

# SECTION **SEC**

## SECURITY CONTROL SYSTEM

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

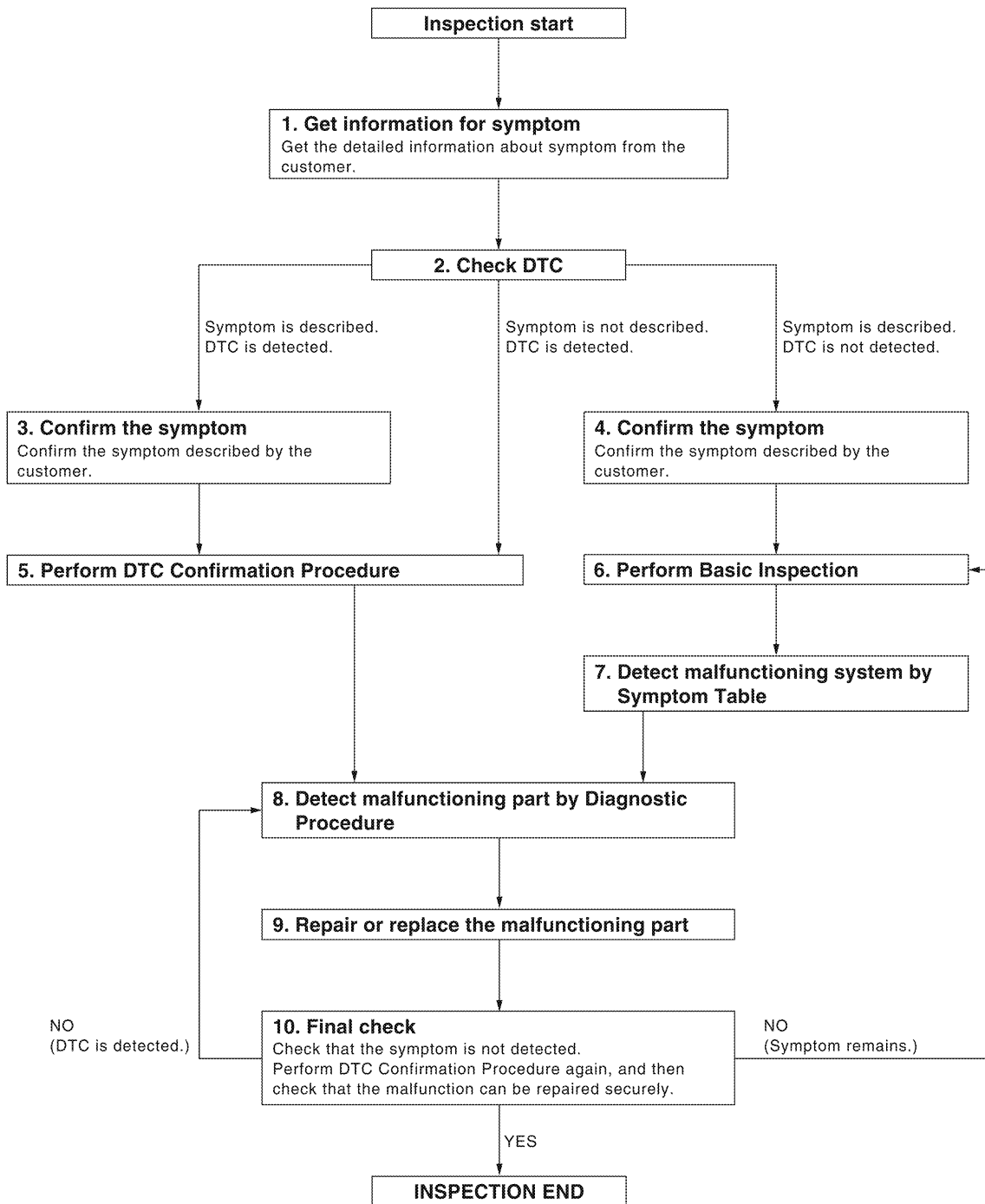
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000001546990

OVERALL SEQUENCE



DETAILED FLOW

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

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## 1.GET INFORMATION FOR SYMPTOM

---

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

>> GO TO 2.

## 2.CHECK DTC

---

1. Check DTC for Intelligent Key unit and 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 [SEC-49, "DTC Inspection Priority Chart"](#) (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 8.

NO >> Refer to [GI-41, "Intermittent Incident"](#).

## 6.PERFORM BASIC INSPECTION

---

Perform Basic Inspection. Refer to [SEC-53, "Basic Inspection"](#).

>> GO TO 7.

## 7.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

---

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

>> GO TO 8.

