IDE::	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
05T DV 1DDV	Selector lever in any position other than P and N	Off
SFT PN -IPDM	Selector lever in P or N position	On
OFT D 1455	Selector lever in any position other than P	Off
SFT P -MET	Selector lever in P position	On

#### < ECU DIAGNOSIS INFORMATION >

## [WITH INTELLIGENT KEY SYSTEM]

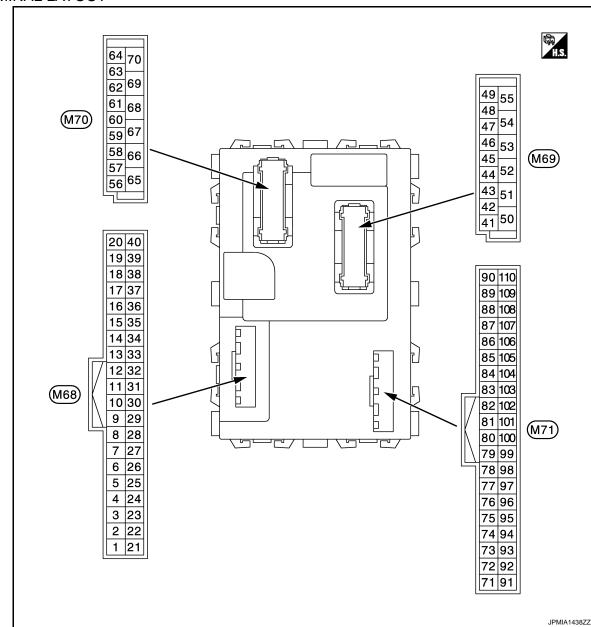
Monitor Item	Condition	Value/Status	
CETNI MET	Selector lever in any position other than N	Off	Α
SFT N -MET	Selector lever in N position	On	
	Engine stopped	Stop	В
ENOUGH OTATE	While the engine stalls	Stall	
ENGINE STATE	At engine cranking	Crank	
	Engine running	Run	С
0/1.1.001/.1001/1	Steering is locked	Off	
S/L LOCK-IPDM	Steering is unlocked	On	D
O/LUNIU/CIDDM	Steering is unlocked	Off	
S/L UNLK-IPDM	Steering is locked	On	
0// DELAY DEO	Steering is unlocked	Off	Е
S/L RELAY-REQ	Steering is locked	On	
VEH SPEED 1	While driving	Equivalent to speed- ometer reading	F
VEH SPEED 2	While driving	Equivalent to speed- ometer reading	
	Driver door is locked	LOCK	G
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY	
	Driver door is unlocked	UNLOCK	Н
	Passenger door is locked	LOCK	
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY	
	Passenger door is unlocked	UNLOCK	
ID OK FLAG	Steering is locked	Reset	
ID OK FLAG	Steering is unlocked	Set	J
PRMT ENG STRT	The engine start is prohibited	Reset	
PRIVIT ENG STRT	The engine start is permitted	Set	
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset	SEC
RKE OPE COUN1	During the operation of the key	Operation frequency of the key	L
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_	_
CONFRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet	M
CONTRIVIDATE	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done	N
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet	
CONFIRM ID4	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done	0
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet	Р
CONFIRM ID3	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done	
CONFIDMIDO	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet	
CONFIRM ID2	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done	

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#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
CONFIRM ID	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done
NOT REGISTERED	BCM detects registered key ID, or BCM does not detect key ID.	ID OK
NOT REGISTERED	BCM detects non-registration key ID.	ID NG
TP 4	The ID of fourth key is not registered to BCM	Yet
17 4	The ID of fourth key is registered to BCM	Done
TP 3	The ID of third key is not registered to BCM	Yet
IF 3	The ID of third key is registered to BCM	Done
TD 0	The ID of second key is not registered to BCM	Yet
TP 2	The ID of second key is registered to BCM	Done
TD 4	The ID of first key is not registered to BCM	Yet
TP 1	The ID of first key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID DECOT ELA	ID of front LH tire transmitter is registered	Done
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet
ID DECOT ED4	ID of front RH tire transmitter is registered	Done
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
ID REGST KRT	ID of rear RH tire transmitter is not registered	Yet
ID DECCT DI 4	ID of rear LH tire transmitter is registered	Done
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet
WADNING LAMP	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
DUZZED	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

## TERMINAL LAYOUT



NOTE:

Connector color

M68, M70: BlackM69, M71: White

PHYSICAL VALUES

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Terminal No. (Wire color)		Description				Value				
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)				
2	Ground	Combination switch	Input	Combination switch	All switch OFF Turn signal switch RH Lighting switch HI Lighting switch 1ST	0 V  (V) 15 10 5 0 PKIB4958J 1.0 V				
(BR/W)		INPUT 5	(Wiper inte tent dial 4)	('				(wiper intermit-	Lighting switch 2ND	(V) 15 10 5 0 ++10 ms JPMIA0342JP 2.0 V
					All switch OFF	0 V				
					Turn signal switch LH	40				
					Lighting switch PASS	(V) 15 10				
3 (GR)	Ground	Combination switch	Input	Combination switch (Wiper intermit-	Lighting switch 2ND	1.0 V				
(5.1)				tent dial 4)	Front fog lamp switch ON	(V) 15 10 5 0 +10ms PKIB4956J				
						0.8 V				
					All switch OFF	0 V				
					Front wiper switch LO	(V)				
		0.011.00		Combination	Front wiper switch MIST	(V) 15 10				
4 (L/Y)	Ground	Ground Combination switch INPUT 3	Input	switch (Wiper intermit- tent dial 4)	Front wiper switch INT  Lighting switch AUTO	5 0 ++10ms PKIB4958J				
						1.0 V				

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. Description (Wire color)				O a a little a	Value		
+	-	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	0 V	
					Front washer switch (Wiper intermittent dial 4)	(V)	
					Rear washer ON (Wiper intermittent dial 4)	(V) 15 10 0	
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	Any of the condition below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5	PKIB4958J	
(0)		IIVI 01 2		SWITCH	Wiper intermittent dial 6	1.0 V	
						Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0
						PKIB4956J 0.8 V	
		ound Combination switch INPUT 1	Input		All switch OFF (Wiper intermittent dial 4)	0 V	
					Front wiper switch HI (Wiper intermittent dial 4)	(V)	
					Rear wiper switch INT (Wiper intermittent dial 4)	15 10 5 0	
					Wiper intermittent dial 3 (All switch OFF)	++10ms PKIB4958J	
						(V)	
6 (L/R)	Ground			Combination switch	Any of the condition below with all switch OFF  • Wiper intermittent dial 1	(V) 15 10 5 0	
					Wiper intermittent dial 1     Wiper intermittent dial 2	+-10ms PKIB4952J	
						1.9 V	
					Any of the condition below with all switch OFF  • Wiper intermittent dial 6	(V) 15 10 5 0	
					Wiper intermittent dial 7	→ +10ms	
						PKIB4956J	

Terminal No. Description (Wire color)					Value	
+ (VVire	color)	Signal name	Input/ Output	Condition		(Approx.)
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylin- der switch	NEUTRAL position	(V) <sub>15</sub> 10 5 0  → 10ms  JPMIA0587GB 8.0 - 8.5 V
					UNLOCK position	0 V
8 (W/B)	Ground	Door key cylinder switch LOCK	Input	Door key cylin- der switch	NEUTRAL position	12 V
(VV/D)		SWIICH LOCK		dei switch	LOCK position	0 V
9	Ground	Stop lamp switch 1	Input	Stop lamp	OFF (Brake pedal is not depressed)	0 V
(R)				switch	ON (Brake pedal is depressed)	Battery voltage
10 (V/W)	Ground	Tire pressure warning check switch	Input	Ignition switch O	FF	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V
11	Ground	ACC feedback	Input	Ignition switch O	FF	0 V
(L/Y)				Ignition switch A	CC or ON	Battery voltage
12 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When passenger door opened)	0 V
13 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)  ON (When rear RH door	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					opened)  When bright outside of the	0 V
14 (L/B)	Ground	Optical sensor	Input	Ignition switch	vehicle	Close to 5 V
(L/D)				ON	When dark outside of the vehicle	Close to 0 V

#### < ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value	
(Wire	color)	Signal name	Input/ Output	Condition		Value (Approx.)	А
15 (W/L)	Ground	Rear window defog- ger switch	Input	Rear window defogger switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V	B C
					Pressed	0 V	
17 (R/G)	Ground	Optical sensor pow- er supply	Output	Ignition switch	OFF, ACC	0 V 5 V	Е
18 (V)	Ground	Receiver and sensor ground	Input	Ignition switch O		0 V	F
19 (BR)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		(V) 15 10 5 0 JMKIA3838GB	G H
20	Cround	Remote keyless en-	loout	Waiting		(V) 15 10 5 0 500 ms  JMKIA3838GB	J
(G/Y)	Ground	try receiver commu- nication	Input	Signal receiving		(V) 15 10 5 0 1 ms	SEC L
21 (P/L)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	N
22 (W/G)	Ground	Remote keyless entry receiver RSSI	Input	Waiting Signal receiving	·	0 V  (V) 15 10 5 0 JMKIA3838GB	O P

#### < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
-					ON	0 V
23 (R/Y)	Ground	Security indicator lamp	Output	Security indicator	Blinking (Ignition switch OFF)	(V) 15 10 5 0
						12.0 V
			logu4/		OFF	Battery voltage
24* (GR/R)	Ground	Dongle link	Input/ Output	Ignition switch O	FF	5 V
25 (LG)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
27 (Y/G)	Ground	A/C switch	Input	Air conditioner	OFF (A/C switch indicator: OFF)	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V
					ON (A/C switch indicator: ON)	0 V
28 (G/W)	Ground	Blower fan switch	Input	Blower fan	OFF	0 V  (V) 15 10 5 0  PKIB4960J  7.0 - 8.0 V
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF ON	12 V 0 V
31 (G/B)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0 +-10ms PKIB4960J 7.0 - 8.0 V
					UNLOCK status (Unlock sensor switch ON)	0 V

# < ECU DIAGNOSIS INFORMATION >

## [WITH INTELLIGENT KEY SYSTEM]

Terminal No. (Wire color)		Description				Value	
+	- COIOT)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 → 10ms PKIB4960J 7.0 - 8.0 V	
32 (LG)	Ground	Combination switch OUTPUT 5	Output	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)  Rear wiper switch ON	(V)	
					(Wiper intermittent dial 4)  Any of the condition below	5 0	
					with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2	→ ←10ms PKIB4956J	
					<ul><li>Wiper intermittent dial 6</li><li>Wiper intermittent dial 7</li></ul>	1.0 V	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 → 10ms	
						7.0 - 8.0 V	
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	_	
					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15	
					Rear wiper switch INT (Wiper intermittent dial 4)	0	
				Any of the condition below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	PKIB4958J		

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	nal No.	Description				Value	
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 ++10ms PKIB4960J 7.0 - 8.0 V	
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)		
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10	
					Rear washer switch ON (Wiper intermittent dial 4)	0	
					Any of the condition below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 3	PKIB4958J 1.2 V	
				Combination	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J	
35 (R/L)	Ground	und Combination switch OUTPUT 2	Output	switch (Wiper intermittent dial 4)	Lighting switch 2ND	7.0 - 8.0 V	
					Lighting switch PASS	(V) 15	
					Front wiper switch INT	10 5 0	
					Front wiper switch HI	++10ms PKIB4958J	
36				Combination	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V	
(L/O)	Ground	Combination switch OUTPUT 1	Output	switch (Wiper intermit- tent dial 4)	Turn signal switch RH	40	
				torit diai +)	Turn signal switch LH	(V) 15 10	
					Front wiper switch LO (Front wiper switch MIST)	5 0	
					Front washer switch ON	++10ms PKIB4958J	
						1.2 V	

# < ECU DIAGNOSIS INFORMATION >

Terminal No. Description (Wire color)				Value		
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)
37 (G/O)	Ground	Selector lever P position switch	Input	Selector lever	P position  Any position other than P	0 V 12 V
38 (O)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
39 (L)	Ground	CAN-H	Input/ Output		— —	Battery voltage  —
40 (P)	Ground	CAN-L	Input/ Output		_	_
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) 15 10 5 0 + 10ms
					ON	9.5 - 10.0 V
					(When back door opened)  Rear wiper stop position	12 V
44 (LG)	Ground	Rear wiper stop position	Input	Ignition switch ON	Any position other than rear wiper stop position	0 V
45 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 ms 1.0 - 1.5 V
					LOCK position	0 V
46 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0
						JPMIA0012GB 1.0 - 1.5 V
					UNLOCK position	0 V
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 5 0 + 10ms PKIB4960J
					ONI (M/box driver de e	7.0 - 8.0 V
					ON (When driver door opened)	0 V

#### < ECU DIAGNOSIS INFORMATION >

	Terminal No. Description		Value			
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	(V) 15 10 5 0 → 10ms PKIB4960J 7.0 - 8.0 V
					ON (When rear door LH opened)	0 V
54	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V
(L/W)	Ground	Real wiper	Output	Real Wiper	ON (Activated)	12 V
55	Ground	Rear door UNLOCK	Output	Output Rear door	UNLOCK (Actuator is activated)	12 V
(G)	Ground	Real door UNLOCK	Output	Real dool	Other then UNLOCK (Actuator is not activated)	0 V
					p battery saver is activated. room lamp power supply)	0 V
56 (L)	Ground	Interior room lamp power supply	Output	vated.	p battery saver is not acti- rior room lamp power sup-	12 V
57 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage
59	Cround	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
(G)	Ground	LOCK	Output	Passenger door	Other then UNLOCK (Actuator is not activated)	0 V
					Turn signal switch OFF	0 V
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1s 1s PKIC6370E
					Turn signal switch OFF	0 V
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 18 18
						6.0 V
63 (BR)	Ground	Interior room lamp timer control	Output	Interior room lamp	OFF	12 V
(טול)		unioi condoi		ιαπρ	ON	0 V

# < ECU DIAGNOSIS INFORMATION >

## [WITH INTELLIGENT KEY SYSTEM]

Terminal No. Description (Wire color)				Condition	Value	
+	-	Signal name	Input/ Output		Condition	(Approx.)
65	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	12 V
(V)	Ciouna	7 III GOOTO 2001	Output	7111 00010	Other then LOCK (Actuator is not activated)	0 V
66	Ground	Driver door UN-	Output	Driver door	UNLOCK (Actuator is activated)	12 V
(L/B)	Ground	LOCK	Output	Driver door	Other then UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch O	N	0 V
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch O	N	12 V
69 (L/W)	Ground	P/W power supply (BAT)	Output	Ignition switch O	FF	12 V
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage
71	71 Ground Tire pressure receiver communication Input/Output	Tire pressure receiv-		Ignition switch	Standby state	(V) 6 4 2 0 •• 0.2s OCC3881D
(K)		Output	utput ON	When receiving the signal from the transmitter	(V) 6 4 2 0 ••• 0.2s OCC3880D	
72		Back door lock actu-	0.11	De de la	LOCK (Actuator is activated)	0 V
(R/W)	Ground	ator relay control	Output Back	Back door	Other than LOCK (Actuator is not activated)	Battery voltage
75	Ground	Driver door request	Input	Driver door re-	ON (Pressed)	0 V
(SB)	2.34114	switch		quest switch	OFF (Not pressed)	12 V
76 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)	0 V
					OFF (Not pressed) ON (Pressed)	12 V 0 V
77	Ground	Back door request switch	Input	Back door re- quest switch	ON (Pressed)  OFF (Not pressed)	12 V

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#### < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
78	Ground	Driver door antenna	Output	When the driver door request	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 500 ms JMKIA3838GB
(LG)	Clound	(+)	Output	switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB
79	Ground	Driver door antenna	Output	Output  When the driver door request switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA3838GB
(V)	Glodina	(-)	Сири		When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB
80	Ground	Passenger door an-	Output	When the passenger door request switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0  JMKIA3838GB
(BR/Y)	Giodila	tenna (+)	Output		When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB

#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value
+ (vvire	e color)	Signal name	Input/ Output		Condition	(Approx.)
81	Ground	Passenger door an-	Output	When the passenger door re-	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0  JMKIA3838GB
(L/Y)	Glound	tenna (-)	Output	quest switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB
82		Back door antenna	0	When the back door request switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0  MKIA3838GB
(W/B)	Ground	(+)	Output		ed with ignition	When Intelligent Key is in the antenna detection area
83	Ground	Back door antenna (-	Output	When the back door request	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0  MKIA3838GB
(B/W)	Giouria		Output	switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0  JMKIA3839GB

#### < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
84	Ground	Room antenna (+)	n antenna (+)		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA3838GB
(Y/G)	Glodina	(Instrument panel)	Output	OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB
85	85 Cround Room antenna (-) Outou	Output	Ignition switch	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA3838GB	
(Y/L)	Ground	(Instrument panel)	Сагра	OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB
86	86	Ground Luggage room antenna (+)		Ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0  JMKIA3838GB
(P)	Ciodiu		Output		When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB

# < ECU DIAGNOSIS INFORMATION >

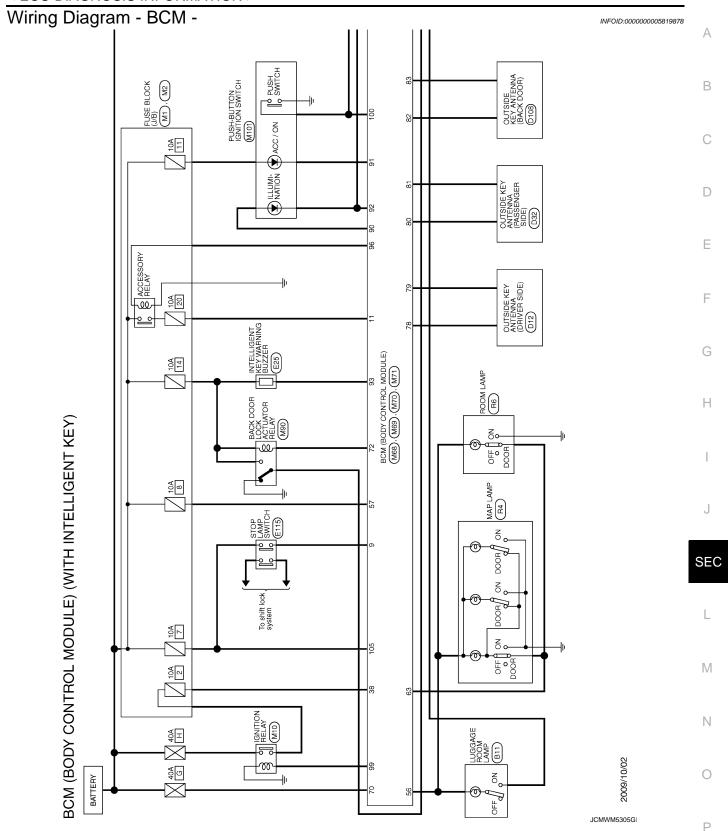
## [WITH INTELLIGENT KEY SYSTEM]