## 8.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

---

Inspect according to Diagnostic Procedure of the system.

**NOTE:**

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

>> GO TO 9.

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

---

## 9. 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.

>> GO TO 10.

## 10. 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 8.

YES (Symptom remains)>>GO TO 6.

NO >> **INSPECTION END**

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# INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

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## INSPECTION AND ADJUSTMENT

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:000000001546991

Refer to CONSULT-III Operation Manual.

### ECM RE-COMMUNICATING FUNCTION

#### ECM RE-COMMUNICATING FUNCTION : Description

INFOID:000000001546992

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

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

(In this step, initialization procedure by CONSULT-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.
- If multiple keys are attached to the key holder, separate them before work.
- Distinguish keys with unregistered key ID from those with registered ID.

#### ECM RE-COMMUNICATING FUNCTION : Special Repair Requirement

INFOID:000000001546993

### 1. PERFORM ECM RE-COMMUNICATING FUNCTION

---

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

Can engine be started?

YES >> Procedure is completed.

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

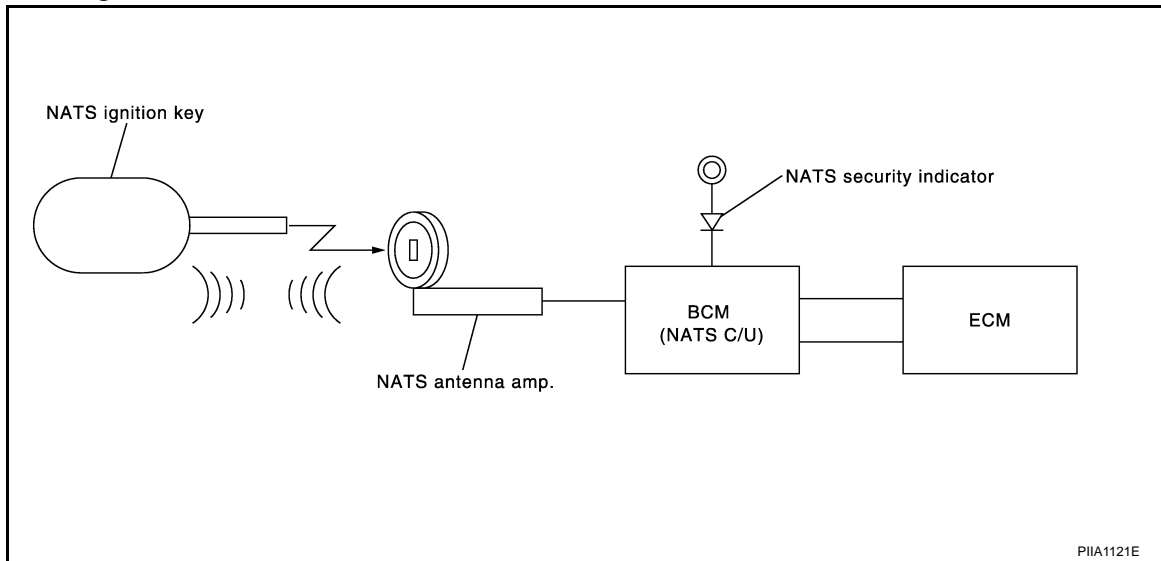
# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< FUNCTION DIAGNOSIS >

## FUNCTION DIAGNOSIS

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

#### System Diagram



#### System Description

INFOID:000000001546995

#### INPUT/OUTPUT SIGNAL CHART

##### BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal
NATS antenna amp.	Key ID	NATS	<ul style="list-style-type: none"> <li>Security indicator lamp</li> <li>Starter request</li> </ul>
ECM	Engine status signal		

#### SYSTEM DESCRIPTION

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

- Engine immobilizer shows high anti-theft performance to prevent engine from starting 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.
- Security indicator always flashes with mechanical key removed condition (key switch: OFF) and ignition knob released condition on LOCK position (ignition knob switch: OFF).
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system. Refer to [SEC-10, "System Description"](#).
- If system detects malfunction, security indicator illuminates when ignition switch is turned to ON position.
- If the owner requires, ignition key ID or mechanical key ID can be registered for up to 5 keys.
- During trouble diagnosis or when the following parts have been replaced, and if ignition key is added, registration\* is required.

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

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

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

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# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## < FUNCTION DIAGNOSIS >

- Possible symptom of NATS malfunction is "Engine cannot start". Identify the possible causes according to "Work Flow", Refer to [SEC-3, "Work Flow"](#).
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to [SEC-6, "ECM RE-COMMUNICATING FUNCTION : Description"](#).