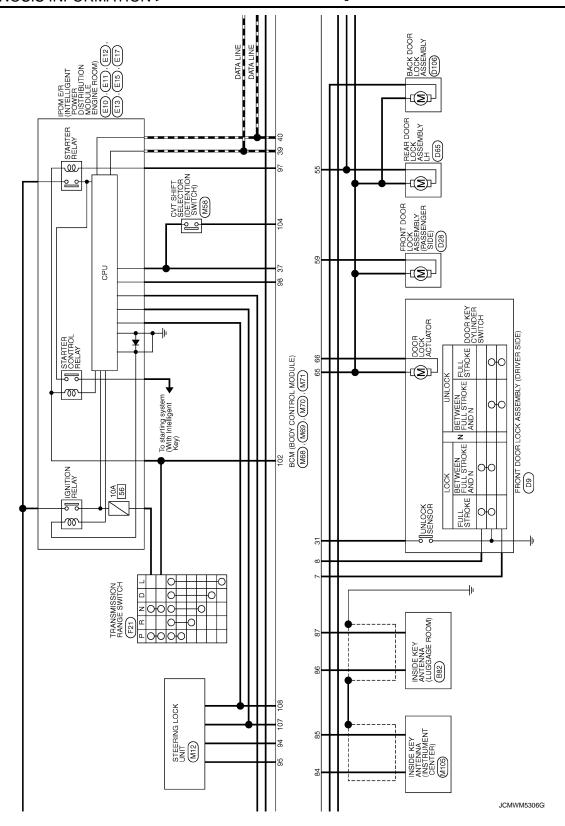
Terminal No. (Wire color)		Description				Value	Λ
+ (Wire	color)	Signal name	Input/ Output	Condition		(Approx.)	Α
	_		Output			(V)	В
87		Luggago room an-			When Intelligent Key is not in the antenna detection area	15 10 5 0 11111111111111111111111111111	C
(L)	Ground	Luggage room antenna (-)	Output	Ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0	E
						JMKIA3839GB	
		<b>5</b> 11 " ' ''		Push-button ig-	ON	12 V	G
90 (W/L)	Ground	Push-button ignition switch illumination	Output	nition switch illu- mination	OFF	0 V	
91	Ground	ACC/ON indicator	Output	Ignition switch	OFF	Battery voltage	Н
(Y)	Ordana	lamp	- Catpat	iginaeri ewiteri	ACC or ON	0.5 V	
					OFF	0 V  NOTE: When the illumination brightening/dimming level is in the neutral position	J
92 (BR/R)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	ON	(V) 15 10 5 10 10 ms  JPMIA1554GB	SEC
		Late III and IZ		Late III and IZ	Sounding	6.0 - 7.0 V 0 V	
93 (GR/W)	Ground	Intelligent Key warn- ing buzzer	Output	Intelligent Key warning buzzer	Not sounding	12 V	M
		-		_	LOCK status	12 V	
94 (Y/R)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 15 10 50 ms JMKIA0066GB	N O
					For 15 seconds after UN- LOCK	12 V	r
					15 seconds or later after UNLOCK	0 V	
95	0	Steering lock unit	04	Invitionit-li	OFF or ACC	12 V	
(W/G)	Ground	power supply	Output	Ignition switch	ON	0 V	

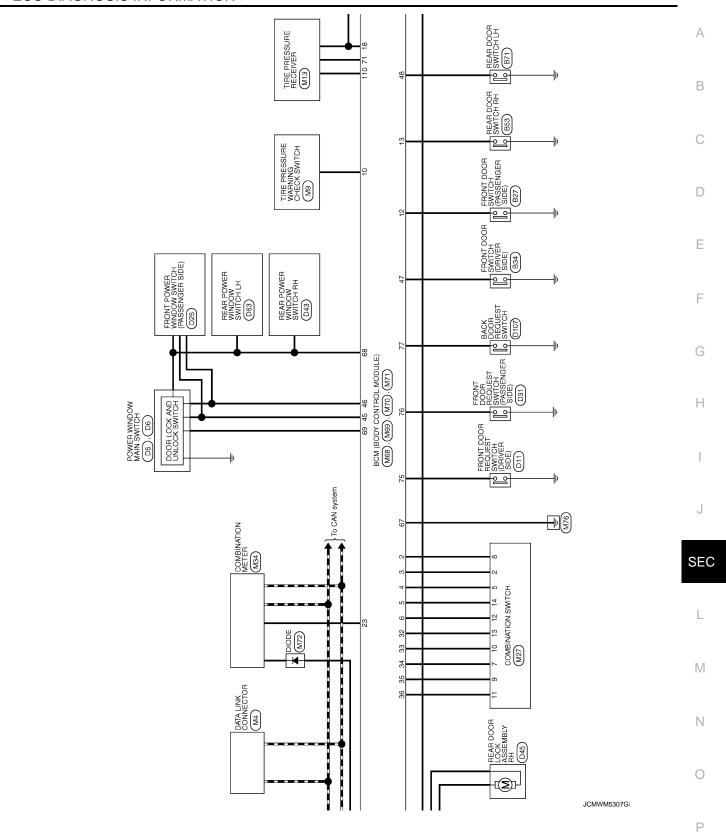
#### < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)	
96	Ground	ACC relay control	Output	ustavst I lamitian assistah	OFF	0 V	
(G)	Ground	ACC relay control	Output	Ignition switch	ACC or ON	12 V	
97	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage	
(L/R)	Ground	Starter relay control	Output	ON	When selector lever is not in P or N position	0 V	
98	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	12 V	
(BR)	Ground	E/R) control	Output	ignition switch	ON	0 V	
99	Ground	Ignition relay control	Output	Ignition switch	OFF or ACC	0 V	
(W/R)	Ground	ignition relay control	Output	ignition switch	ON	12 V	
100		Push-button ignition	Push-button ig-		Pressed	0 V	
(L/O)	Ground	switch (push switch)	Input	put nition switch (push switch)	Not pressed	12 V	
102	Ground	Selector lever P/N	Input	Selector lever	P or N position	Battery voltage	
(G)	Oround	position	mpat	Ocicción icver	Except P and N positions	0 V	
104 (Y/R)	Ground	CVT shift selector (detention switch) power supply	Output	Ignition switch O	N	12 V	
105 (B/O)	Ground	Stop lamp switch 2	Input	Ignition switch O	FF	Battery voltage	
106	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V	
(Y/B)	Ground	lay control	Output	ignition switch	ON	12 V	
107	Ground	Steering lock condi-	Input	Steering lock	LOCK status	0 V	
(L/W)	Ground	tion No. 1	iriput	Steering lock	UNLOCK status	12 V	
108	Ground	Steering lock condi-	Input	Steering lock	LOCK status	12 V	
(P/L)	Giodila	tion No. 2	iriput	Steering lock	UNLOCK status	0 V	
110	Ground	Tire pressure receiv-	Output	Ignition switch	OFF or ACC	0 V	
(BR/W)	Sibula	er power supply	Output	igilitori switch	ON	5 V	

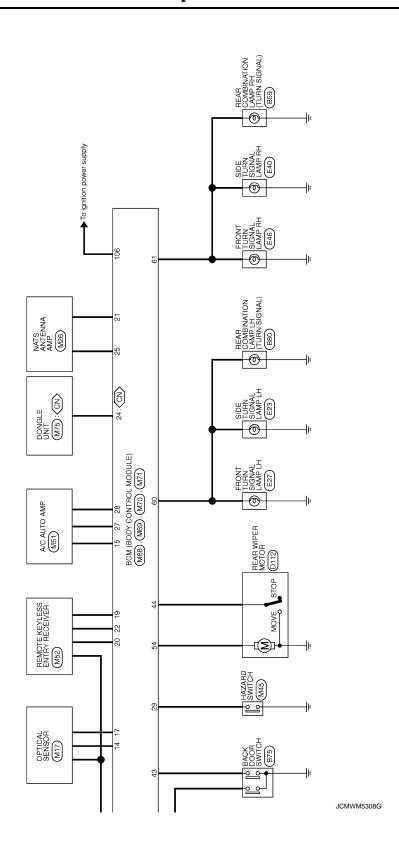
<sup>\*:</sup> For Canada











BACK DOOR ANT- ROOM ANT- ROOM ANT- LUGGAGE ROOM ANT- ACC NI IND LHEY WARN BUZZER S'L UNIT COMM S'L UNIT POWER SUPPLY ACC RELAY CONT IGN RELAY CONT IGN RELAY CONT DUSH SW SHET NUP STOP LAMP SW Z S'L CONDITION 1 S'L CONDITION 2 TIRE PRESS POWER SUPPLY	В
85 B/W BAG 86 Y/L R 80 W/L PUSH-BUITON 91 W/L PUSH-BUITON 92 G/R/W W/R R 94 Y/R S/L UNI 100 B/V R 101 B/V R 10	C
L MODULE)  L MODULE)  Specification  MAP POWER SUPPLY  (FLEE)  T UNI COOK OUTPUT  I LH OUTPUT  MINE CONTING  OOK OUTPUT  I LH OUTPUT  I LH OUTPUT  MINE CONTING  OOK OUTPUT  I LH OUTPUT  IND  OOK OUTPUT  I LH OUTPUT  IND  OOK OUTPUT  I THE COURT  I THE COURT  I THE CUEST SW  OOK RECOURST SW  OOK RECUEST SW  OOK RECUEST SW  OOK RECUEST SW  OOK RECUEST SW  OOK RANT+  OOK ANT+	CDOOR ANT-COOR ANT-CO
Signal Name [5   58   59   60   61   68   67   68   68   69   60   61   62   63   64   64   64   64   64   64   64	PASSENGER D BACK DOO
	G Samana G
Commetton   Comm	H
CENT KEY)   THE PRESS WARNING CHECK SW ACC FOR   PASSENGER DOOR SW   REAR TH DOOR SW   REAR WINDOW BEFOOGER SW   OPTICAL SENSOR ROUD   KEYLESS ENTRY RECEIVER FORM   MATS ANTENNA AMP   ACC SW   ACC SW   DR DOOR UNLOCK SENSOR   COMBIS SW OUTPUT 1   COMBIS SW OUTPUT 2   COMBIS SW OUTPUT 3   COMBIS SW OUTPUT 1   CAN-L   CA	REAR DOOR UNLOCK OUTPUT REAR DOOR UNLOCK OUTPUT
TIRE	REG
1   NTTELL.   1   1   NTTELL.   1   1   NTELL.   1   1   NTELL.   1   1   NTELL.   NTELL.   1	SEC
TROL MODULE)  No SWITCH  No SWITCH    4 5 6   10 1112   13 14   10 1112   13 14   10 1112   13 14   10 1112   13 14   10 1112   13 14   10 1112   13 14   10 1112   13 14   10 1112   13 14   10 1112   10 1112   10 1112   10 1112   10 112   10 112   10   10	STOP LAMP SW 1
Y CON   M27   COMBINATI   THISFW-NIN   THISFW-NIN   M68	N
Connector Name   Conn	□ α α α α α α α α α α α α α α α α α α α
	P

#### Fail-safe

#### FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

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Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.
B2014: CHAIN OF S/L-BCM Inhibit engine cranking		When communication between BCM and steering lock unit are communicated normally.
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED	Inhibit steering lock	When the following CAN signal status (vehicle speed signal) becomes consistent  • Vehicle speed signal (ABS)  • Vehicle speed signal (Meter)
B2601: SHIFT POSITION	Inhibit steering lock	<ul> <li>500 ms after the following signal reception status becomes consistent</li> <li>Selector lever P position switch signal</li> <li>P range signal (CAN)</li> </ul>
B2602: SHIFT POSITION	Inhibit steering lock	<ul> <li>5 seconds after the following BCM recognition conditions are fulfilled</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (battery voltage)</li> <li>Vehicle speed: 4 km/h (2.5 MPH) or more</li> </ul>
B2603: SHIFT POSI STATUS	Inhibit steering lock	<ul> <li>500 ms after any of the following BCM recognition conditions are fulfilled</li> <li>Status 1</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: Except P position (12 V)</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P position switch signal: P position (0 V)</li> <li>Selector lever P/N position signal: P or N positions (12 V)</li> </ul>
B2604: PNP/CLUTCH SW	Inhibit steering lock	<ul> <li>500 ms after any of the following BCM recognition conditions are fulfilled</li> <li>Status 1</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: P or N position (12 V)</li> <li>Shift position signal (CAN): P or N position</li> <li>Status 2</li> <li>Ignition switch is in the ON position</li> <li>Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>Shift position signal (CAN): Except P and N position</li> </ul>
B2605: PNP/CLUTCH SW Inhibit steering lock		500 ms after any of the following BCM recognition conditions are fulfilled • Status 1 - Power position: IGN - Selector lever P/N position signal: Except P and N positions (0 V) - Interlock/PNP switch signal (CAN): OFF • Status 2 - Ignition switch is in the ON position - Selector lever P/N position signal: P or N position (12 V) - Interlock/PNP switch signal (CAN): ON
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent  • Starter motor relay control signal  • Starter relay status signal (CAN)
B2609: S/L STATUS	Inhibit engine cranking     Inhibit steering lock	When the following steering lock conditions agree  BCM steering lock control status  Steering lock condition No. 1 signal status  Steering lock condition No. 2 signal status
B260B: STEERING LOCK UNIT	Inhibit steering lock	Erase DTC

#### < ECU DIAGNOSIS INFORMATION >

#### [WITH INTELLIGENT KEY SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation
B260D: STEERING LOCK UNIT	Inhibit steering lock	Erase DTC
B260F: ENG STATE SIG LOST	Inhibit engine cranking	When any of the following conditions are fulfilled Power position changes to ACC Receives engine status signal (CAN)
B2612: S/L STATUS	Inhibit engine cranking     Inhibit steering lock	When any of the following conditions are fulfilled  Steering lock unit status signal (CAN) is received normally  The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control inside BCM becomes normal
B26EF: STRG LCK RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled  • Steering lock relay signal (CAN): ON  • Steering lock unit status signal (CAN): ON
B26F0: STRG LCK RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled  • Steering lock relay signal (CAN): OFF  • Steering lock unit status signal (CAN): OFF
B26F1: IGN RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled  Ignition switch ON signal (CAN: Transmitted from BCM): ON  Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled  Ignition switch ON signal (CAN: Transmitted from BCM): OFF  Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F3: START CONT RLY ON	Inhibit engine cranking	When the following conditions are fulfilled  • Starter control relay signal (CAN: Transmitted from BCM): OFF  • Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF
B26F4: START CONT RLY OFF	Inhibit engine cranking	When the following conditions are fulfilled  • Starter control relay signal (CAN: Transmitted from BCM): ON  • Starter control relay signal (CAN: Transmitted from IPDM E/R): ON
B26F7: BCM	Inhibit engine cranking by Intelligent Key sys- tem	When room antenna and luggage room antenna functions normally
U0415: VEHICLE SPEED	Inhibit steering lock	When vehicle speed signal (Meter) (CAN) is received normally

#### REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal. When the rear wiper stop position signal does not change for more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

- More than 1 minute is passed after the rear wiper stop.
- Turn rear wiper switch OFF.
- Operate the rear wiper switch or rear washer switch.

#### DTC Inspection Priority Chart

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	B2562: LOW VOLTAGE
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)
3	B2192: ID DISCORD BCM-ECM     B2193: CHAIN OF BCM-ECM     B2195: ANTI-SCANNING     B2196: DONGLE NG     B2198: NATS ANTENNA AMP

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[WITH INTELLIGENT KEY SYSTEM]

Priority	DTC
4	B2013: ID DISCORD BCM-S/L     B2014: CHAIN OF S/L-BCM     B2553: IGNITION RELAY     B2555: PUSH-BTN IGN SW     B2556: PUSH-BTN IGN SW     B2557: VEHICLE SPEED     B2601: SHIFT POSITION     B2602: SHIFT POSITION     B2602: SHIFT POSITION     B2603: SHIFT POSITION     B2604: PNP/CLUTCH SW     B2605: PNP/CLUTCH SW     B2605: PNP/CLUTCH SW     B2606: STARTER RELAY     B2609: S/L STATUS     B2609: S/L STATUS     B2609: S/L STATUS     B2609: S/L STATUS     B2609: STEERING LOCK UNIT     B2600: STEERING LOCK UNIT     B2600: STEERING LOCK UNIT     B2601: SHORT STATE SIGLOST     B2614: BCM     B2615: BCM     B2616: BCM     B2616: BCM     B2616: BCM     B2617: BCM     B2618: BCM     B2618: DCM     B2618: DCM     B2619: LOCK MALFUNCTION     B2669: LOCK MALFUNCTION     B2669: LOCK MALFUNCTION     B2669: STRG LCK RELAY OFF     B2669: STRG LCK RELAY ON     B2669: STRG LCK RELAY ON     B2669: STRG LCK STS SW     B2669: STRG LCK STS SW     B2669: BCM     B2669: BCM     B2669: STRG LCK STS SW     B2669: BCM     B2669: BCM     B2669: STRG LCK STS SW     B2669: BCM     B2669: STRG LCK STS SW     B2669: BCM     B2669: BCM     B2669: STRG LCK STS SW     B2669: BCM     B2669: BCM     B2669: STRG LCK STS SW     B2669: BCM     B2669: BC
5	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RL</li> <li>C1734: CONTROL UNIT</li> </ul>
6	B2621: INSIDE ANTENNA     B2622: INSIDE ANTENNA
7	<ul> <li>B2626: OUTSIDE ANTENNA</li> <li>B2627: OUTSIDE ANTENNA</li> <li>B2628: OUTSIDE ANTENNA</li> </ul>

DTC Index

#### NOTE

The details of time display are as follows.

- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

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< ECU DIAGNOSIS INFORMATION >

## [WITH INTELLIGENT KEY SYSTEM]

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <a href="BCS-18">BCS-18</a>, "COM-MON ITEM: CONSULT-III Function (BCM - COMMON ITEM)".

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_	_
U1000: CAN COMM	_	_	_	_	BCS-39
U1010: CONTROL UNIT (CAN)	_	_	_	_	BCS-40
U0415: VEHICLE SPEED	×	_	×	_	BCS-41
B2013: ID DISCORD BCM-S/L	×	×	×	_	SEC-45
B2014: CHAIN OF S/L-BCM	×	×	×	_	SEC-46
B2192: ID DISCORD BCM-ECM	×	_	_	_	SEC-35
B2193: CHAIN OF BCM-ECM	×	_	_	_	<u>SEC-37</u>
B2195: ANTI-SCANNING	×	_	_	_	SEC-38
B2196: DONGLE NG	×	_	_	_	SEC-39
B2198: NATS ANTENNA AMP	×	_	_	_	SEC-41
B2553: IGNITION RELAY	_	×	×	_	PCS-77
B2555: STOP LAMP	_	×	×	_	SEC-49
B2556: PUSH-BTN IGN SW	_	×	×	_	SEC-51
B2557: VEHICLE SPEED	×	×	×	_	SEC-53
B2562: LOW VOLTAGE	_	×	_	_	BCS-42
B2601: SHIFT POSITION	×	×	×	_	SEC-54
B2602: SHIFT POSITION	×	×	×		SEC-57
B2603: SHIFT POSI STATUS	×	×	×	_	SEC-60
B2604: PNP/CLUTCH SW	×	×	×	_	SEC-65
B2605: PNP/CLUTCH SW	×	×	×	_	SEC-68
B2608: STARTER RELAY	×	×	×	_	SEC-70
B2609: S/L STATUS	×	×	×	_	SEC-72
B260B: STEERING LOCK UNIT	×	×	×	_	SEC-75
B260C: STEERING LOCK UNIT	_	×	×	_	SEC-76
B260D: STEERING LOCK UNIT	×	×	×	_	SEC-77
B260F: ENG STATE SIG LOST	×	×	×	_	SEC-78
B2612: S/L STATUS	×	×	×	_	SEC-79
B2614: BCM	_	×	×		PCS-79
B2615: BCM	_	×	×	_	PCS-82
B2616: BCM	_	×	×	_	PCS-85
B2618: BCM	_	×	×	_	PCS-88
B2619: BCM	×	×	×	<del></del>	SEC-82
B261A: PUSH-BTN IGN SW	_	×	×	_	PCS-89
B2621: INSIDE ANTENNA	_	×	_	_	<u>DLK-44</u>
B2622: INSIDE ANTENNA	_	×	_	_	<u>DLK-46</u>
B2626: OUTSIDE ANTENNA		×	_	<del></del>	DLK-48

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#### < ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2627: OUTSIDE ANTENNA	_	×	_	_	DLK-50
B2628: OUTSIDE ANTENNA	_	×	_	_	DLK-52
B26E9: LOCK MALFUNCTION	_	×	× (Turn ON for 15 seconds)	_	SEC-83
B26EF: STRG LCK RELAY OFF	×	×	×	_	SEC-84
B26F0: STRG LCK RELAY ON	×	×	×	_	SEC-86
B26F1: IGN RELAY OFF	×	×	×	_	PCS-91
B26F2: IGN RELAY ON	×	×	×	_	PCS-94
B26F3: START CONT RLY ON	×	×	×	_	SEC-87
B26F4: START CONT RLY OFF	×	×	×	_	SEC-88
B26F5: STRG LCK STS SW	_	×	×	_	SEC-90
B26F6: BCM	_	×	×	_	PCS-97
B26F7: BCM	×	×	×	_	SEC-93
B26F8: BCM	_	×	×	_	SEC-94
B26FC: KEY REGISTRATION	_	×	×	_	SEC-95
C1704: LOW PRESSURE FL	_	_	_	×	
C1705: LOW PRESSURE FR	_	_	_	×	W/T 20
C1706: LOW PRESSURE RR	_	_	_	×	WT-30
C1707: LOW PRESSURE RL	_	_	_	×	
C1708: [NO DATA] FL	_	_	_	×	
C1709: [NO DATA] FR	_	_	_	×	WT 22
C1710: [NO DATA] RR	_	_	_	×	<u>WT-32</u>
C1711: [NO DATA] RL	_	_	_	×	
C1716: [PRESSDATA ERR] FL	_	_	_	×	
C1717: [PRESSDATA ERR] FR	_	_	_	×	WT-35
C1718: [PRESSDATA ERR] RR	_	_	_	×	<u> </u>
C1719: [PRESSDATA ERR] RL	_	_	_	×	
C1729: VHCL SPEED SIG ERR	_	_	_	×	<u>WT-37</u>
C1734: CONTROL UNIT	_	_	_	×	<u>WT-39</u>

#### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000005819887

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Value/Status	
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1/2/3/4
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
TAIL 0.01 D. D.E.O.	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND, HI or AUTO	O (Light is illuminated)	On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
	Lighting switch 2ND or	Front fog lamp switch OFF	Off
FR FOG REQ	AUTO (Light is illuminated)	Front fog lamp switch ON	On
		Front wiper switch OFF	Stop
	Ignition switch ON	Front wiper switch INT	1LOW
FR WIP REQ		Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK
ION DI VA DEO	Ignition switch OFF or ACC	Off	
IGN RLY1 -REQ	Ignition switch ON	On	
ION DLV	Ignition switch OFF or ACC	Off	
IGN RLY	Ignition switch ON	On	
DUCH CW	Release the push-button ignition	Off	
PUSH SW	Press the push-button ignition s	witch	On
	Ignition quital CN	Selector lever in any position other than P or N (CVT models)     Release clutch pedal (M/T models)	Off
INTER/NP SW	Ignition switch ON	Selector lever in P or N position (CVT models)     Depress clutch pedal (M/T models)	On
ST RLY CONT	Ignition switch ON	Off	
OT INCLUDING	At engine cranking	On	

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#### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITH INTELLIGENT KEY SYSTÉM]

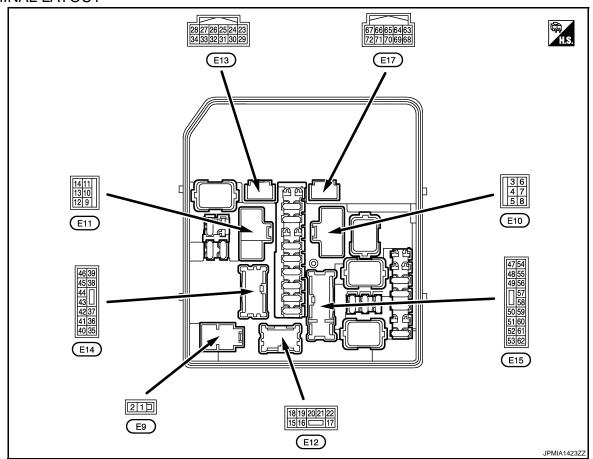
< ECU DIAGNOSIS INFORMATION >

Monitor Item	Con	Value/Status	
IHBT RLY -REQ	Ignition switch ON	Off	
IIIDI KLI -KLQ	At engine cranking		On
	Ignition switch ON	Off	
	At engine cranking		INHI ON $\rightarrow$ ST ON
ST/INHI RLY	The status of starter relay or starter of the battery voltage malfunction, etc. starter control relay is OFF	UNKWN	
DETENT SW	Ignition switch ON	Pull the selector lever with selector lever in P position     Selector lever in any position other than P	Off
	Release the selector lever with sele NOTE: Fixed On for M/T models	On	
	None of the conditions below are pr	esent	Off
S/L RLY -REQ	Open the driver door after the ign seconds)     Press the push-button ignition sw ed	On	
	Steering lock is activated	LOCK	
S/L STATE	Steering lock is deactivated	UNLOCK	
	[DTC: B210A] is detected	UNKWN	
DTRL REQ	Not operation	Off	
NOTE: This item is monitored only on the vehicle with the daytime running light system.	Daytime running light system is ope	On	
OIL D CW	Ignition switch OFF, ACC or engine	Open	
OIL P SW	Ignition switch ON	Close	
HOOD SW	NOTE: The item is indicated, but not monitor	Off	
	Not operation	Off	
THFT HRN REQ	Panic alarm is activated     Horn is activated with VEHICLE S TEM	On	
HORN CHIRP	Not operating		Off
HORN OF HILE	Door locking with Intelligent Key (ho	On	

#### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITH INTELLIGENT KEY SYSTÉM]

< ECU DIAGNOSIS INFORMATION >

#### TERMINAL LAYOUT



#### PHYSICAL VALUES

Terminal NO. (Wire color)		Description  Signal name  Input/ Output			Value (Approx.)
				Condition	
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
3	Cround	Starter mater	Output	Ignition switch ON	0 V
(BR)	Ground	Starter motor	Output	At engine cranking	Battery voltage
4 (SB)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
5	5	Cooling fan relay-1	Output	Cooling fan OFF	0 V
Caroling	power supply	Output -	Cooling fan operated	Battery voltage	
7 (Y) Ground		Cooling fan relay-2 power supply	Output	Cooling fan OFF	0 V
	Ground			Cooling fan LO operated	9.0 V
		perior cappy		Cooling fan HI operated	Battery voltage
8 (V)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
9 (B/W)	Ground	Ground	_	Ignition switch ON	0 V
				Cooling fan OFF	0 V
10 (L)	Ground	ound Cooling fan motor ground Output	Cooling fan LO operated	5.0 V	
(-)		9.00.10		Cooling fan HI operated	0 V

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## IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		0		Value	
+ (vvire		Signal name	Input/ Output		Condition	(Approx.)	
13	Ground	Rear window defogger	Output	Ignition switch	Rear window defogger switch OFF	0 V	
(W)	Ground	rteal willdow delogger	Output	ON	Rear window defogger switch ON	Battery voltage	
19 (B/W)	Ground	Ground	_	Ignition sw	vitch ON	0 V	
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V	
( • • • )				2ND	Front fog lamp switch ON	Battery voltage	
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V	
(V)				2ND	Front fog lamp switch ON	Battery voltage	
24				Ignition	Engine stopped	0 V	
(LG)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage	
				Ignition	Front wiper stop position	0 V	
25 (Y)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage	
26 (P)	Ground	CAN-L	Input/ Output		_	_	
27 (L)	Ground	CAN-H	Input/ Output	_		_	
28 <sup>*1</sup>	Ground	Daytime running light	Output	Daytime running light deactivated		0 V	
(P)	Ground	relay-1 control	Output	Daytime ru	unning light activated	Battery voltage	
30	Ground	Starter relay control	Output	At engine		0 V	
(SB)		,		Ignition sw		Battery voltage	
31 (W)	Ground	Fuel pump relay control	Output		mately 1 second after turn- gnition switch ON running	0 - 1.5 V	
(**)				Approximately 1 second or more after turning the ignition switch ON		Battery voltage	
		Power generation command signal	Output	Ignition switch ON		Battery voltage	
33 (O) G	Ground			40 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2 2 1 3.8 V	
					ot on "ACTIVE TEST", "AL- OR DUTY" of "ENGINE"	(V) 6 4 2 0 2 ms JPMIA0003	

< ECU DIAGNOSIS INFORMATION >

Terminal NO. Description				Value													
(Wire	color)	Signal name	Input/ Output	Condition		(Approx.)											
34	Ground	Horn roley control	Output	The horn is deactivated The horn is activated		Battery voltage											
(R)	Giouria	Horn relay control	Output			0 V											
36	Cround	Darking large (LLI)	Outrut	Ignition switch	Lighting switch OFF	0 V											
(Y)	Ground	Parking lamp (LH)	Output	ON	Lighting switch 1ST	Battery voltage											
37		5 1: 1 (51)		Ignition	Lighting switch OFF	0 V											
(V)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage											
38		Tail lamp (RH) & illumi-	_	Ignition	Lighting switch OFF	0 V											
(G)	Ground	nations	Output	switch ON	Lighting switch 1ST	Battery voltage											
39				Ignition	Front wiper switch OFF	0 V											
(V)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage											
40	Ground ECM relay control Outp				ritch OFF n a few seconds after turn- n switch OFF)	Battery voltage											
(R)			Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	0 - 1.5 V											
41		Tail lamp (LH) & license		Ignition	Lighting switch OFF	0 V											
(SB)	Ground	plate lamps	Output	switch ON	Lighting switch 1ST	Battery voltage											
				Ignition switch ACC or ON		0 V											
42 (W)	Ground	Steering lock unit pow-	Output	Ignition switch ON	A few seconds after opening the driver door	Battery voltage											
(**)				СГЗИРРІУ			Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage								
43		ECM relay power supply	ECM relay power sup	FCM relay nower sun-	FCM relay power sup	ECM relay power sup	ECM relay nower sun-	FCM relay nower sup-	ECM relay nower sun-	FCM relay nower sup	ECM relay power sup	FCM relay nower sun-	FCM relay power sup-		,	ritch OFF n a few seconds after turn- n switch OFF)	0 V
(G)	Ground		Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage											
4.4		ECM relay power cup		,	vitch OFF n a few seconds after turn- n switch OFF)	0 V											
44 (P)	Ground	ECM relay power sup- ply	Output	Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)		Battery voltage											
45 (Y)	Ground	TCM power supply	Output	Ignition sw	ritch OFF	Battery voltage											
				Ignition	Front wiper switch OFF	0 V											
46	Ground	Front wiper LO	Output	switch													

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< ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description				Value
+		Signal name	Input/ Output	Condition		(Approx.)
		Transmission range switch*2	Input		er in any position other than nition switch ON)	0 V
47 (BR)	Ground			Select leve ON)	er P or N (Ignition switch	Battery voltage
		Clutch interlockk		Release th	ne clutch pedal	0 V
		switch*3		Depress th	ne clutch pedal	Battery voltage
				Ignition	Lighting switch OFF	0 V
49 (W)	Ground	Headlamp HI (RH)	Output	switch ON	<ul><li>Lighting switch HI</li><li>Lighting switch PASS</li></ul>	Battery voltage
				Daytime ru	unning light activated*1	7.0 V
				Ignition	Lighting switch OFF	0 V
50 (GR)	Ground	Headlamp HI (LH)	Output	switch ON	<ul><li>Lighting switch HI</li><li>Lighting switch PASS</li></ul>	Battery voltage
				Daytime ru	unning light activated*1	7.0 V
51			0	Ignition	Lighting switch OFF	0 V
(R)	Ground	Headlamp LO (LH)	Output	switch ON	Lighting switch 2ND	Battery voltage
		Headlamp LO (RH)		Ignition	Lighting switch OFF	0 V
52 (P)	Ground	Daytime running light relay-2*1	Output	switch ON	Lighting switch 2ND	Battery voltage
ΕΛ		Ti ui			ritch OFF n a few seconds after turn- n switch OFF)	0 V
54 (GR)	Ground	Throttle control motor relay power supply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage
55		Fuel nump power oup			ately 1 second or more than ng the ignition switch ON	0 V
(P)	Ground	Fuel pump power sup- ply	Output		mately 1 second after turn- gnition switch ON running	Battery voltage
					A/C switch OFF	0 V
56 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage
						0 - 1.0 V
57 (G)	Ground	Throttle control motor relay control	Output	Ignition sw	ritch ON → OFF	↓ Battery voltage ↓
(5)						0 V
				Ignition sw		0 - 1.0 V
58 (R) <sup>*2</sup>	Ground	Ignition relay power	Outout	Ignition switch OFF		0 V
(K) <sup>-</sup> (Y)* <sup>3</sup>	Ground	supply	Output	Ignition switch ON	ritch ON	Battery voltage
59	Ground	Ignition relay power	Output	Ignition sw		0 V
(Y)		supply		Ignition sw		Battery voltage
60	Ground	Ignition relay power	Output	Ignition sw		0 V
(V)		supply		Ignition sw	ritch ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

Termina	_	Description				Value
(Wire	color)	Signal name	Input/ Output	Condition		(Approx.)
61	Ground	Ignition relay power	Output	Ignition switch OFF		0 V
(W)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage
62	Ground	Ignition relay power	Output	Ignition sw	ritch OFF	0 V
(L)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage
2.4*2		d CVT shift selector (Detention switch)	Input	Ignition	Select lever P	0 V
64 <sup>*2</sup> (R)	Ground			out switch ON	Select lever in any position other than P	Battery voltage
65	Ground	Steering lock unit con-	laavit	Steering lock is activated		0 V
(Y)	Ground	dition-1	Input	Steering lock is deactivated		Battery voltage
00		Duch hutton ignition		Press the push-button ignition switch		0 V
(L)	66 (L) Ground Push-button ignition switch		Input	Release th	ne push-button ignition	Battery voltage
68	Ground	Steering lock unit con-	Innut	Steering Id	ock is activated	Battery voltage
(W)	Giouria	dition-2	Input	Steering lock is deactivated		0 V
69	Cround	lanition relay manifer	Input	Ignition switch OFF or ACC		Battery voltage
(Y)	Ground	Ignition relay monitor In		Ignition switch ON		0 V

<sup>\*1:</sup> With daytime running light system

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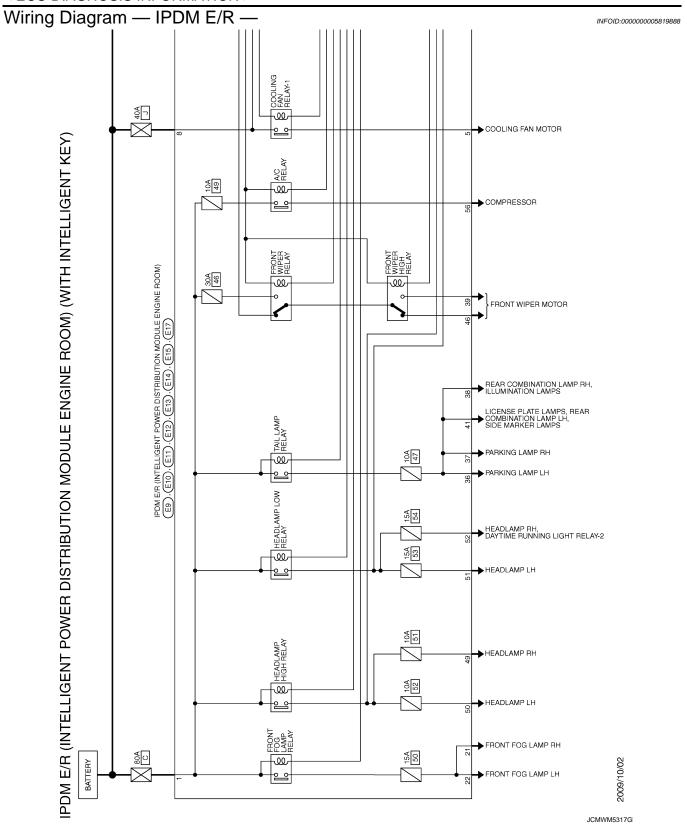
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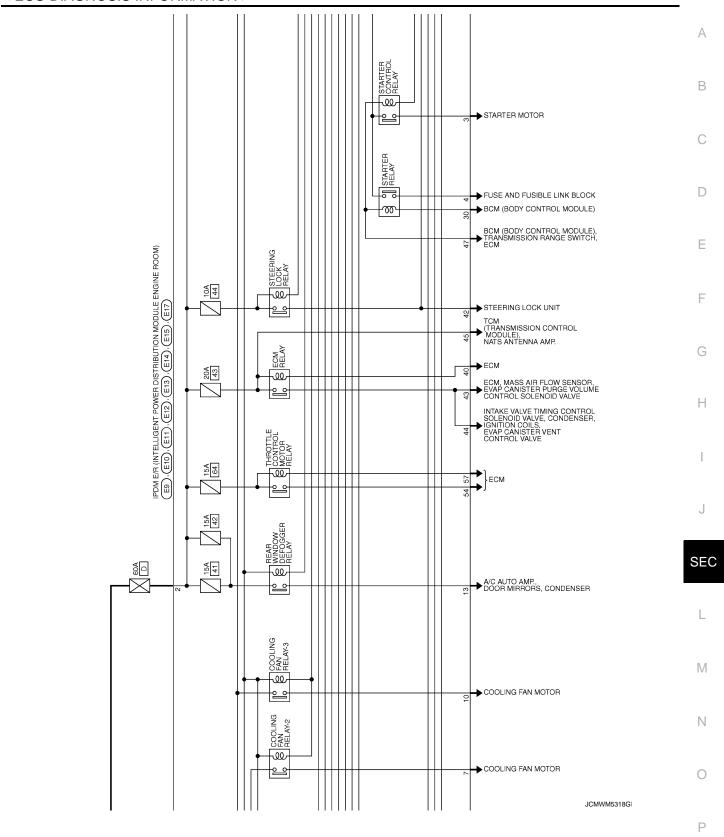
<sup>\*2:</sup> CVT models