## PRECAUTIONS FOR KEY REGISTRATION

- The key registration is a procedure that erases the current NATS ID once, and then re-registers a new ID. Therefore the registered key is necessary for this procedure. Before starting the registration operation collect all registered Keys from the customer.
- The NATS ID registration is the procedure that registers the ID stored into the transponder (integrated in mechanical key) to BCM.  
The key ID registration is the procedure that registers the ID to the BCM.
- When performing the key system registration only, the engine cannot be started by inserting the key into the key cylinder. When performing the NATS registration only, the engine cannot be started by using the ignition key.

## SECURITY INDICATOR

- Always flashes with ignition key in the OFF position.

## MAINTENANCE INFORMATION

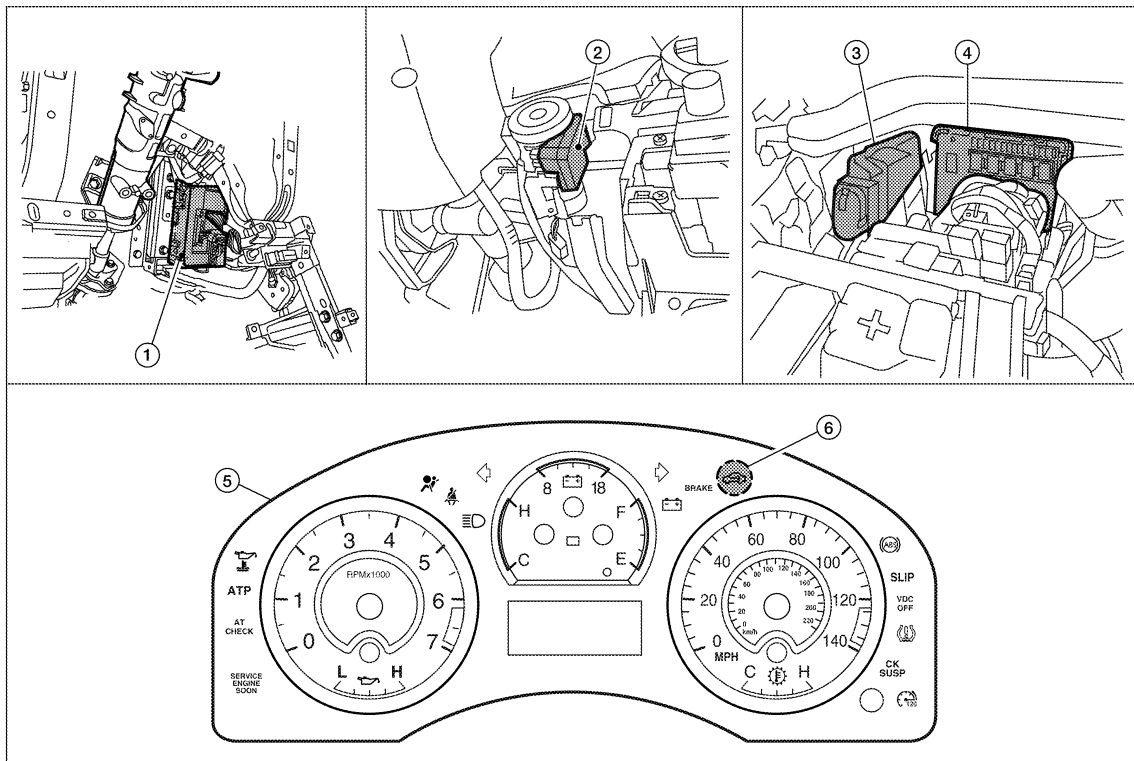
### CAUTION:

It is necessary to perform NATS ID registration when replacing any of the following part. If it's not (or fail to do so), the electrical system may not operate properly.

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

## Component Parts Location

INFOID:000000001546996



ALKIA0701ZZ



# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

## < FUNCTION DIAGNOSIS >

- |   |                          |                            |   |
|---|--------------------------|----------------------------|---|
| 1. BCM M18, M19, M20<br>(view with instrument panel LH removed) | 2. NATS antenna amp. M21 | 3. ECM E16                 | A |
| 4. IPDM E/R E119, E120, E122, E124<br>(view with cover removed) | 5. Combination meter M24 | 6. Security indicator lamp | B |

## Component Description

INFOID:000000001546997

Item	Function
BCM	Verifies the received signal from the ignition key ID, then informs ECM whether to allow engine start.
Remote keyless entry receiver	Receives lock/unlock signal from the keyfob, and then transmits to the BCM.
A/T device (detention key switch)	Detects whether the shift lever is in park.
NATS antenna amp.	Detects the ignition key presence in the ignition key cylinder.
Security indicator	Indicates the status of the security system.
IPDM E/R	Powers-up the horn and the headlamps in case of a security breach.