<sup>\*3:</sup> M/T models

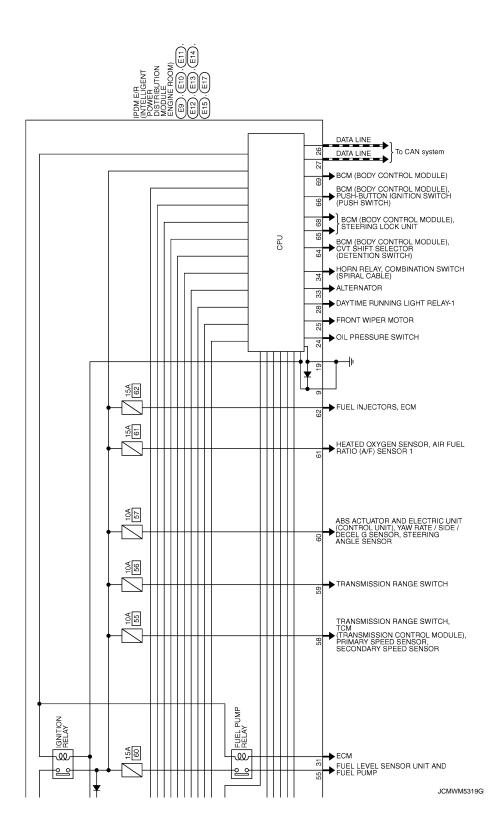
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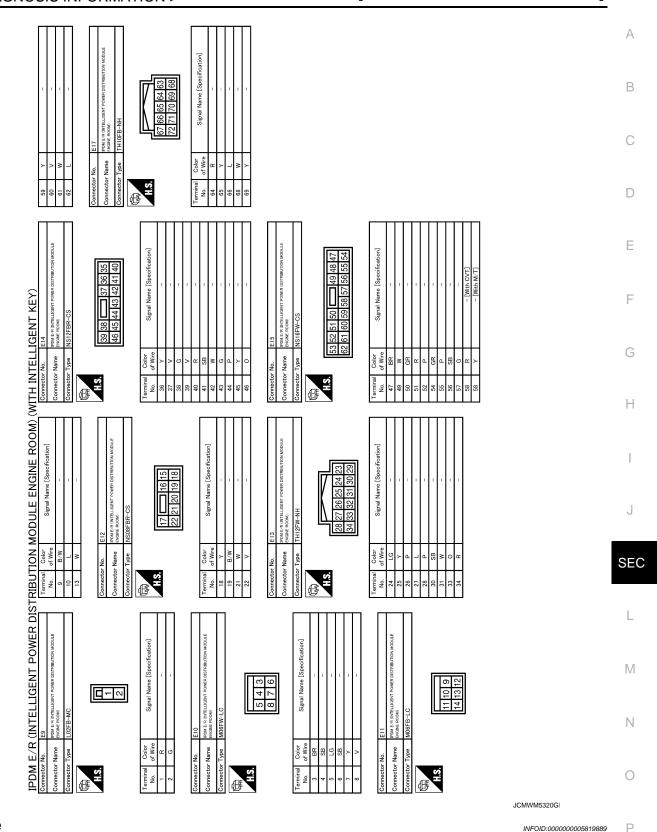
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< ECU DIAGNOSIS INFORMATION >



#### Fail-Safe

#### CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

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< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation		
Cooling fan	<ul> <li>The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation)</li> <li>The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF when the ignition switch is turned OFF</li> </ul>		
A/C compressor	A/C relay OFF		
Alternator	Outputs the power generation command signal (PWM signal) 0%		

#### If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> <li>Daytime running light relay OFF*</li> </ul>
<ul> <li>Parking lamps</li> <li>Side marker lamps</li> <li>License plate lamps</li> <li>Illuminations</li> <li>Tail lamps</li> </ul>	<ul> <li>Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>
Front wiper	<ul> <li>The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed.</li> <li>The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.</li> </ul>
Front fog lamps	Front fog lamp relay OFF
Horn	Horn OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF
Steering lock unit	Steering lock relay OFF

<sup>\*:</sup> With daytime running light system

#### IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Voltage	judgment		Operation	
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment		
ON	ON	Ignition relay ON normal	_	
OFF	OFF	Ignition relay OFF normal	_	
ON	OFF	Ignition relay ON stuck	<ul> <li>Detects DTC "B2098: IGN RELAY ON"</li> <li>Turns ON the tail lamp relay for 10 minutes</li> </ul>	
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"	

#### FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper stop position signal.

When a front wiper stop position signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop five times.

< ECU DIAGNOSIS INFORMATION >

Ignition switch	Front wiper switch	Front wiper stop position signal	
ON	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.	
ON	ON	The front wiper stop position signal does not change for 10 seconds.	

#### NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item "WIP PROT" while the wiper is stopped.

#### STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index INFOID:0000000005819890

#### NOTE:

- The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.

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- The number increases like 1 ightarrow 2  $\cdots$  38 ightarrow 39 after returning to the normal condition whenever IGN OFF ightarrow
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-16
B2098: IGN RELAY ON	×	PCS-17
B2099: IGN RELAY OFF	_	PCS-18
B2108: STRG LCK RELAY ON	_	<u>SEC-96</u>
B2109: STRG LCK RELAY OFF	_	<u>SEC-97</u>
B210A: STRG LCK STATE SW	_	<u>SEC-98</u>
B210B: START CONT RLY ON	_	SEC-101
B210C: START CONT RLY OFF	_	SEC-102
B210D: STARTER RELAY ON	_	<u>SEC-103</u>
B210E: STARTER RELAY OFF	_	<u>SEC-104</u>
B210F: INTRLCK/PNP SW ON	_	SEC-106
B2110: INTRLCK/PNP SW OFF	_	SEC-108

**SEC-189** 2010 Z12

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### ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE [WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS

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

Description INFOID:0000000005492081

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

- 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" in "WORK SUPPORT" is ON when setting on CONSULT-III.
- Intelligent Kev is not inserted in kev slot.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

### Diagnosis Procedure

INFOID:0000000005492082

### 1. PERFORM WORK SUPPORT

Perform "INSIDE ANT DIAGNOSIS" on Work Support in "INTELLIGENT KEY".

Refer to SEC-25, "INTELLIGENT KEY: CONSULT-III Function (BCM - INTELLIGENT KEY)".

>> GO TO 2.

# 2.PERFORM SELF-DIAGNOSIS RESULT

Perform Self-Diagnosis Result in "BCM", and check whether or not DTC of inside key antenna is detected.

#### Is DTC detected?

YES >> Refer to <u>DLK-44. "DTC Logic"</u> (instrument center) or <u>DLK-46. "DTC Logic"</u> (luggage room).

NO >> GO TO 3.

# 3.check push-button ignition switch

Check push-button ignition switch.

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

#### Is the operation normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

### 4.CONFIRM THE OPERATION

Confirm the operation again.

#### Is the inspection normal?

YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".

NO >> GO TO 1.

# STEERING DOES NOT LOCK

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >	TEELIGENT NET GIGIENI
STEERING DOES NOT LOCK	
Description	INFOID:000000005492083
Steering does not lock when door is open while ignition switch is OFF.	
<b>NOTE:</b> Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-6, "Work Flo</u>	w".
Diagnosis Procedure	INFOID:000000005492084
1.check door switch	
Check door switch.	
Refer to DLK-55, "Component Function Check".	
s the inspection normal? YES >> GO TO 2.	
NO >> Repair or replace malfunctioning parts.	
2.CONFIRM THE OPERATION	
Confirm the operation again. s the inspection normal?	
YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".	
NO >> GO TO 1.	

### SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

### SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description INFOID:000000005492088

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

- Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-6, "Work Flow".</u>
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

Conditions of Vehicle (Operating Conditions) Ignition switch is not in the ON position.

### Diagnosis Procedure

INFOID:0000000005492086

# 1. CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.

Refer to SEC-113, "Component Function Check".

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".

NO >> GO TO 1.

# **VEHICLE SECURITY SYSTEM CANNOT BE SET**

< SYMPTOM DIAGNOSIS >

NO >> GO TO 1.

DOOR KEY CYLINDER

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM CANNOT BE SET	
	Α
INTELLIGENT KEY: Description	В
Armed phase is not activated when door is locked using Intelligent Key.  NOTE:	
Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.	С
CONDITION OF VEHICLE (OPERATING CONDITION) Confirm the setting of "SECURITY ALARM SET" in "WORK SUPPORT" in "THEFT ALM" using CONSULT-III.	D
INTELLIGENT KEY : Diagnosis Procedure	
1. CHECK INTELLIGENT KEY SYSTEM (REMOTE KEYLESS ENTRY FUNCTION)	Е
Lock/unlock door with Intelligent Key.  Refer to DLK-25, "REMOTE KEYLESS ENTRY FUNCTION: System Description".	F
Is the inspection result normal?  YES >> GO TO 2.	Г
NO >> Check Intelligent Key system (remote keyless entry function). Refer to <u>DLK-149, "Diagnosis Procedure"</u> .	G
2.CONFIRM THE OPERATION	
Confirm the operation again.  Is the result normal?	Н
YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".  NO >> GO TO 1.	ı
DOOR REQUEST SWITCH	
DOOR REQUEST SWITCH : Description	J
Armed phase is not activated when door is locked using door request switch.  NOTE:	
Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.	EC
CONDITION OF VEHICLE (OPERATING CONDITION) Confirm the setting of "SECURITY ALARM SET" in "WORK SUPPORT" in "THEFT ALM" using CONSULT-III.	L
DOOR REQUEST SWITCH : Diagnosis Procedure	B 4
1. CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)	M
Lock/unlock door with door request switch.  Refer to DLK-20, "DOOR LOCK FUNCTION: System Description".	Ν
Is the inspection result normal?	
<ul> <li>YES &gt;&gt; GO TO 2.</li> <li>NO &gt;&gt; Check Intelligent Key system (door lock function). Refer to <u>DLK-146, "ALL DOOR: Diagnosis Procedure".</u></li> </ul>	0
2.CONFIRM THE OPERATION	P
Confirm the operation again.	۲
Is the result normal?	
YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".	

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#### **VEHICLE SECURITY SYSTEM CANNOT BE SET**

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

# DOOR KEY CYLINDER: Description

INFOID:0000000005492091

Armed phase is not activated when door is locked using mechanical key.

#### NOTE:

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

### CONDITION OF VEHICLE (OPERATING CONDITION)

Confirm the setting of "SECURITY ALARM SET" in "WORK SUPPORT" in "THEFT ALM" using CONSULT-III.

### DOOR KEY CYLINDER: Diagnosis Procedure

INFOID:0000000005492092

# 1. CHECK POWER DOOR LOCK SYSTEM

Lock/unlock door with mechanical key.

Refer to DLK-13, "System Description".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Check power door lock system. Refer to <a href="DLK-145">DLK-145</a>, "Diagnosis Procedure".

# 2. CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".

NO >> GO TO 1.

### **VEHICLE SECURITY ALARM DOES NOT ACTIVATE**

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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#### VEHICLE SECURITY ALARM DOES NOT ACTIVATE Α Description INFOID:0000000005492093 Alarm does not operate when alarm operating condition is satisfied. В NOTE: Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom. C CONDITIONS OF VEHICLE (OPERATING CONDITIONS) "SECURITY ALARM SET" in "WORK SUPPORT" of "THEFT ALM" is ON when setting on CONSULT-III. Diagnosis Procedure D INFOID:0000000005492094 1. CHECK DOOR SWITCH Check door switch. Refer to DLK-55, "Component Function Check". Is the inspection result normal? F YES >> GO TO 2. NO >> Replace the malfunctioning door switch 2.CHECK HEADLAMP FUNCTION Check headlamp function. Refer to SEC-117, "Component Function Check". Is the inspection result normal? Н YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. 3.CHECK HORN FUNCTION Check horn function. Refer to SEC-115, "Component Function Check". Is the inspection result normal? YES >> GO TO 4. NO >> Repair or replace the malfunctioning parts. **SEC** 4. CONFIRM THE OPERATION Confirm the operation again. Is the result normal? L YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident". NO >> GO TO 1. M Ν

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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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### **WARNING:**

- 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation after Battery Disconnect

INFOID:0000000005839349

#### NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

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

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

#### **OPERATION PROCEDURE**

1. Connect both battery cables.

#### NOTE:

Supply power using jumper cables if battery is discharged.

- 2. Turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- Perform the necessary repair operation.

#### **PRECAUTIONS**

#### < PRECAUTION >

#### [WITH INTELLIGENT KEY SYSTEM]

5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)

6. Perform self-diagnosis check of all control units using CONSULT-III.

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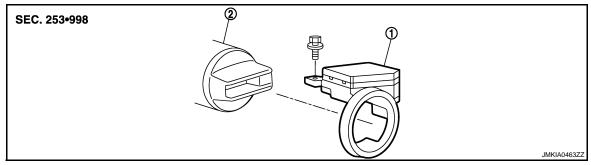
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# REMOVAL AND INSTALLATION

# NATS ANTENNA AMP.

**Exploded View** 

INFOID:0000000005492097



1. NATS antenna amp.

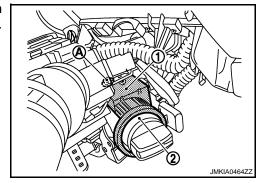
2. Steering lock assembly

### Removal and Installation

INFOID:0000000005492098

#### **REMOVAL**

- Remove the steering column cover.
   Refer to <u>IP-13</u>, "<u>Removal and Installation</u>".
- 2. Remove the NATS antenna amp. mounting screw (A), and then remove NATS antenna amp. (1) from steering lock assembly (2).



#### **INSTALLATION**

Install in the reverse order of removal.

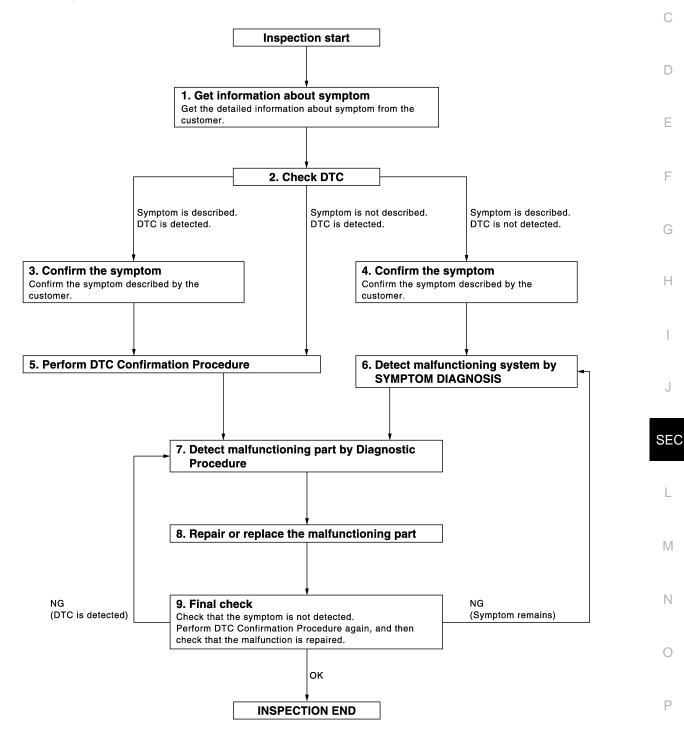
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# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

**OVERALL SEQUENCE** 



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# DIAGNOSIS AND REPAIR WORK FLOW

#### < BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

# 1.GET INFORMATION ABOUT 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-III to the vehicle in "DATA MONITOR" mode 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-III to the vehicle in "DATA MONITOR" mode 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>SEC-268, "DTC Inspection Priority Chart"</u> (BCM) and determine trouble diagnosis order.

#### Is DTC detected?

YES >> GO TO 7.

NO >> Refer to GI-35, "Intermittent Incident".

# 6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

>> GO TO 7.

# 7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

>> GO TO 8.

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

### **DIAGNOSIS AND REPAIR WORK FLOW**

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

>> GO TO 9.

# 9. FINAL CHECK

When DTC was detected in step 9, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunctions have been fully repaired.

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

#### Does the symptom reappear?

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

NO >> INSPECTION END

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#### INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

# INSPECTION AND ADJUSTMENT ECM RECOMMUNICATING FUNCTION

### ECM RECOMMUNICATING FUNCTION: Description

INFOID:0000000005492100

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

\*: New one means a virgin ECM that is never energized on-board. (In this step, initialization procedure by CONSULT-III is not necessary) **NOTE:** 

- When registering new Key IDs or replacing the ECM that is not brand new, refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.
- If multiple keys are attached to the key holder, separate them before beginning work.
- Distinguish keys with unregistered key IDs from those with registered IDs.

### ECM RECOMMUNICATING FUNCTION : Special Repair Requirement

INFOID:0000000005492101

# 1.PERFORM ECM RECOMMUNICATING FUNCTION

- Install ECM.
- Insert the registered ignition key\* into key cylinder, turn ignition switch to "ON".\*: To perform this step, use the key that is used before performing ECM replacement.
- 3. Maintain ignition switch in the "ON" position for 5 seconds or more.
- 4. Turn ignition switch to "OFF".
- 5. Start engine.

#### Can engine be started?

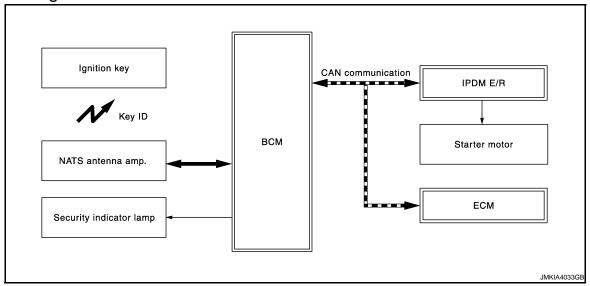
YES >> Procedure is complete.

NO >> Initialize control unit. Refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.

# SYSTEM DESCRIPTION

### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

### System Diagram



### System Description

#### SYSTEM DESCRIPTION

NVIS (Nissan Vehicle Immobilizer System-NATS) has the following immobilizer functions:

- Engine immobilizer shows high anti-theft performance to prevent engine start by 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.
- If system detects malfunction, security indicator lamp illuminate when ignition switch is turned to ON posi-
- If the owner requires, ignition 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\* is required.
  - \*: All keys kept by the owner of the vehicle should be registered with ignition key.
- ECM
- BCM
- Ignition key
- NVIS(NATS) trouble diagnosis, system initialization and additional registration of other Ignition key IDs must be carried out using CONSULT-III hardware and SECURITY CARD.
  - When NVIS(NATS) initialization has been completed, the ID of the inserted ignition key or ignition key IDs can be carried out.
- Possible symptom of NVIS(NATS) malfunction is "Engine cannot start". The engine can be started with the NVIS(NATS). Identify the possible causes according to "Work Flow". Refer to SEC-199, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

#### PRECAUTIONS FOR KEY REGISTRATION

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

#### SECURITY INDICATOR LAMP

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

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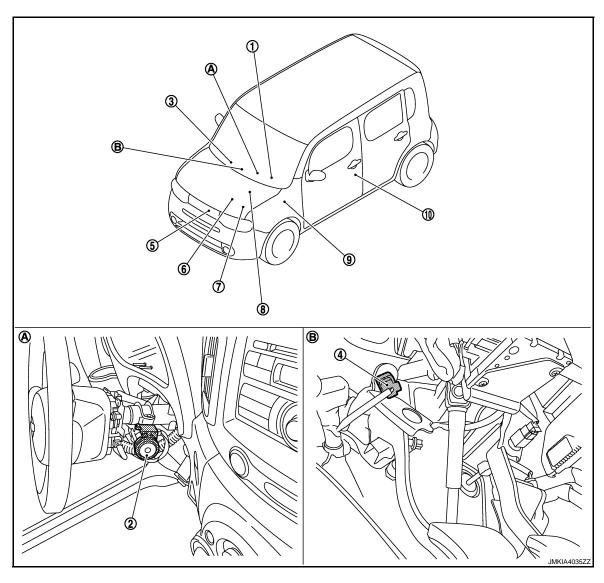
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• Security indicator lamp turns OFF, when the ignition switch is in ON position.