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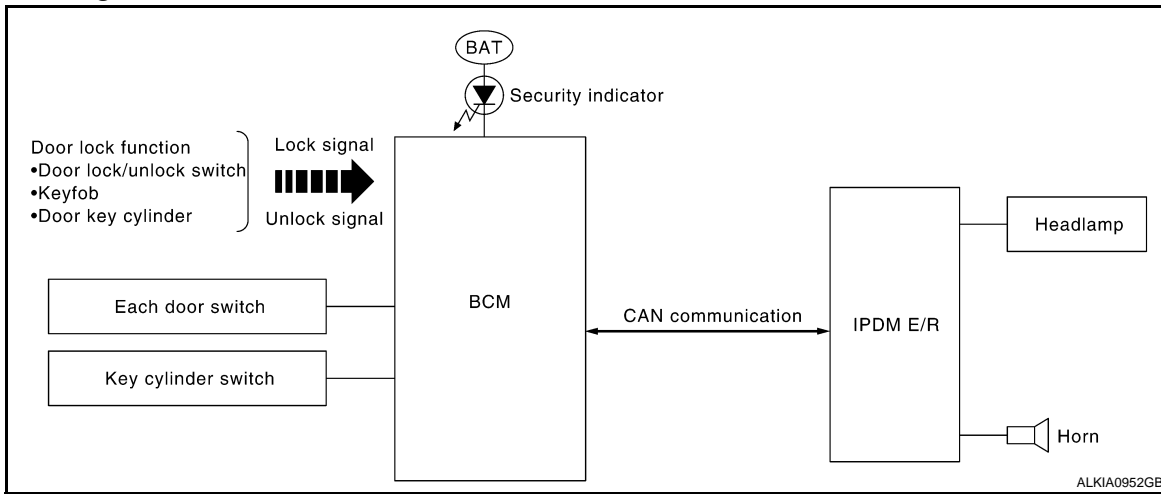
# VEHICLE SECURITY SYSTEM

< FUNCTION DIAGNOSIS >

## VEHICLE SECURITY SYSTEM

### System Diagram

INFOID:000000001546998



### System Description

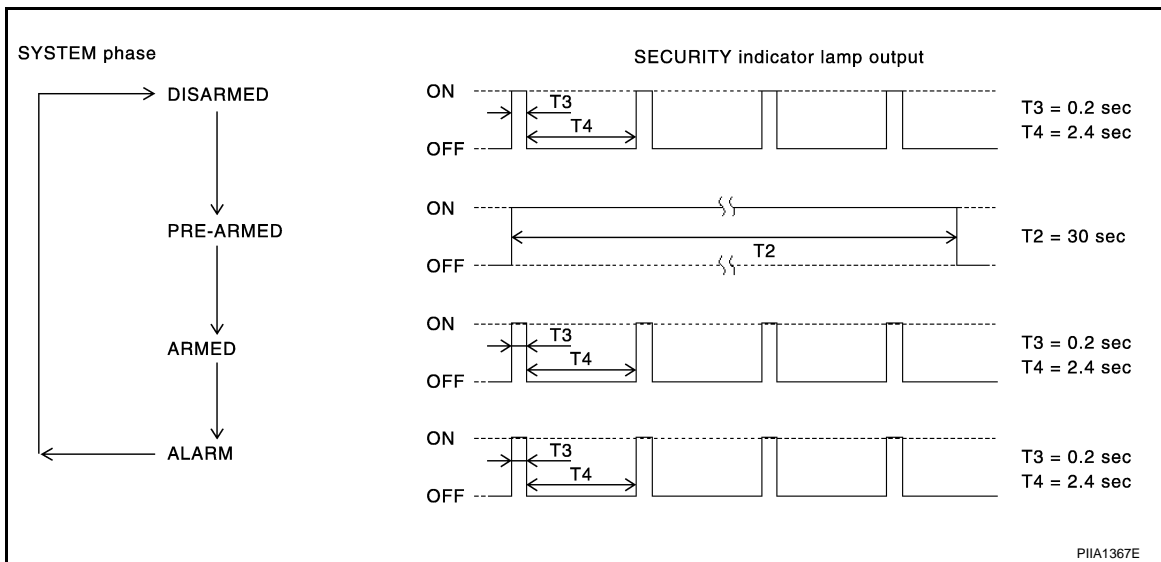
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#### DESCRIPTION

The security system provides an audible and visual alarm when an unauthorized access to the vehicle is detected while the system is in armed phase.