# **Component Parts Location**

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- Security indicator lamp (combination meter M34)
- 4. Clutch interlock switch E113 (with M/T)
- 7. IPDM E/R E10, E11, E12, E13, E14, E15
- 10. Front door switch (driver side) B34
- A. Behind steering column cover

- 2. NATS antenna amp. M26
- 5. Horn E50, E51
- 8. ECM E16

B.

- Behind instrument lower panel LH
- 3. Remote keyless entry tuner M61
- 6. Transmission range switch F21 (with CVT)
- 9. BCM M65, M66, M67

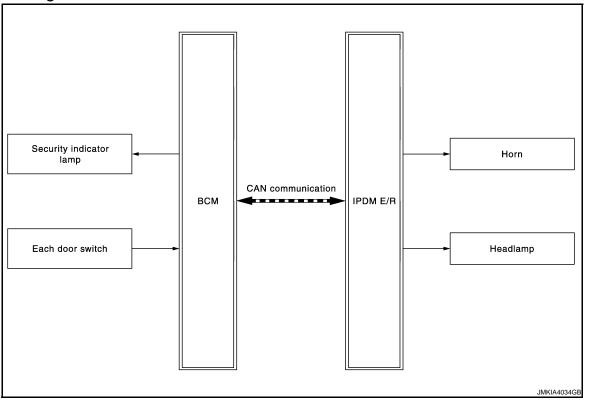
# Component Description

INFOID:0000000005492105

Component	Reference
BCM	BCS-86
NATS antenna amp.	SEC-219
Security indicator lamp	SEC-230

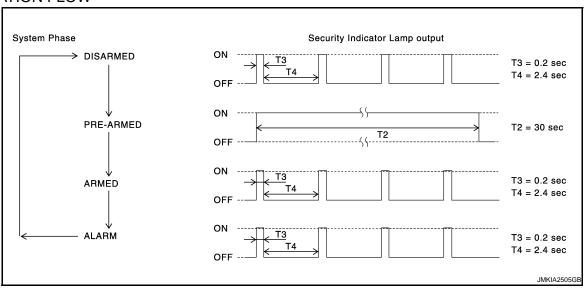
# VEHICLE SECURITY SYSTEM

# System Diagram



# System Description

#### **OPERATION FLOW**



### SETTING THE VEHICLE SECURITY SYSTEM

#### **Initial Condition**

• Ignition switch is in OFF position.

#### **Disarmed Phase**

When any door is open, the vehicle security system is set in the disarmed phase on the assumption that the
owner is inside or near the vehicle.

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#### **VEHICLE SECURITY SYSTEM**

#### < SYSTEM DESCRIPTION >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 seconds.

#### Pre-armed Phase and Armed Phase

When the following operation 1 or 2 is performed, the vehicle security system turns into the "pre-armed" phase. (Security indicator lamp illuminates.)

- BCM receives LOCK signal from door key cylinder switch, door lock and unlock switch or keyfob, after all doors are closed.
- 2. All doors are closed after all doors are locked by ignition key or door lock and unlock switch.

#### CANCELING THE ARMED PHASE VEHICLE SECURITY SYSTEM

When one of the following operations is performed, the armed phase is canceled.

- 1. Unlock all doors ignition key, door lock and unlock switch or keyfob.
- 2. Turn ignition switch "ON" position.

#### CANCELING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

When one of the following operations is performed, the alarm operation is canceled.

- 1. Unlock all doors with the keyfob.
- 2. Turn ignition switch "ON" position.

#### ACTIVATING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

Check that the system is in the armed phase. (Security indicator lamp blinks every 2.4 seconds.)

When the following operation 1 or 2 is performed, the system sounds the horns and blinks the headlamps for approx. 50 seconds.

- 1. Any door is opened during armed phase.
- Disconnecting and connecting the battery connector before canceling armed phase.

#### PANIC ALARM OPERATION

When BCM receives panic alarm signal from keyfob, ground is supplied intermittently to both headlamp relay and horn relay.

When headlamp relay and horn relay are energized, then power is supplied to headlamps (HI) and horn.

The headlamp blinks and the horn sounds intermittently.

The alarm automatically turns off after 50 seconds or when BCM receives any signal from keyfob.

# **Component Parts Location**

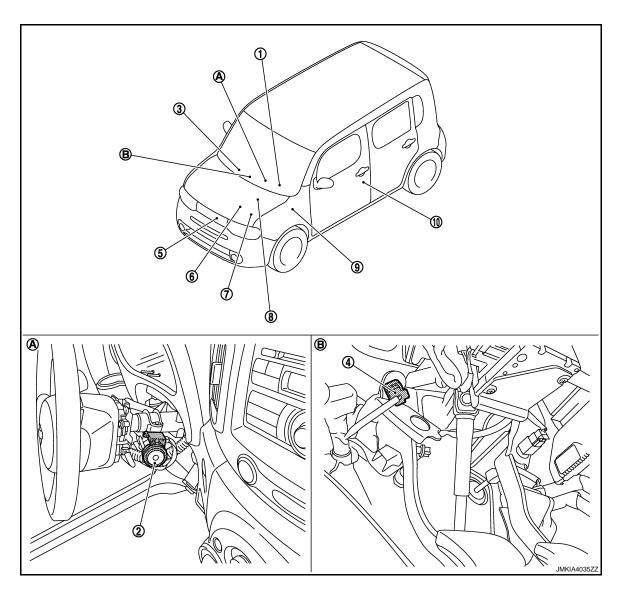
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- Security indicator lamp (combination meter M34)
- 4. Clutch interlock switch E113 (with M/T)
- 7. IPDM E/R E10, E11, E12, E13, E14, E15
- 10. Front door switch (driver side) B34
- A. Behind steering column cover

- NATS antenna amp. M26
- 5. Horn E50, E51
- 8. ECM E16
  - . Behind instrument lower panel LH
- 3. Remote keyless entry tuner M61
- 6. Transmission range switch F21 (with CVT)
- 9. BCM M65, M66, M67

# Component Description

 Component
 Reference

 BCM
 BCS-86

 Security indicator lamp
 SEC-230

 Door switch
 DLK-243

 Horn
 SEC-232

 Headlamp
 SEC-234

Revision: 2009 October SEC-207 2010 Z12

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INFOID:0000000005492109

# **DIAGNOSIS SYSTEM (BCM)**

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

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

INFOID:0000000005492110

#### **APPLICATION ITEM**

CONSULT-III performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	<ul><li>Read and save the vehicle specification.</li><li>Write the vehicle specification when replacing BCM.</li></ul>

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

System	Sub system selection item		Diagnosis mode  Work Support Data Monitor Active Test	
System	Sub system selection item	Work Support		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp control	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Automatic air conditioner     Manual air conditioner	AIR CONDITONER		×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	×
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×
Panic alarm system	PANIC ALARM			×

**IMMU** 

# **DIAGNOSIS SYSTEM (BCM)**

< SYSTEM DESCRIPTION >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

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

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#### **DATA MONITOR**

Monitor item	Content	
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.	
KEY ON SW	Indicates [ON/OFF] condition of key switch.	

#### **ACTIVE TEST**

Test item	Description
THEFT IND This test is able to check security indicator lamp operation [ON/OFF].	

# THEFT ALM

# THEFT ALM: CONSULT-III Function (BCM - THEFT ALM)

### **DATA MONITOR**

Monitor Item	Condition	
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.	
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.	
KEY ON SW	Indicates [ON/OFF] condition of key switch.	——
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from keyfob.	
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.	
TRUNK OPNR SW	NOTE: The item is indicated, but not monitored.	I
TRNK OPNR MNTR	NOTE: The item is indicated, but not monitored.	J
HOOD SW	NOTE: The item is indicated, but not monitored.	SEC
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).	
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).	
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.	
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.	
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.	
KEY CYL LK-SW	Indicates [ON/OFF] condition of door key cylinder switch.	M
KEY CYL UN-SW	Indicates [ON/OFF] condition of door key cylinder switch.	
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.	NI NI
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.	IV
TRANSPONDER	Indicates key ID verification results by [ON/OFF].	
INTELLI KEY	NOTE: The item is indicated, but not monitored.	
LOCK STATUS	NOTE: The item is indicated, but not monitored.	
AUTO RELOCK	NOTE: The item is indicated, but not monitored.	

### **WORK SUPPORT**

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

### < SYSTEM DESCRIPTION >

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

### **ACTIVE TEST**

Test Item	Description
THEFT IND  This test is able to check security indicator lamp operation. Security indicator lamp we turned on when "ON" on CONSULT-III screen is touched.	
VEHICLE SECURITY HORN  This test is able to check horn operation. Horn will be activated for 0.5 seconds after "CONSULT-III screen is touched."	
HEADLAMP (HI)  This test is able to check headlamp (HI) operation. Headlamps (HI) will be activated seconds after "ON" on CONSULT-III screen is touched.	
FLASHER	This test is able to check hazard warning lamp operation. Hazard warning lamps will be activated after "LH" or "RH" on CONSULT-III screen is touched.

# PANIC ALARM

PANIC ALARM : CONSULT-III Function (BCM - PANIC ALARM)

INFOID:0000000005492113

# **ACTIVE TEST**

Test item	Description	
VEHICLE SECURITY HORN	This test is able to check horn operation. Horn is activated for 0.5 seconds after "ON on CONSULT-III screen touched.	
HEAD LAMP (HI)	This test is able to check headlamp (HI) operation. Headlamps (HI) will be activated after "ON" on CONSULT-III screen touched.	

#### P1610 LOCK MODE

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

# DTC/CIRCUIT DIAGNOSIS

# P1610 LOCK MODE

Description INFOID:0000000005492114

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, and when engine start operation is performed 5 times or more by unregistered ignition key.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	<ul> <li>When ECM detects any of the following 2 states</li> <li>Ignition switch ON 5 times or more during communication between ECM and BCM is malfunctioning</li> <li>Ignition switch ON by unregistered ignition key 5 times or more</li> </ul>	_

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SEC-211, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

# Diagnosis Procedure

# 1. CHECK ENGINE START FUNCTION

- 1. Perform the check for DTC except DTC P1610.
- Use CONSULT-III to erase DTC after fixing.
- Turn ignition switch OFF.
- 4. Turn ignition switch ON when registered ignition key is inserted into key cylinder and wait for 5 seconds.
- 5. Turn the ignition switch OFF and wait 5 seconds.
- 6. Repeat steps 4 and 5 twice (a total of 3 times).
- 7. Check that engine can start when registered ignition key is inserted into key cylinder.

>> INSPECTION END

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# P1611 ID DISCORD, IMMU-ECM

Description INFOID:000000005492117

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 starts the engine if the ID is OK. ECM prevents the engine from starting if the ID is not registered.

DTC Logic INFOID:000000005492118

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC P1611 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC P1611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SEC-212</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

### Diagnosis Procedure

INFOID:0000000005492119

### 1. PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Reregister all ignition keys.

For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 2.

# 2.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization with CONSULT-III. Reregister all ignition keys.
   For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 3.

# 3. REPLACE ECM

- 1. Replace ECM.
- Perform initialization with CONSULT-III. Reregister all ignition keys.
   For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NIVIS"

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

YES >> INSPECTION END

NO >> GO TO 4.

# 4. CHECK INTERMITTENT INCIDENT

# P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

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### P1612 CHAIN OF ECM-IMMU

[WITHOUT INTELLIGENT KEY SYSTEM]

### P1612 CHAIN OF ECM-IMMU

Description INFOID:000000005492120

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 P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SEC-214</u>, "<u>Diagnosis Proced</u>ure".

NO >> INSPECTION END

# Diagnosis Procedure

INFOID:0000000005492122

# 1.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization with CONSULT-III.
   For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

#### Does the engine start?

YES >> INSPECTION END

NO >> GO TO 2.

### 2.REPLACE ECM

Replace ECM. Refer to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

>> INSPECTION END

#### P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

# P1614 CHAIN OF IMMU-KEY

Description INFOID:0000000005492123

Performs ID verification through BCM and NATS antenna amp. when ignition switch is ON position. Prohibits the release of steering lock or start of engine when an unregistered ID of ignition key is used.

DTC Logic INFOID:0000000005492124

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1614	NATS ANTENNA AMP.	Inactive communication between NATS antenna amp. and BCM     Ignition key is malfunctioning	Harness or connectors     (The NATS antenna amp. circuit is open or short)     Ignition key     NATS antenna amp.     BCM

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Insert ignition key into the key cylinder.
- Turn ignition switch ON.
- Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to SEC-215, "Diagnosis Procedure".

NO >> INSPECTION END

### Diagnosis Procedure

1.CHECK FUSE

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

Signal name	Fuse No.
Battery power supply	43

#### Is the fuse fusing?

YES >> Is the blown fuse after repairing the affected circuit if a fuse is blown.

NO >> GO TO 2.

# 2.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. Installation. Refer to SEC-219, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Reinstall NATS antenna amp. correctly.

# 3.CHECK IGNITION KEY

Start engine with another registered ignition key.

#### Does the engine start?

YES >> Replace ignition key. Perform initialization and registration and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

NO >> GO TO 4.

# 4. CHECK NATS ANTENNA AMP. POWER SUPPLY

- Turn ignition switch OFF.
- 2. Disconnect NATS antenna amp. connector.
- Check voltage between NATS antenna amp. harness connector and ground.

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**SEC-215** Revision: 2009 October 2010 Z12

### P1614 CHAIN OF IMMU-KEY

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

(+)			Voltago (V)
NATS antenna amp.		(-)	Voltage (V) (Approx.)
Connector	Terminal		, , , ,
M26	M26 1		Battery voltage

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

# ${f 5.}$ CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

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

IPDM E/R		NATS antenna amp.		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E14	45	M26	1	Existed	

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

IPDM E/R			Continuity	
Connector	Connector Terminal		Continuity	
E14	45		Not existed	

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-64, "Removal and Installation".

NO >> Repair or replace harness.

# 6.CHECK NATS ANTENNA AMP. GROUND CIRCUIT

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

NATS antenna amp.			Continuity	
Connector	Connector Terminal			
M26	3		Existed	

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

# 7.CHECK NATS ANTENNA AMP. SIGNAL

- 1. Connect BCM connector and NATS antenna amp. connector.
- Check voltage between BCM harness connector and ground.

(+) BCM		(-) Condition	Voltage (V) (Approx.)	
Connector	Terminal			( 47.5)
M65 25	21	- Ground	Just after inserting ignition key in key cylinder	Pointer of tester should move
			Other than above	0
	25		Just after inserting ignition key in key cylinder	Pointer of tester should move
			Other than above	0

#### Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

# 8. CHECK NATS ANTENNA AMP. SIGNAL CIRCUIT

#### P1614 CHAIN OF IMMU-KEY

#### < DTC/CIRCUIT DIAGNOSIS >

### [WITHOUT INTELLIGENT KEY SYSTEM]

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

E	BCM	NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M65	21	M26	2	Existed
	25	IVIZO	4	LAISIEU

3. Check continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal	Ground	Continuity
M65	21	Ground	Not existed
	25	-	Not existed

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to SEC-274, "Removal and Installation".

NO >> Repair or replace harness.

9. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

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**SEC-217** 2010 Z12 Revision: 2009 October

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#### P1615 DIFFRENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

### P1615 DIFFRENCE OF KEY

Description INFOID.000000005492126

Performs ID verification through BCM when ignition switch is ON position.

Prohibits the release of steering lock or start of engine when an unregistered key is used.

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1615	DIFFERENCE OF KEY	The ID verification results between BCM and ignition key are NG.	Ignition key     BCM

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Insert ignition key into the key cylinder.
- 2. Turn ignition switch ON.
- 3. Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SEC-218</u>, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492128

## 1. PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Reregister all ignition keys.

For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 2.

## 2. REPLACE IGNITION KEY

- 1. Replace ignition key.
- Perform initialization with CONSULT-III. Reregister all ignition keys.
   For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 3.

3. REPLACE BCM

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

>> INSPECTION END

#### **B2190 NATS ANTENNA AMP.**

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

### B2190 NATS ANTENNA AMP.

Description INFOID:0000000005492129

Performs ID verification through BCM and NATS antenna amp. when ignition switch is ON position. Prohibits the release of steering lock or start of engine when an unregistered ID of ignition key is used.

DTC Logic INFOID:0000000005492130

#### DTC DETECTION LOGIC

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

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- Insert ignition key into the key cylinder.
- Turn ignition switch ON.
- Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to SEC-219, "Diagnosis Procedure".

NO >> INSPECTION END

### Diagnosis Procedure

1.CHECK FUSE

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

Signal name	Fuse No.	
Battery power supply	43	

#### Is the fuse fusing?

YES >> Is the blown fuse after repairing the affected circuit if a fuse is blown.

NO >> GO TO 2.

## 2.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. Installation. Refer to SEC-219, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Reinstall NATS antenna amp. correctly.

## 3.CHECK IGNITION KEY

Start engine with another registered ignition key.

#### Does the engine start?

YES >> Replace ignition key. Perform initialization and registration and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

NO >> GO TO 4.

## 4. CHECK NATS ANTENNA AMP. POWER SUPPLY

- Turn ignition switch OFF.
- 2. Disconnect NATS antenna amp. connector.
- Check voltage between NATS antenna amp. harness connector and ground.

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### **B2190 NATS ANTENNA AMP.**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

	(+)		\\-\tag{\chi}
NATS and	NATS antenna amp.		Voltage (V) (Approx.)
Connector	Terminal		, , ,
M26	1	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

## ${f 5.}$ 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.

IPDI	IPDM E/R		enna amp.	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E14	45	M26	1	Existed

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

IPDI	M E/R		Continuity
Connector	Terminal	Ground	Continuity
E14	45		Not existed

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-64, "Removal and Installation".

NO >> Repair or replace harness.

## 6.CHECK NATS ANTENNA AMP. GROUND CIRCUIT

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

NATS ant	enna amp.		Continuity
Connector	Terminal	Ground	Continuity
M26	3		Existed

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

## 7.CHECK NATS ANTENNA AMP. SIGNAL

- 1. Connect BCM connector and NATS antenna amp. connector.
- Check voltage between BCM harness connector and ground.

(+) BCM		(–)	Condition	Voltage (V) (Approx.)	
Connector	Terminal			( .FF. 6/11)	
	21		Just after inserting ignition key in key cylinder	Pointer of tester should move	
M65		Ground -	Other than above	0	
WIOS	25		Just after inserting ignition key in key cylinder	Pointer of tester should move	
			Other than above	0	

#### Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

## 8. CHECK NATS ANTENNA AMP. SIGNAL CIRCUIT

#### **B2190 NATS ANTENNA AMP.**

#### < DTC/CIRCUIT DIAGNOSIS >

### [WITHOUT INTELLIGENT KEY SYSTEM]

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

В	CM	NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M65	21	M26	2	Existed
	25	IVIZO	4	LAISIEU

3. Check continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal	Ground	Continuity
M65	21	Ground	Not existed
IVIOO	25		NOT GAISTED

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to <u>SEC-274, "Removal and Installation"</u>.

>> Repair or replace harness.

9. CHECK INTERMITTENT INCIDENT

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

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**SEC-221** 2010 Z12 Revision: 2009 October

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### **B2191 DIFFERENCE OF KEY**

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

#### **B2191 DIFFERENCE OF KEY**

Description INFOID:000000005492132

Performs ID verification through BCM when ignition switch is ON position.

Prohibits the release of steering lock or start of engine when an unregistered key is used.

DTC Logic INFOID:0000000005492133

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2191	DIFFERENCE OF KEY	The ID verification results between BCM and ignition key are NG.	Ignition key     BCM

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Insert ignition key into the key cylinder.
- 2. Turn ignition switch ON.
- 3. Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to SEC-222, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492134

## 1. PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Reregister all ignition keys.

For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 2.

## 2. REPLACE IGNITION KEY

- 1. Replace ignition key.
- Perform initialization with CONSULT-III. Reregister all ignition keys.
   For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 3.

3. REPLACE BCM

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

>> INSPECTION END

#### B2192 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## B2192 ID DISCORD, IMMU-ECM

Description INFOID:0000000005492135

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 starts the engine if the ID is OK. ECM prevents the engine from starting if the ID is not registered.

DTC Logic INFOID:0000000005492136

#### DTC DETECTION LOGIC

#### NOTE:

 If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".

 If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC 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

- Turn ignition switch ON.
- Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

>> Refer to SEC-223, "Diagnosis Procedure". YES

NO >> INSPECTION END

### Diagnosis Procedure

1. PERFORM INITIALIZATION

For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

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

YES >> INSPECTION END

NO >> GO TO 2.

## 2.REPLACE BCM

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

Perform initialization with CONSULT-III. Reregister all ignition keys.

Perform initialization with CONSULT-III. Reregister all ignition keys. For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/ NVIS".

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

YES >> INSPECTION END

NO >> GO TO 3.

## 3.REPLACE ECM

Replace ECM.

Perform initialization with CONSULT-III. Reregister all ignition keys. For initialization and registration of ignition key. Refer to "CONSULT-III Operation Manual NATS-IVIS/

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

YES >> INSPECTION END

NO >> GO TO 4.

#### 4.CHECK INTERMITTENT INCIDENT

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INFOID:0000000005492137

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**SEC-223** 

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

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

Refer to GI-35, "Intermittent Incident".

>> INSPECTION END

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

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

Description INFOID:0000000005492138

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:0000000005492139

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT-III.

#### Is DTC detected?

YES >> Refer to SEC-225, "Diagnosis Procedure".

NO >> INSPECTION END

## Diagnosis Procedure

INFOID:0000000005492140

## 1.REPLACE BCM

- Replace BCM. Refer to BCS-81, "Removal and Installation".
- Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

#### Does the engine start?

YES >> INSPECTION END

NO >> GO TO 2.

#### 2.REPLACE ECM

Replace ECM. Refer to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

>> INSPECTION END

**SEC-225** Revision: 2009 October 2010 Z12

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#### **B2195 ANTI-SCANNING**

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

#### **B2195 ANTI-SCANNING**

Description INFOID:000000005492141

When ignition switch is turned ON, BCM performs ID verification with ECM. If ID verification that is out of the specified specification is detected, BCM prohibits further ID verification and engine cranking.

DTC Logic

#### 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

- Turn ignition switch ON.
- 2. Check "Self-diagnosis result" using CONSULT-III.

#### Is DTC detected?

YES >> Refer to <u>SEC-226</u>, "Diagnosis Procedure".

NO >> INSPECTION END.

### Diagnosis Procedure

INFOID:0000000005492143

## 1. CHECK SELF-DIAGNOSIS RESULT-1

- 1. Perform "Self-diagnosis result" of BCM using CONSULT-III.
- 2. Erase DTC.
- Perform DTC Confirmation Procedure. Refer to <u>SEC-226, "DTC Logic"</u>.

#### Is DTC 2195 detected?

YES >> GO TO 2.

NO >> INSPECTION END

## 2.CHECK EQUIPMENT OF THE VEHICLE

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

Is unspecified accessory part related to engine start installed?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-81, "Removal and Installation".

## 3. CHECK SELF-DIAGNOSIS RESULT-2

- Obtain the customers approval to remove unspecified accessory part related to engine start, and then
  remove it.
- 2. Perform "Self-diagnosis result" of BCM using CONSULT-III.
- 3. Erase DTC.
- Perform DTC Confirmation Procedure. Refer to <u>SEC-226, "DTC Logic"</u>.

#### Is DTC 2195 detected?

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

NO >> INSPECTION END

#### [WITHOUT INTELLIGENT KEY SYSTEM]

### **B2196 DONGLE UNIT**

Description INFOID:0000000005492144

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

DTC Logic INFOID:0000000005492145

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-39, "DTC Logic".
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-40, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- 2. Turn ignition switch OFF.
- Turn ignition switch ON.
- Check "Self-diagnosis result" using CONSULT-III.

#### Is the DTC detected?

>> Refer to SEC-227, "Diagnosis Procedure". YES

NO >> INSPECTION END.

## Diagnosis Procedure

INFOID:0000000005492146

#### 1. PERFORM INITIALIZATION

- Perform initialization with CONSULT-III. Reregister all ignition keys. Refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".
- 2. Start the engine.

#### Does the engine start?

YES >> INSPECTION END

NO >> GO TO 2.

### 2.CHECK DONGLE UNIT CIRCUIT

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

В	CM	Dong	Continuity	
Connector Terminal		Connector	Terminal	Continuity
M65	24	M75	7	Existed

Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector Terminal		Ground	Continuity	
M65	24		Not existed	

#### Is the inspection result normal?

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#### **B2196 DONGLE UNIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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	
M75	1		Existed	

#### Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

#### **POWER SUPPLY AND GROUND CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

# POWER SUPPLY AND GROUND CIRCUIT

**BCM** 

**BCM**: Diagnosis Procedure

INFOID:0000000005492147

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## 1. CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Battery power supply	8
	G
ACC power supply	20
Ignition power supply	2

#### Is the fuse fusing?

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

NO >> GO TO 2.

## 2.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connectors.

3. Check voltage between BCM harness connector and ground.

Terminals			Ignition switch position		
(+)			ignition switch position		
BCM		(-)	OFF	ACC	ON
Connector	Terminal		OFF	ACC	ON
M67	70	Ground	Battery	Battery	Battery
IVIO7	57		voltage	voltage	voltage
M65	11		Approx. 0 V	Battery voltage	Battery voltage
14103	38		Approx. 0 V	Approx. 0 V	Battery voltage

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

## 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector Terminal		Ground	Continuity	
M67 67			Existed	

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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#### **SECURITY INDICATOR LAMP**

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

### SECURITY INDICATOR LAMP

Description INFOID:000000005492148

Security indicator lamp is located on combination meter.

• NVIS (Nissan Vehicle Immobilizer System) and vehicle security system conditions are indicated by blink or illumination of security indicator lamp.

## Component Function Check

INFOID:0000000005492149

### 1. CHECK FUNCTION

- 1. Perform "THEFT IND" in the "ACTIVE TEST" mode using CONSULT-III.
- 2. Check security indicator lamp operation.

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

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Go to SEC-230, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000005492150

## 1. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)		(-)	Voltago (V)	
Combination meter			Voltage (V) (Approx.)	
Connector Terminal			,	
M34	27	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 2.

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

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

## 2.CHECK SECURITY INDICATOR LAMP SIGNAL

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

(+) BCM		(-)	Voltage (V) (Approx.)
Connector	Terminal		(, 41, 2,)
M65	23	Ground	Battery voltage

#### Is the inspection result normal?

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

NO >> GO TO 3.

## 3. CHECK COMBINATION METER CIRCUIT

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

### **SECURITY INDICATOR LAMP**

### < DTC/CIRCUIT DIAGNOSIS >

### [WITHOUT INTELLIGENT KEY SYSTEM]

Combination meter		BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M34	18	M65	23	Existed

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

Combination meter			Continuity
Connector	Terminal	Ground	Continuity
M34	18		Not existed

#### Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-97, "Removal and Installation".

NO >> Repair or replace harness.

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#### HORN FUNCTION

#### .....

[WITHOUT INTELLIGENT KEY SYSTEM]

## HORN FUNCTION

< DTC/CIRCUIT DIAGNOSIS >

Description INFOID:000000005492151

Perform answer-back for each operation with horn.

## Component Function Check

#### INFOID:0000000005492152

## 1. CHECK FUNCTION

- 1. Perform "VEHICLE SECURITY HORN" in the "ACTIVE TEST" mode using CONSULT-III.
- 2. Check the horn operation.

Test item		Description	
VEHICLE SECURITY HORN	ON	Horn	Sounds (for 20 ms)

#### Is the operation normal?

YES >> Horn function is OK.

NO >> Go to SEC-232, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000005492153

## 1. CHECK HORN FUNCTION

Check horn function with horn switch.

#### Do the horn sound?

YES >> GO TO 2.

NO >> Refer to <u>HRN-2</u>, "Wiring <u>Diagram - HORN -"</u>.

## 2.CHECK IPDM E/R POWER SUPPLY

- 1. Disconnect IPDM E/R connector.
- 2. Check voltage between IPDM E/R harness connector and ground.

(+) IPDM E/R		(-)	Voltage (V) (Approx.)
Connector	Terminal		(11 - 7
E13	34	Ground	Battery voltage

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-64, "Removal and Installation".

NO >> GO TO 3.

## 3.CHECK IPDM E/R POWER SUPPLY CIRCUIT

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

IPDM E/R		Horn relay		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E13	34	E5	1	Existed

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E13	34		Not existed

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## HORN FUNCTION

: DTC/CIRCUIT DIAGNOSIS >	[WITHOUT INTELLIGENT KEY SYSTEM]
1. CHECK INTERMITTENT INCIDENT	
>> INSPECTION END	

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#### **HEADLAMP FUNCTION**

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## **HEADLAMP FUNCTION**

Description INFOID:000000005492154

Headlamp lighting when vehicle security system is alarm phase.

### Component Function Check

INFOID:0000000005492155

## 1. CHECK FUNCTION

- 1. Perform "HEAD LAMP(HI)" in the "ACTIVE TEST" mode using CONSULT-III.
- 2. Check headlamp operation.

Test item		Description	
HEAD LAMP (HI)	ON	HEADLAMP (HI)	Lighting
	OFF	TILADLAMI (III)	Does not lighting

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to <u>SEC-234, "Diagnosis Procedure"</u>.

## Diagnosis Procedure

INFOID:0000000005492156

## 1. CHECK HEADLAMP FUNCTION

Refer to EXL-47, "Component Function Check".

Is the inspection result normal?

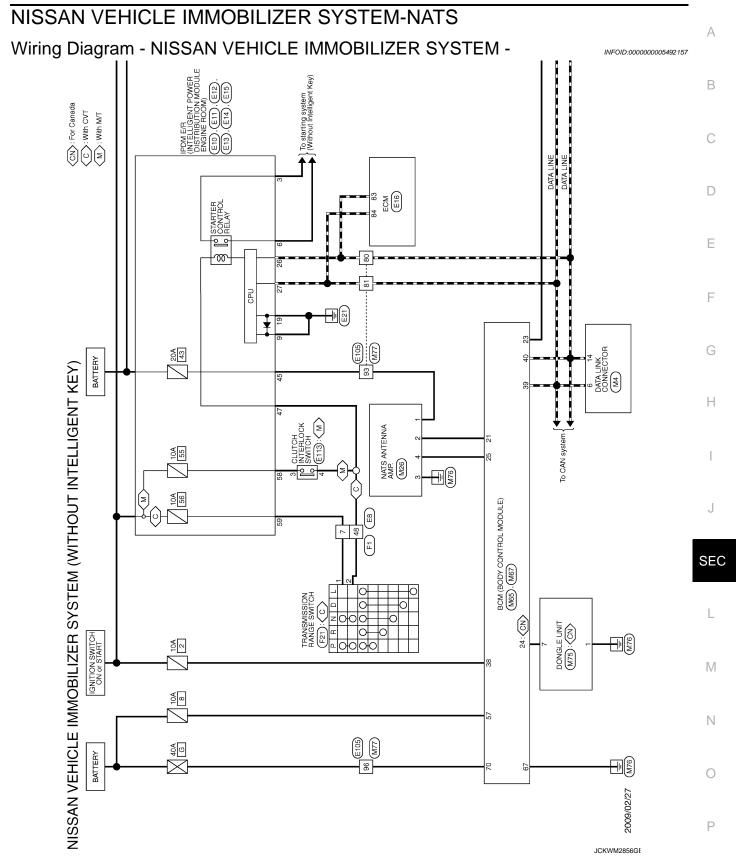
YES >> GO TO 2.

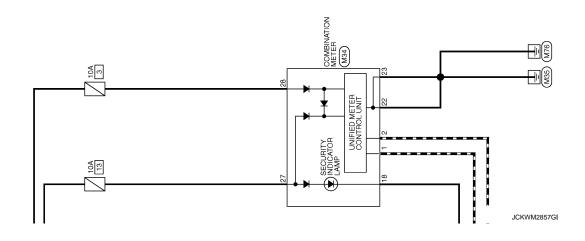
NO >> Repair or replace the malfunctioning parts.

## 2.CHECK INTERMITTENT INCIDENT

>> INSPECTION END

### [WITHOUT INTELLIGENT KEY SYSTEM]





## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

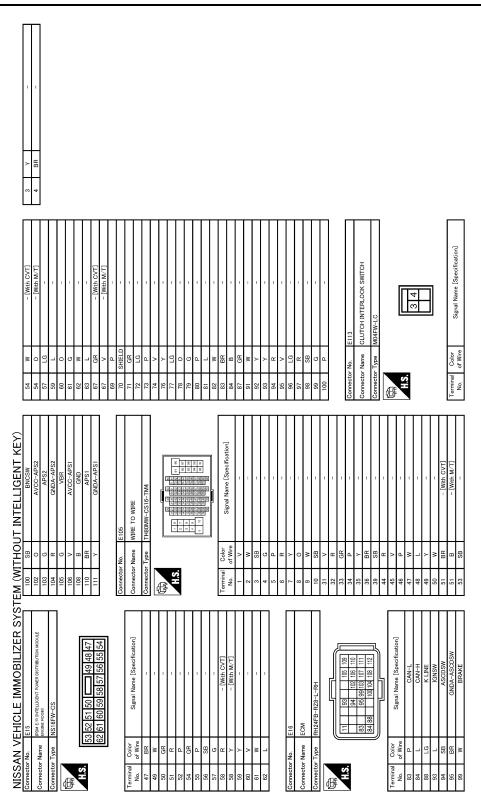
< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]
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# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS AGNOSIS > [WITHOUT INTELLIGENT KEY SYSTEM]



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## **NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS** [WITHOUT INTELLIGENT KEY SYSTEM]

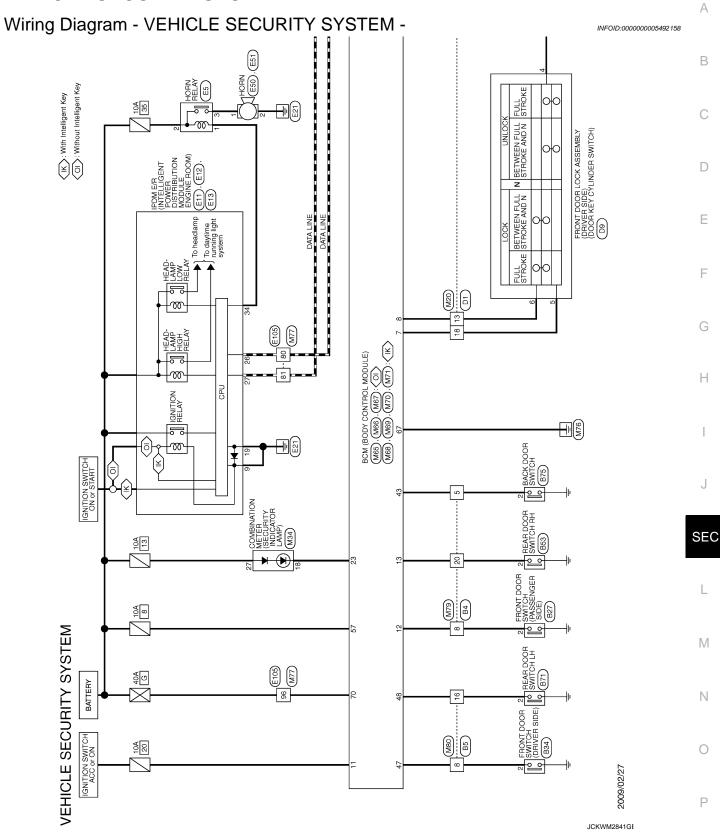
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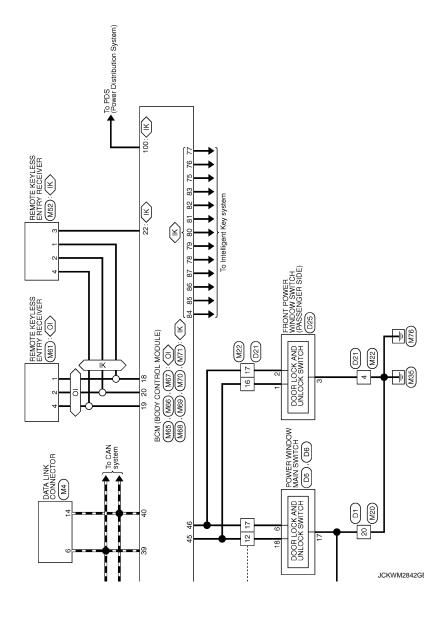
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# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS AGNOSIS > [WITHOUT INTELLIGENT KEY SYSTEM]