The security system consist of the BCM managing the audible alarm (horn) and the visual alarm (headlamps).

#### OPERATION FLOW



#### Disarmed Phase

When the vehicle is being driven or when doors are open, the theft warning system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.

#### Pre-Armed Phase And Armed Phase

The vehicle security system turns into the pre-armed phase when ignition switch is in OFF position, all doors are closed and locked (using keyfob, doorlock/unlock switch, driver key cylinder or auto relock function). The system automatically shifts into the armed phase.

#### Condition of Activating The System

When the following condition is performed in armed phase, the system sounds the horns and flashes the headlamps for about 30 seconds.

- Any door is opened.

# VEHICLE SECURITY SYSTEM

## < FUNCTION DIAGNOSIS >

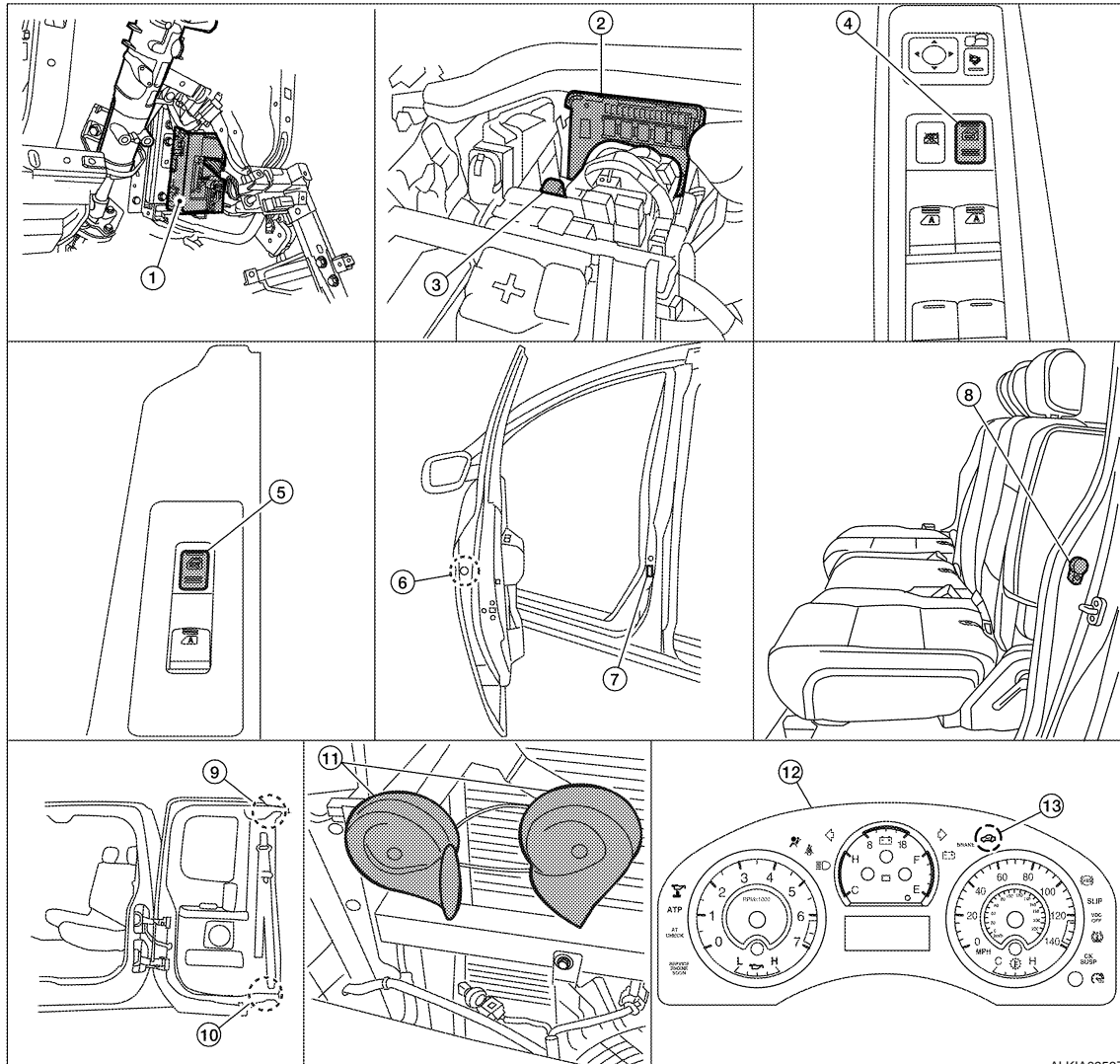
### Condition of Deactivating The System

When one of the following operations is performed, the armed phase is canceled.