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	JCKWM3602GE	Р

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	Connector No. E11 Connector Name Prove RINTELLIGENT POWER DISTRIBUTION WODULE Connector Name Regules 1000M	Connector Type M06FB-LC	唇	H.S.	14 13 12	- 0	Ferminal Color   Signal Name [Specification]   No.   of Wire	B/W	10 L	-		Connector No. E12	Connector Name   PPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE   ENGINE ROOM)	Communitar Time NICOSEDB-OC	1			17 16 15	-	21 20 13		Terminal Color Signal Name [Specification] No.	T	19 B/W -		4													
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Terminal Color Signal Name [Specification]	20	Y/R	T.	HS		Terminal	Color Signal Name [Specification]	
t				100		t	BR/W COMBI SW INPUT 5	
2 W/R -	Connector No.	or No.	M34	1031	•	3	GR COMBI SW INPUT 4	
3 Y	Connector Name	Name	COMBINATION METER			4	L/Y COMBI SW INPUT 3	
L/B				ŀ	[	2		
œ	Connector Type	or Type	TH40FW-NH	nal	_	٥		
7	q.	_		No. of Wire	Ī	$\dagger$	Ť	
+	至				Ī	+	×	
+	HS			+	T	$^{+}$	R STOP LAMP SW	
יוב בי		01 01 00	1 0 0 0 1	w/G	T	+	W/L KEAK WINDOW DEFOGGER SW	
		98	35 31 30 38 37 36 38 37 39 31	4 BK POWER	1	=		
W/B		3	00   00   00   00   00   00   00   00		•	+	<u> </u>	
14 G/B –				1	_	+		
+				Connector No. M61	1	14	L/B OPTICAL SENSOR	
BR	Terminal		Signal Name [Specification]	Connector Name   BEMOTE KEYLESS ENTRY RECEIVER			4	
	No.	of Wire	,	Т	1	┪	R/G OPTICAL SENSOR POWER SUPPLY	
1	-	-	CAN-H	Connector Type TK04FW	1	18	1	
20 B –	2	Ь	CAN-L	1		+	ΚĒ	
	က	>	VEHICLE SPEED SIGNAL (2-PULSE)	RES.		+	KEYLE	
	4	_	VEHICLE SPEED SIGNAL (8-PULSE)			+	4	
Connector No. M22	9	BR∕Y	FUEL LEVEL SENSOR SIGNAL			+	SECUR	
Connector Name WIRE TO WIRE	7	R/G	AIR BAG SIGNAL	1 2 4		+	~	
	00	ь,	OVERDRIVE CONTROL SWITCH SIGNAL		•	52		
Connector Type NH10MW-CS10	6	0	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)			+		
đị.	10	SB	PARKING BRAKE SWITCH SIGNAL	ŀ	ſ	+		
ALT.	= 1	G/R	BRAKE FLUID LEVEL SWITCH SIGNAL	Ja		+	A/C	
1 0 3 4 5 6	13	B/R	ILLUMINATION CONTROL SIGNAL	No. or wire	1	$^{+}$	m I	
- -	15	L/Y	ACC POWER SUPPLY	>	1	+		
L	17	5	WASHER LEVEL SWITCH SIGNAL	2 G/Y –	1	┨	G/Y FR DEFROSTER SW	
7 8 9 10 15 19 20	18	R⁄	SECURITY SIGNAL	4 BR -	1	32	LG COMBI SW OUTPUT 5	
14 15 16 17 18	19	V/W	AMBIENT SENSOR SIGNAL			33	Y/L COMBI SW OUTPUT 4	
	20	R/W	AMBIENT SENSOR GROUND			34	W COMBI SW OUTPUT 3	
la	21	В	GROUND			35	R/L COMBI SW OUTPUT 2	
No. of Wire	22	В	GROUND			$\dashv$	COIV	
9	23	В	GROUND			┨	V KEY	
2 G –	24	>	FUEL LEVEL SENSOR GROUND		•	38	O IGN	
	22	В	VDC GROUND			39	L CAN-H	
2	27	LG	BATTERY POWER SUPPLY		_	40	P CAN-L	
6 W/R –	28	GR	IGNITION SIGNAL					

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### < DTC/CIRCUIT DIAGNOSIS >

Sonnector No. M66	Connector No.	$\Box$	M68	Connector No.		W69	Ö	Connector No.	
	Connector Name Connector Type		BCM (BODY CONTROL MODULE) TH40FB-NH	Connector Name Connector Type		BCM (BODY CONTROL MODULE) FEA09FW-FHA6-SA	Š Š	Connector Name Connector Type	BCM (BODY CONTROL MODULE) TH40FW-NH
47 48 49 54 55	歷 H.S.	1 2 3 4 21 22 23 24	6 7 8 9 10 11 12 13 14 15 16 17 18 19 15 15 15 15 15 15 15 15 15 15 15 15 15	香 H.S.		41 42 43 44 45 46 47 48 49 50 51 52 53 54 55		HS. (17172)	27 17 12 12 12 12 12 12 12 12 12 12 12 12 12
Signal Name [Specification]	Terminal No.	Color of Wire	Signal Name [Specification]	Terminal No.	Color of Wire	Signal Name [Specification]	Ē	Ferminal Color No. of Wire	r Signal Name [Specification]
	2	BR/W	COMBI SW INPUT 5	43	Α	BACK DOOR SW	Ц	71 R	Ц
REAR WIPER STOP POSITION	е,	S S	COMBI SW INPUT 4	44	5 E	REAR WIPER STOP POSITION		7	_
CENTRAL DOOR LOCK SW	4 rc	ی ا	COMBI SW INPUT 2	46	H H	CENTRAL DOOR LOCK SW CENTRAL DOOR UNLOCK SW		76 NB	PASSENGER DOOR REQUEST SW
DRIVER DOOR SW	g.	L/R	COMBI SW INPUT 1	47	BR∕Y	DRIVER DOOR SW	_	$\vdash$	BACK DOOR REQUEST SW
REAR LH DOOR SW	7	W/R	KEY CYL UNLOCK SW	48	M/G	REAR LH DOOR SW	Ц	78 LG	
A/C INDICATOR OUTPUT	œ	M/B	KEY CYL LOCK SW	54	L/W	REAR WIPER OUTPUT		+	
REAR WIPER OUTPUT	6	α <sub>W/W</sub>	STOP LAMP SW 1	22	g	REAR DOOR UNLOCK OUTPUT		80 BR/Y	Y PASSENGER DOOR ANT+
	= =	5	ACC F/B				<u> </u>	+	
	12	SB	PASSENGER DOOR SW	Connector No.		M70		Н	
BCM (BODY CONTROL MODULE)	13	GR/L	REAR RH DOOR SW	Connector Name		BCM (BODY CONTROL MODULE)		84 Y/G	ROOM ANT+
	4 5	W/L	REAR WINDOW DEFOGGER SW	Connector Type	Т	FEA09FB-FHA6-SA		86 P	JSN1
	17	R/G	OPTICAL SENSOR POWER SUPPLY		1		<u>                                      </u>	87 L	LUGGAGE ROOM ANT-
	18	>	RECEIVER / SENSOR GND	E				90 W/L	PUSH-BUTTON IGNITION SW ILL POWER
F	16	7	KEYLESS ENTRY RECEIVER POWER SUPPLY	SH	5			+	4
56 57 58 59 60 61 62 63 64	20	  - 	KEYLESS ENTRY RECEIVER COMM			7 58 59 60 61 62 63	1	92 BR/R 93 GR/W	M I-KFY WARN BUZZER
10 <i>/</i>	22	5/M	KEYLESS ENTRY RECEIVER RSSI			65   66   67   68   69   70		H	
	23	R/Y	SECURITY INDICATOR LAMP					95 W/G	1/S
	24	GR/R	DONGLE LINK	F	-			96 G	ACC RELAY CONT
Signal Name [Specification]	7.6	ς //b	A / C SW	N CN	of Wire	Signal Name [Specification]	<u> </u>	╁	101
INTERIOR ROOM LAMP POWER SUPPLY	28	M/D	BLOWER FAN SW	56	Ŀ	INTERIOR ROOM LAMP POWER SUPPLY		É	L
	29	M/T	HAZARD SW	22	Υ	BAT (FUSE)		100 L/O	
DRIVER DOOR UNLOCK OUTPUT	31	g/B	DR DOOR UNLOCK SENSOR	59	g	PASSENGER DOOR UNLOCK OUTPUT		$\dashv$	$\dashv$
TURN SIGNAL LH OUTPUT	32	ΓC	COMBI SW OUTPUT 5	09	W/B	TURN SIGNAL LH OUTPUT	_	+	CVT SHIFT
TURN SIGNAL RH OUTPUT	8	٦/,٢	COMBI SW OUTPUT 4	61	W/L	TURN SIGNAL RH OUTPUT	_	+	4
ALL BOOR LOCK SHIRLT	34 45	× 2	COMBI SW OUTPUT 3	63	HK >	ROOM LAMP TIMER CONTROL		106 4/8	BLOWER FAN MOTOR RELAY CONT
PASSENGER DOOR REAR DOOR LINI OCK CLITPLIT	8 8	9	COMBI SW COLFOL 2	99	\ R	DRIVER DOOR LOCK OUITPUT	<u> </u>	+	
	37	0/5	SHIFT P	67	В	GND	<u> </u>	F	TIRE
POWER WINDOW POWER SUPPLY (IGN)	88	0	IGN F/B	89	_	POWER WINDOW POWER SUPPLY (IGN)	_		
POWER WINDOW POWER SUPPLY (BAT)	39	٦	CAN-H	69	L/W	POWER WINDOW POWER SUPPLY (BAT)			
	40	۵	CAN-L	70	>	BAT (F/L)			

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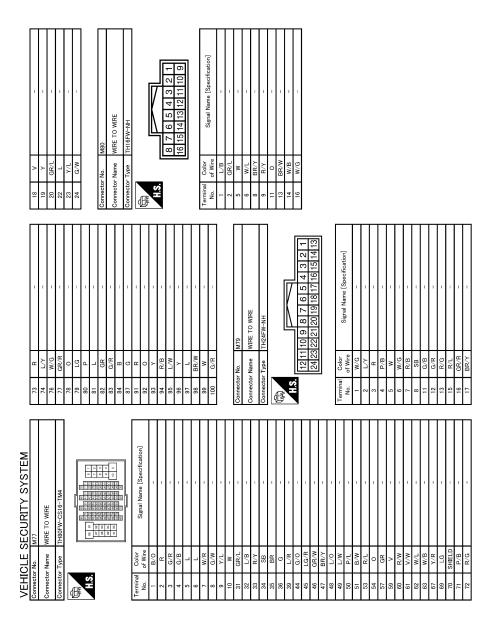
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< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

## **ECU DIAGNOSIS INFORMATION**

## **BCM (BODY CONTROL MODULE)**

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	Off
IGN ON SW	Ignition switch ON	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
KET ON SW	Mechanical key is inserted to key cylinder	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
CDL LOCK 3W	Press door lock/unlock switch to the lock side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
CDL UNLOCK 3W	Press door lock/unlock switch to the unlock side	On
DOOR SW-DR	Driver's door closed	Off
DOOK SW-DK	Driver's door opened	On
DOOR SW-AS	Passenger door closed	Off
DOOR SW-AS	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
DOOR SW-RL	Rear LH door opened	On
DACK DOOD CW	Back door closed	Off
BACK DOOR SW	Back door opened	On
LOCK STATUS	NOTE: The item is indicated, but not monitored.	Off
A C C C A L C I A L	Ignition switch OFF	Off
ACC ON SW	Ignition switch ACC or ON	On
VEVI 500 L 00V	"LOCK" button of key fob is not pressed	Off
KEYLESS LOCK	"LOCK" button of key fob is pressed	On
KEVI EGG LINII GOK	"UNLOCK" button of key fob is not pressed	Off
KEYLESS UNLOCK	"UNLOCK" button of key fob is pressed	On
SHOCK SENSOR	NOTE: The item is indicated, but not monitored.	NORMAL
KEN ON THE OW	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
VEV 0V/ 11N 0W	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
VEHICLE SPEED	While driving	Equivalent to speed- ometer reading
DEAD DEE C''	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
	NOTE:	Off
REVERSE SW CAN	The item is indicated, but not used.	On

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## < ECU DIAGNOSIS INFORMATION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
TAIL LAMP SW	Lighting switch OFF	Off
AIL LAWIF SW	Lighting switch 1ST	On
R FOG SW	Front fog lamp switch OFF	Off
K100 5W	Front fog lamp switch ON	On
BUCKLE SW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) OFF]	Off
JOCKEE OW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) ON]	On
RNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
CC SW	Ignition switch OFF	Off
100 011	Ignition switch ACC or ON	On
(YLS TRNK/HAT	NOTE: The item is indicated, but not monitored.	Off
EYLESS PANIC	PANIC button of key fob is not pressed	Off
L I LEGO PAINIU	PANIC button of key fob is pressed	On
II BEAM SW	Lighting switch OFF	Off
II DEVIN OM	Lighting switch HI	On
IEAD LAMB CVA/4	Lighting switch OFF	Off
IEAD LAMP SW 1	Lighting switch 2ND	On
JEAD LAMB CM C	Lighting switch OFF	Off
IEAD LAMP SW 2	Lighting switch 2ND	On
LITO LIQUIT OW	Lighting switch OFF	Off
UTO LIGHT SW	Lighting switch AUTO	On
24.001210.0144	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
TIDN CIONAL D	Turn signal switch OFF	Off
URN SIGNAL R	Turn signal switch RH	On
	Turn signal switch OFF	Off
URN SIGNAL L	Turn signal switch LH	On
N/D 0/M	Parking brake switch is OFF	Off
PKB SW	Parking brake switch is ON	On
THOME BUILD	Engine stopped	Off
ENGINE RUN	Engine running	On
ADTI OFNI (DTOT)	Bright outside of the vehicle	Close to 5 V
OPTI SEN (DTCT)	Dark outside of the vehicle	Close to 0 V
	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V
OPTI SEN (FILT)	Dark outside of the vehicle (Lighting switch AUTO)	Close to 1.50 V
IG SEN COND	NOTE: The item is indicated, but not monitored.	OFF
	Ignition switch OFF or ACC	Off
GN SW CAN	Ignition switch ON	On
	Front wiper switch OFF	Off
R WIPER HI	Front wiper switch HI	On
	Front wiper switch OFF	Off
R WIPER LOW	Front wiper switch LO	On

< ECU DIAGNOSIS INFORMATION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
FR WIPER INT	Front wiper switch OFF	Off
K WIPEK IINI	Front wiper switch INT	On
FR WASHER SW	Front washer switch OFF	Off
TR WASHER SW	Front washer switch ON	On
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
FR WIPER STOP	Any position other than front wiper stop position	Off
K WIFER STOP	Front wiper stop position	On
DD WIDED ON	Rear wiper switch OFF	Off
RR WIPER ON	Rear wiper switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
KK WIPEK INT	Rear wiper switch INT	On
	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
DD WIDED STOP	Rear wiper stop position	Off
RR WIPER STOP	Other than rear wiper stop position	On
RAIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
IAZADD OM	Hazard switch OFF	Off
HAZARD SW	Hazard switch ON	On
TANLONI OLO	Blower control dial OFF	Off
FAN ON SIG	Other than blower control dial OFF	On
AID COAID CW	<ul> <li>Air conditioner OFF (A/C switch indicator OFF) (Automatic air conditioner)</li> <li>A/C switch OFF (Manual air conditioner)</li> </ul>	Off
AIR COND SW	<ul> <li>Air conditioner ON (A/C switch indicator ON) (Automatic air conditioner)</li> <li>A/C switch ON (Manual air conditioner)</li> </ul>	On
THERMO AMP	Ignition switch ON	Off
NOTE: At models with automatic air conditioner this item is not monitored.	Evaporator is extremely low temperature	On
TD DEE OW	Other than A/C mode defroster ON position	Off
FR DEF SW	A/C mode defroster ON position	On
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	Off
TRNK OPNR SW	NOTE: The item is indicated, but not monitored.	Off
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	Off
HOOD SW	Close the hood	Off
HOOD SW	Open the hood	On
TD A NODONDED	Other than the ignition switch is ON by key registered to BCM.	Off
RANSPONDER	The ignition switch is ON by key registered to BCM.	On
NTELLI KEY	NOTE: The item is indicated, but not used.	Off
AUTO RELOCK	NOTE: The item is indicated, but not monitored.	Off

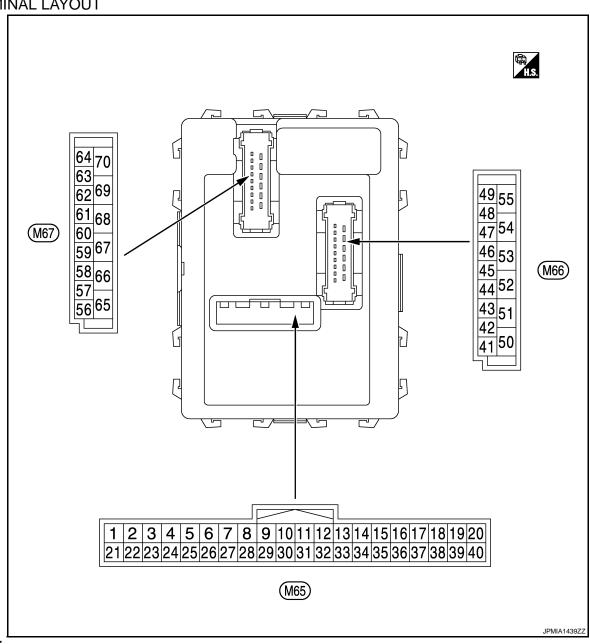
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#### < ECU DIAGNOSIS INFORMATION >

#### [WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
OIL PRESS SW	<ul><li>Ignition switch OFF or ACC</li><li>Engine running</li></ul>	Off
	Ignition switch ON	On
BRAKE SW	Brake pedal is not depressed	Off
DIVARL OVV	Brake pedal is depressed	On

#### **TERMINAL LAYOUT**



NOTE:

M65, M66: WhiteM67: Black

PHYSICAL VALUES

# < ECU DIAGNOSIS INFORMATION >

	nal No.	Description	1			Value		
+ (vvire	color)	Signal name	Input/ Output		Condition	(Approx.)		
					All switch OFF Turn signal switch RH Lighting switch HI	0 V		
2 (BR/W)	Ground	Combination switch INPUT 5	Input	Combination switch	Lighting switch 1ST	10 5 0 PKIB4958J		
(=1311)		tent dial 4)		tent dial 4)		(wiper intermit-	Lighting switch 2ND	(V) 15 10 5 0 → •10 ms JPMIA0342JP 2.0 V
					All switch OFF	0 V		
					Turn signal switch LH			
					Lighting switch PASS	(V) 15		
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper intermit-	Lighting switch 2ND	10 5 0 ++10ms PKIB4958J 1.0 V		
(2.9)				tent dial 4)	Front fog lamp switch ON	(V) 15 10 5 0  ++10ms  PKIB4956J		
					All switch OFF	0.8 V 0 V		
					Front wiper switch LO	U V		
					Front wiper switch MIST	(V)		
4		Combination switch		Combination switch	Front wiper switch INT	(V) 15 10 5		
(L/Y)	Ground	INPUT 3	Input	switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	0 ++10ms PKIB4958J		
						1.0 V		

## < ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description	1		Condition	Value																			
+	-	Signal name	Input/ Output		Condition	(Approx.)																			
					All switch OFF (Wiper intermittent dial 4)	0 V																			
					Front washer switch (Wiper intermittent dial 4)	(V)																			
					Rear washer switch ON (Wiper intermittent dial 4)	10 5 0																			
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	++10ms PKIB4958J																			
						Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 +-10ms PKIB4956J																		
					All switch OFF (Wiper intermittent dial 4)	0.8 V 0 V																			
					Front wiper switch HI (Wiper intermittent dial 4)	( <u>V)</u>																			
					Rear wiper switch INT (Wiper intermittent dial 4)	15 10 5 0																			
										l	I.														Wiper intermittent dial 3 (All switch OFF)
6 (L/R)	Ground	Combination switch INPUT 1	Input	Combination switch	Any of the condition below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2	(V) 15 10 10 10 10 10 10 10 10 10 10 10 10 10																			
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 ++10ms PKIB4956J 0.8 V																			

# < ECU DIAGNOSIS INFORMATION >

	nal No.	Description			• "	Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0 ** 10ms PKIB4960J
					UNLOCK position	7.0 - 8.0 V 0 V
					NEUTRAL position	12 V
8 (W/B)	Ground	Door key cylinder switch LOCK	Input	Door key cylin- der switch	LOCK position	0 V
					OFF (Brake pedal is not	
9				Stop lamp	depressed)	0 V
(R)	Ground	Stop lamp switch	Input	switch	ON (Brake pedal is depressed)	Battery voltage
10	Ground	Rear window defog-	Input	Rear window	OFF (Not pressed)	12 V
(W/L)	Giodila	ger switch	прис	defogger switch	ON (Pressed)	0 V
11	Crown	Ignition oviteb ACC	ln=:-t	Ignition switch O	FF	0 V
(L/Y)	Ground	Ignition switch ACC	Input	Ignition switch A	CC or ON	Battery voltage
12 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) 15 0 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When passenger door opened)	0 V
13 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)	(V) 15 10 5 0 10ms PKIB4960J 7.0 - 8.0 V
					ON (When rear RH door opened)	0 V
14	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(L/B)				ON	When dark outside of the vehicle	Close to 0 V

## < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value		
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)		
15 (V/W)	Ground	Tire pressure warning check switch	Input	Ignition switch C	DFF	(V) 15 10 5 0 10 ms JPMIA0012GB		
17 (R/G)	Ground	Optical sensor pow- er supply	Output	Ignition switch	OFF, ACC	1.0 - 1.5 V 0 V 5 V		
18 (V)	Ground	Receiver and sensor ground	Input	Ignition switch C	N	0 V		
	Remote keyles				Insert mechanical key into ignition key cylinder	0 V		
					Remove mechanical key from ignition key cylinder (Any door opened)	5 V		
		Remote keyless en- try receiver power supply	Input	Ignition switch OFF	Remove mechanical key from ignition key cylinder (Any door closed)	(V) 6 4 2 0 **0.2 \$ JPMIA0338JP		
					Insert mechanical key into ignition key cylinder	0 V		
20 (G/Y)	Ground	Remote keyless entry receiver communication	Input	Input	Input	Ignition switch OFF	Waiting	(V) 6 4 2 0 •••1.0ms
					Signal receiving	(V) 6 4 2 0 ••1.0ms		
21 (P/L)	Ground	Immobilizer anten- na (Clock)	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.		

# < ECU DIAGNOSIS INFORMATION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

Terminal No. Description (Wire color)		Description				Value
+ (vvire	–	Signal name	Input/ Output		Condition	(Approx.)
					ON	0 V
23 (R/Y)	Ground Security indicator		Input Security indicator		Blinking (Ignition switch OFF)	(V) 15 10 5 0 1 s JPMIA0014GB
				OFF	11.3 V 12 V	
24 (GR/R)	Ground	Dongle link	Input/ Output	Ignition switch O	FF	5 V
25 (LG)	Ground	Immobilizer antenna (Rx, Tx)	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
26* <sup>1</sup>	Ground	Thermo control amp.	Input	Ignition switch O	N	0 V
(GR)	Giouna	memo control amp.	IIIput	Evaporator is ext	tremely low temperature	12 V
		A/C switch (Automatic air conditioner)		A/C	OFF (A/C switch indicator: OFF)	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V
27 (Y/G)* <sup>2</sup>	Ground		Input		ON (A/C switch indicator: ON)	0 V
(Y/R)* <sup>3</sup>		A/C switch (Manual c air conditioner)		A/C switch	OFF	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V
					ON	0 V

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## < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)	
			-		Blower fan switch OFF	0 V	
28	Ground	Blower fan switch (Automatic air condi- tioner)	Input	Fan switch	Blower fan switch ON	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V	
(G/W)	Glound	Blower fan switch (Manual air condi- tioner)	Input –	Input Fan	Fan switch	Blower fan switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					Blower fan switch ON	0 V	
29	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage	
(L/W)			'		ON	0 V	
					A/C mode defroster ON position	0 V	
31 (G/Y)	Ground	Front defroster switch	Input	Ignition switch ON	Other than A/C mode de- froster ON position	(V) <sub>15</sub> 10 5 0 ***-2ms JPMIA0589GB 8.0 - 9.0 V	
32		Combination switch		Combination	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V	
(LG)	Ground	OUTPUT 5	Output	switch	Front fog lamp switch ON (Wiper intermittent dial 4)  Rear wiper switch ON (Wiper intermittent dial 4)  Any of the condition below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 6  • Wiper intermittent dial 7	(V) 15 10 10 10 10 10 10 10 10 10 10 10 10 10	

# < ECU DIAGNOSIS INFORMATION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

	Terminal No. Description (Wire color)			O a Referen	Value	
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	
				ownon.	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10
				Rear wiper switch INT (Wiper intermittent dial 4)	0	
					Any of the condition below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	PKIB4958J
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 ++10ms PKIB4960J 7.0 - 8.0 V
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	
` '					Lighting switch HI (Wiper intermittent dial 4)	(V) 15
					Rear washer switch ON (Wiper intermittent dial 4)	5 0
					Any of the condition below with all switch OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 3	PKIB4958J

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## < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
35	Crowned	Combination switch	Outout	Combination switch	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
(R/L)	Ground	OUTPUT 2	Output	(Wiper intermit- tent dial 4)	Lighting switch 2ND	
				terit diai 4)	Lighting switch PASS	(V) 15
					Front wiper switch INT	10 5
					Front wiper switch HI	0 → +10ms PKIB4958J 1.2 V
36	Ground	Combination switch		Combination switch	All switch OFF	(V) 15 10 5 0 +-10ms PKIB4960J 7.0 - 8.0 V
(L/O)	Ordana	OUTPUT 1	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	W
				,	Turn signal switch LH	(V) 15 10
					Front wiper switch LO (Front wiper switch MIST)	5 0
					Front washer switch ON	PKIB4958J
37	Ground	Key switch	Input	Insert mechanica der	al key into ignition key cylin-	Battery voltage
(R/W)	Ciound	Toy Switch	IIIput	Remove mechan cylinder	nical key from ignition key	0 V
38	Ground	Ignition switch ON	Input	Ignition switch O		0 V
(O)	Cidana	g.m.on cwiton Civ	-	Ignition switch O	N	Battery voltage
39 (L)	Ground	CAN-H	Input/ Output		_	_
40 (P)	Ground	CAN-L	Input/ Output		_	_

# < ECU DIAGNOSIS INFORMATION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

	nal No.	Description				Value
+ (vvire	e color)	Signal name	Input/ Output		Condition	(Approx.)
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) 15 10 5 0 + 10ms PKIB4960J
						7.0 - 8.0 V
					ON (When back door opened)	0 V
44		Rear wiper stop po-		Ignition switch	Rear wiper stop position	12 V
(LG)	Ground	sition	Input	ON	Any position other than rear wiper stop position	0 V
45 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 ms JPMIA0012GB
					LOCK position	0 V
46 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 ms JPMIA0012GB
					UNLOCK position	0 V
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 5 0 + 10ms PKIB4960J
					ON (When driver door opened)	7.0 - 8.0 V 0 V

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## < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When rear LH door opened)	0 V
50* <sup>1</sup> (SB)	Ground	A/C indicator	Output	A/C indicator	OFF ON	12 V 0 V
54			•	Ignition switch	Rear wiper switch OFF	0 V
(L/W)	Ground	Rear wiper	Output	ŎN	Rear wiper switch ON	12 V
					np battery saver is activated. room lamp power supply)	0 V
56 (L)	Ground	Interior room lamp power supply	Output	vated.	np battery saver is not acti- rior room lamp power sup-	12 V
57 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage
59	Ground	Driver door UN-	Output	Driver door	UNLOCK (Actuator is activated)	12 V
(L/B)	Ground	LOCK	Output	Driver door	Other then UNLOCK (Actuator is not activated)	0 V
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF  Turn signal switch LH	0 V  (V) 15 10 5 0 PKIC6370E 6.0 V
					Turn signal switch OFF	0 V
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 18 18 18 PKIC6370E
63		Interior room lamp	0	Interior room	OFF	12 V
(BR)	Ground	timer control	Output	lamp	ON	0 V

### < ECU DIAGNOSIS INFORMATION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
65	Cround	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	12 V
(V)	Ground	All doors LOCK	Output	All doors	Other then LOCK (Actuator is not activated)	0 V
66	Ground	Passenger door and	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
(G)	Giodila	rear door UNLOCK	Output	and rear door	Other then UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch O	N	0 V
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch O	N	12 V
69 (L/W)	Ground	P/W power supply (BAT)	Output	Ignition switch O	FF	12 V
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage

<sup>• \*1:</sup> Only manual air conditioner

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**SEC-263** Revision: 2009 October 2010 Z12

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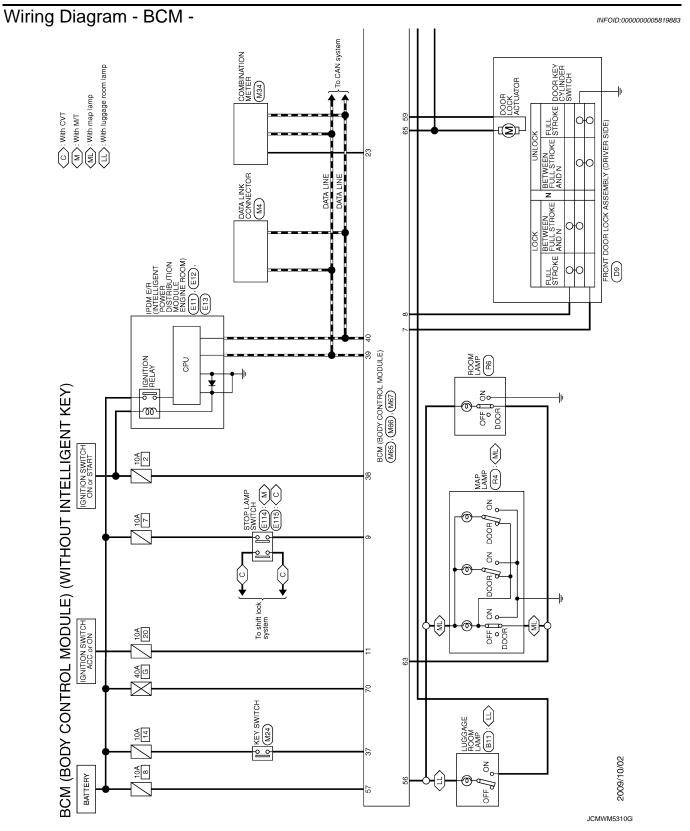
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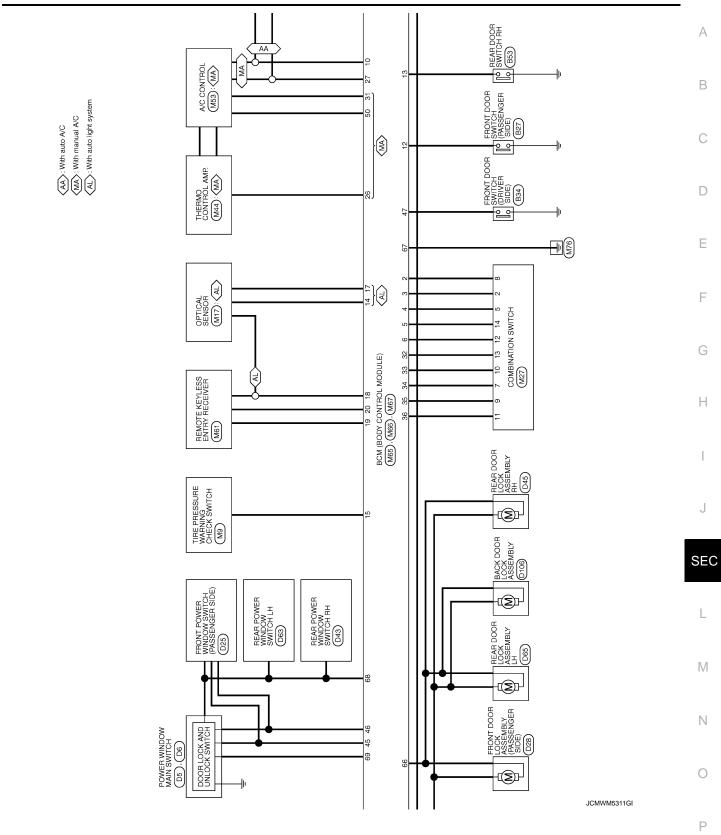
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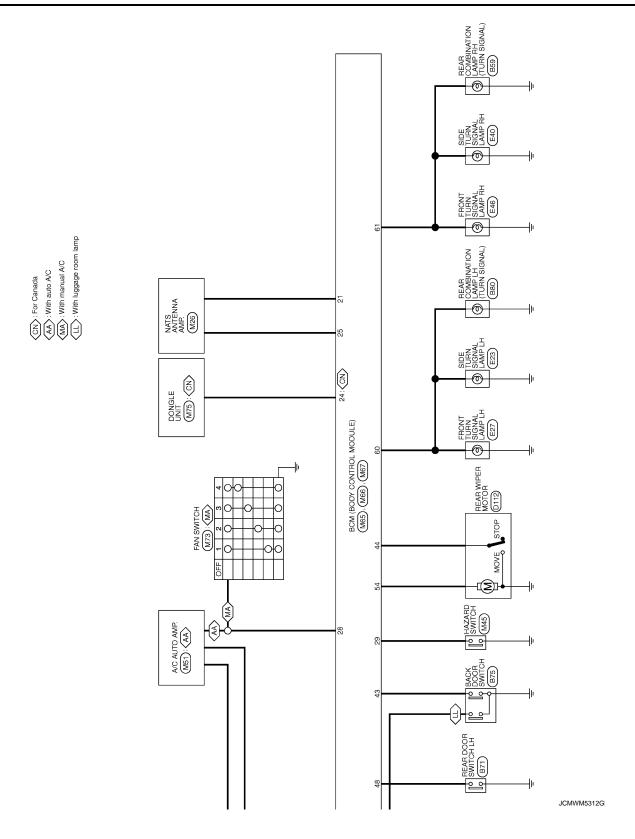
<sup>• \*2:</sup> Automatic air conditioner

<sup>• \*3:</sup> Manual air conditioner



< ECU DIAGNOSIS INFORMATION >





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JCMWM5313G

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#### FAIL-SAFE CONTROL BY DTC

Fail-safe

BCM performs fail-safe control when any DTC are detected.

#### < ECU DIAGNOSIS INFORMATION >

### [WITHOUT INTELLIGENT KEY SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation	
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC	
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC	
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC	
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC	
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$	
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC	

#### REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper auto stop signal.

When the rear wiper auto stop signal does not change more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

#### Condition of cancellation

- 1. Pass more than 1 minute after the rear wiper stop.
- Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

### DTC Inspection Priority Chart

INFOID:0000000005819885

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	U1000: CAN COMM U1010: CONTROL UNIT (CAN)
2	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING B2196: DONGLE NG
3	C1735: IGN CIRCUIT OPEN
4	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] FR</li> <li>C1711: [NO DATA] RL</li> <li>C1711: [NO DATA] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1729: VHCL SPEED SIG ERR</li> <li>C1734: CONTROL UNIT</li> </ul>

DTC Index

#### NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1
   → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter
   remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch
   OFF → ON after returning to the normal condition if the malfunction is detected again.

< ECU DIAGNOSIS INFORMATION >

## [WITHOUT INTELLIGENT KEY SYSTEM]

CONSULT display	Fail-safe	Tire pressure monitor warn- ing lamp ON	Reference	
U1000: CAN COMM	_	_	BCS-115	
U1010: CONTROL UNIT (CAN)	_	_	BCS-116	
B2190: NATS ANTENNA AMP	×	_	SEC-219	
B2191: DIFFERENCE OF KEY	×	_	SEC-222	
B2192: ID DISCORD BCM-ECM	×	_	SEC-223	
B2193: CHAIN OF BCM-ECM	×	_	<u>SEC-225</u>	
B2195: ANTI SCANNING	×	_	<u>SEC-226</u>	
B2196: DONGLE NG	×	_	SEC-227	
C1704: LOW PRESSURE FL	_	×		
C1705: LOW PRESSURE FR	_	×	<u>WT-30</u>	
C1706: LOW PRESSURE RR	_	×		
C1707: LOW PRESSURE RL	_	×		
C1708: [NO DATA] FL	_	×	- <u>WT-32</u>	
C1709: [NO DATA] FR	_	×		
C1710: [NO DATA] RR	_	×		
C1711: [NO DATA] RL	_	×		
C1716: [PRESS DATA ERR] FL	_	×	<u>WT-35</u>	
C1717: [PRESS DATA ERR] FR	_	×		
C1718: [PRESS DATA ERR] RR	_	×		
C1719: [PRESS DATA ERR] RL	_	×		
C1729: VHCL SPEED SIG ERR	_	×	<u>WT-37</u>	
C1734: CONTROL UNIT	_	×	<u>WT-39</u>	
C1735: IGN CIRCUIT OPEN	_	_	BCS-117	

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### SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

# SYMPTOM DIAGNOSIS

### SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description INFOID:000000005492164

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

- Before performing the diagnosis, check "Work Flow". Refer to SEC-6, "Work Flow".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

### CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

Ignition switch is not in the ON position.

### Diagnosis Procedure

INFOID:0000000005492165

## 1. CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.

Refer to SEC-113, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2.CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".

NO >> GO TO 1.

### **VEHICLE SECURITY SYSTEM CANNOT BE SET**

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## VEHICLE SECURITY SYSTEM CANNOT BE SET

Description INFOID:0000000005492166

Armed phase is not activated when door is locked using keyfob.

NOTE:

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

CONDITION OF VEHICLE (OPERATING CONDITION)

Confirm the setting of "SECURITY ALARM SET" in "WORK SUPPORT" in "THEFT ALM" using CONSULT-III.

Diagnosis Procedure

1. CHECK REMOTE KEYLESS ENTRY SYSTEM

Lock/unlock door with keyfob.

Refer to DLK-233, "System Description".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check remote keyless entry system. Refer to <u>DLK-308</u>, "<u>Diagnosis Procedure</u>".

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".

NO >> GO TO 1.

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INFOID:0000000005492167

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### VEHICLE SECURITY ALARM DOES NOT ACTIVATE

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

### VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description INFOID:000000005492168

Alarm does not operate when alarm operating condition is satisfied.

#### NOTE:

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

#### CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

"SECURITY ALARM SET" in "WORK SUPPORT" of "THEFT ALM" is ON when setting on CONSULT-III.

### Diagnosis Procedure

INFOID:0000000005492169

### 1. CHECK DOOR SWITCH

Check door switch.

Refer to DLK-243, "Component Function Check".

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the malfunctioning door switch

## 2.CHECK HEADLAMP FUNCTION

### Check headlamp function.

Refer to SEC-234, "Component Function Check".

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

### 3. CHECK HORN FUNCTION

#### Check horn function.

Refer to SEC-232, "Component Function Check".

### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

## 4. CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

YES >> Check intermittent incident. Refer to GI-35, "Intermittent Incident".

NO >> GO TO 1.

#### **PRECAUTIONS**

< PRECAUTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

## **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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### **WARNING:**

- 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the
  ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s)
  with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly
  causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

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### NATS ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

# REMOVAL AND INSTALLATION

## NATS ANTENNA AMP.

Exploded View

Refer to IP-12, "Exploded View".

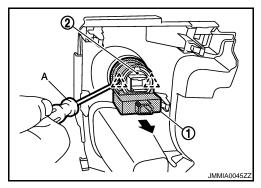
Removal and Installation

#### **REMOVAL**

- 1. Remove the switch panel finisher. Refer to <u>IP-13</u>, "<u>Removal and Installation</u>".
- Disengage pawl with flat blade screwdriver.



3. Pull NATS antenna amp.(1) forward and then remove push-button ignition switch (2).



#### **INSTALLATION**

Install in the reverse order of removal.