- Unlock the doors with keyfob.
- Use the mechanical key to unlock the driver door using the door key cylinder.

### Component Parts Location

INFOID:000000001547000



- |   |   |   |
|---|---|---|
| 1. BCM M18, M19, M20<br>(view with instrument panel LH removed) | 2. IPDM E/R E122, E124<br>(view with cover removed) | 3. Horn relay H-1   |
| 4. Main power window and door lock/unlock switch D7, D8         | 5. Power window and door lock/unlock switch RH D105 | 6. Front door lock assembly LH (key cylinder switch) D14  |
| 7. Front door switch LH B8<br>RH B108                           | 8. Rear door switch (crew cab)<br>LH B18<br>RH B116 | 9. Rear door switch upper (king cab)<br>LH B73<br>RH B156 |
| 10. Rear door switch lower (king cab)<br>LH B74<br>RH B157      | 11. Horn E3<br>(view with front grille removed)     | 12. Combination meter M24                                 |
| 13. Security indicator lamp                                     |   |   |

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# VEHICLE SECURITY SYSTEM

< FUNCTION DIAGNOSIS >

## Component Description

INFOID:000000001547001

Item	Function
BCM	Verifies the received signal from ignition key, then informs ECM whether to allow engine start.
Door switch	Provides the BCM with the status of each monitored door.
Security indicator	Indicates the status of the security system.
IPDM E/R	Controls the horn and headlamps operation.
Horn	Sounds when the vehicle security system is triggered.

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:000000001547002

#### 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-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to <a href="#">SEC-49, "DTC Index"</a> .
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	<ul style="list-style-type: none"> <li>Enables to read and save the vehicle specification.</li> <li>Enables to 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.

System	Sub system selection item	Diagnosis mode		
		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
—	BCM	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Air conditioner	AIR CONDITONER		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Vehicle security system	THEFT ALM	×	×	×

### IMMU

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

INFOID:000000001547003

#### APPLICATION ITEM

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

Diagnosis mode	Function Description
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from Intelligent Key unit.

#### DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

## < FUNCTION DIAGNOSIS >

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 operation [ON/OFF].

### THEFT ALM

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

INFOID:000000001547004

#### 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.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.

### 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.
PUSH SW	Indicates [ON/OFF] condition of ignition knob switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
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.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.

### ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator operation [ON/OFF].
VEHICLE SECURITY HORN	This test is able to check horn operation [ON].
FLASHER	This test is able to check flasher operation [LH/RH/OFF].

### WORK SUPPORT

Test item	Description
SECURITY ALARM SET	Vehicle security function mode can be changed in this mode. <ul style="list-style-type: none"><li>• ON: Vehicle security function is ON.</li><li>• OFF: Vehicle security function is OFF.</li></ul>
THEFT ALM TRG	The switch which triggered vehicle security system is recorded. This mode can be able to confirm and erase the record of vehicle security system.

# U1000 CAN COMM CIRCUIT

< COMPONENT DIAGNOSIS >

## COMPONENT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

#### Description

INFOID:000000001547005

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only. CAN Communication Signal Chart, refer to [LAN-4, "System Description"](#).

#### DTC Logic

INFOID:000000001547006

#### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	In CAN communication system, any item (or items) of the following listed below is malfunctioning. <ul style="list-style-type: none"><li>• Receiving (TCM)</li><li>• Receiving (ECM)</li><li>• Receiving (METER/M&amp;A)</li></ul>

#### Diagnosis Procedure

INFOID:000000001547007

#### 1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result".

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-5, "CAN Communication Control Circuit"](#).  
NO >> Refer to [GI-41, "Intermittent Incident"](#).

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# U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

## U1010 CONTROL UNIT (CAN)

### Description

INFOID:000000001547008

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only. CAN Communication Signal Chart, refer to [LAN-4. "System Description"](#).

### DTC Logic

INFOID:000000001547009

### DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1010	CONTROL UNIT (CAN)	When detecting error during the initial diagnosis of CAN controller of BCM.	BCM

### Diagnosis Procedure

INFOID:000000001547010

#### 1. REPLACE BCM

When DTC [U1010] is detected, replace BCM.

>> Replace BCM. Refer to [BCS-50. "Removal and Installation"](#).

### Special Repair Requirement

INFOID:000000001547011

#### 1. REQUIRED WORK WHEN REPLACING BCM

Initialize BCM. Refer to CONSULT-III Operation Manual.

>> Work end.



# B2190, P1614 NATS ANTENNA AMP.

< COMPONENT DIAGNOSIS >

## B2190, P1614 NATS ANTENNA AMP.

### Description

INFOID:000000001547012

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

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

### DTC Logic

INFOID:000000001547013

### 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 shorted) • Ignition key • NATS antenna amp. • BCM
P1614			

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Insert ignition key into the key cylinder.
2. Turn ignition switch ON.
3. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Refer to [SEC-17, "Diagnosis Procedure"](#).  
NO >> INSPECTION END.

### Diagnosis Procedure

INFOID:000000001547014

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

Check NATS antenna amp. installation. Refer to [SEC-54, "Removal and Installation"](#).

Is the inspection result normal?

- YES >> GO TO 2  
NO >> Reinstall NATS antenna amp. correctly.

#### 2. CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

- YES >> • Ignition key ID chip is malfunctioning.  
• Replace the ignition key.  
• Perform initialization with CONSULT-III.  
For initialization, refer to "CONSULT-III Operation Manual".  
NO >> GO TO 3

#### 3. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

1. Turn ignition switch ON.
2. Check voltage between NATS antenna amp. connector M21 terminal 1 and ground.

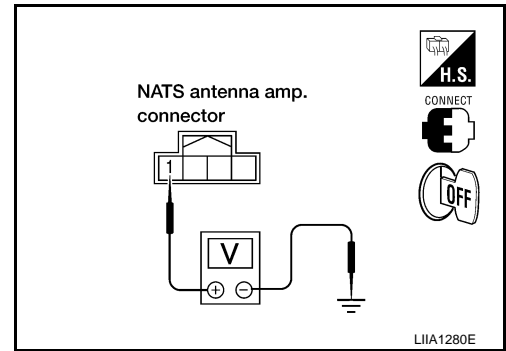
## B2190, P1614 NATS ANTENNA AMP.

### < COMPONENT DIAGNOSIS >

#### 1 - Ground : Battery voltage

Is the inspection result normal?

- YES >> GO TO 4  
 NO >> Repair or replace fuse or harness.



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

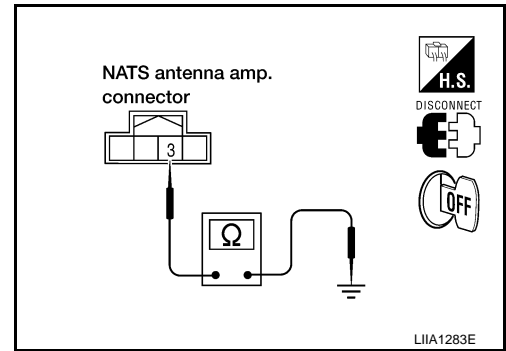
1. Turn ignition switch OFF.
2. Disconnect NATS antenna amp. connector.
3. Check continuity between NATS antenna amp. connector M21 terminal 3 and ground.

#### 3 - Ground : Continuity should exist.

Is the inspection result normal?

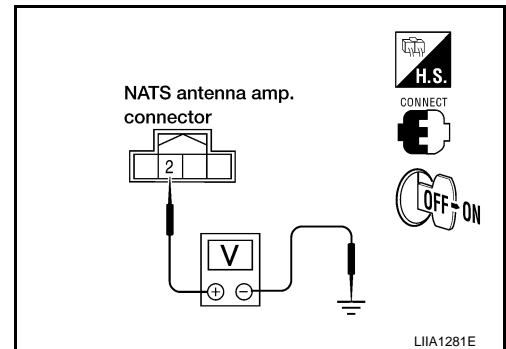
- YES >> GO TO 5  
 NO >> • Repair or replace harness.

**NOTE:**  
 If harness is OK, replace BCM, perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".



### 5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

1. Connect NATS antenna amp. connector.
2. Turn ignition switch ON.
3. Check voltage between NATS antenna amp. connector M21 terminal 2 and ground with analog tester.



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

Is the inspection result normal?

- YES >> GO TO 6  
 NO >> • Repair or replace harness.

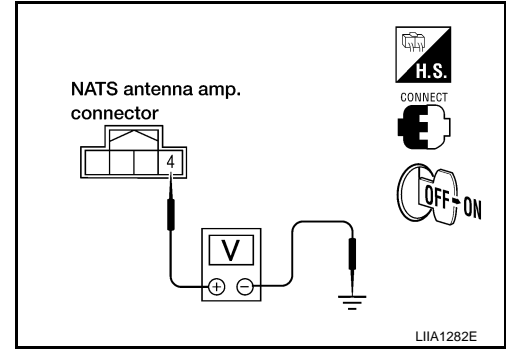
**NOTE:**  
 If harness is OK, replace BCM, perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

## B2190, P1614 NATS ANTENNA AMP.

< COMPONENT DIAGNOSIS >

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

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



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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

**NOTE:**

If harness is OK, replace BCM, refer to [BCS-50, "Removal and Installation"](#). Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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SEC

# B2191, P1615 DIFFERENCE OF KEY

< COMPONENT DIAGNOSIS >

## B2191, P1615 DIFFERENCE OF KEY

### Description

INFOID:000000001547015

Performs ID verification through BCM when ignition knob switch is pressed.  
Prohibits the release of steering lock or start of engine when an unregistered ID of mechanical key is used.

### DTC Logic

INFOID:000000001547016

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Insert mechanical key into the key cylinder.
2. Check "Self diagnostic result" with CONSULT-III.

#### Is DTC detected?

- YES >> Refer to [SEC-20, "Diagnosis Procedure"](#).  
NO >> INSPECTION END.

### Diagnosis Procedure

INFOID:000000001547017

#### 1. PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Re-register all mechanical keys.  
For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

- YES >> Mechanical key was unregistered.  
NO >> BCM is malfunctioning.
- Replace BCM. Refer to [BCS-50, "Removal and Installation"](#).
  - Perform initialization again

# B2192, P1611 ID DISCORD, IMMUECM

< COMPONENT DIAGNOSIS >

## B2192, P1611 ID DISCORD, IMMUECM

### Description

INFOID:000000001547018

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:000000001547019

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [SEC-15, "DTC Logic"](#).
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [SEC-16, "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. The registration is necessary.	• BCM • ECM
P1611			

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check "Self diagnostic result" with CONSULT-III.

#### Is DTC detected?

- YES >> Refer to [SEC-21, "Diagnosis Procedure"](#).  
NO >> INSPECTION END.

### Diagnosis Procedure

INFOID:000000001547020

#### 1. PERFORM INITIALIZATION

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

For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

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

#### 2. PEPLACE BCM

1. Replace BCM. Refer to [BCS-50, "Removal and Installation"](#).
2. Perform initialization with CONSULT-III. Re-register all mechanical keys.  
For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

- YES >> BCM is malfunctioning.  
NO >> GO TO 3

#### 3. PEPLACE ECM

1. Replace ECM. Refer to Removal and Installation.
2. Perform initialization with CONSULT-III. Re-register all mechanical keys.  
For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

- YES >> ECM is malfunctioning.  
NO >> GO TO 4

#### 4. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

**B2192, P1611 ID DISCORD, IMMUECM**

< COMPONENT DIAGNOSIS >

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>> INSPECTION END

# B2193, P1612 CHAIN OF ECM-IMMU

< COMPONENT DIAGNOSIS >

## B2193, P1612 CHAIN OF ECM-IMMU

### Description

INFOID:000000001547021

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:000000001547022

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [SEC-15, "DTC Logic"](#).
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [SEC-16, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193	CHAIN OF BCM-ECM	Inactive communication between ECM and BCM	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or short)</li><li>• BCM</li><li>• ECM</li></ul>
P1612			

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check "Self diagnostic result" with CONSULT-III.

#### Is DTC detected?

- YES >> Refer to [SEC-23, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000001547023

#### 1. REPLACE BCM

1. Replace BCM. Refer to [BCS-50, "Removal and Installation"](#).
2. Perform initialization with CONSULT-III.  
For initialization, refer to "CONSULT-III Operation Manual".

#### Does the engine start?

- YES >> BCM was malfunctioning.  
NO >> ECM is malfunctioning.
  - Replace ECM.
  - Perform ECM re-communicating function.

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# P1610 LOCK MODE

< COMPONENT DIAGNOSIS >

## P1610 LOCK MODE

### Description

INFOID:000000001547024

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

- Unregistered mechanical key is used.
- BCM or ECM's malfunctioning.

### DTC Logic

INFOID:000000001547025

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	When the starting operation is carried out five or more times consecutively under the following conditions. <ul style="list-style-type: none"><li>• Unregistered mechanical key</li><li>• BCM or ECM's malfunctioning.</li></ul>	—

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Refer to [SEC-24, "Diagnosis Procedure"](#).  
NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000001547026

#### 1.CHECK ENGINE START FUNCTION

1. Perform the check for DTC except DTC P1610.
2. Use CONSULT-III to erase DTC after fixing.
3. Check that engine can start with registered mechanical key.

Does the engine start?

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

#### 2.CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> INSPECTION END



# POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

## POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:000000001547027

Refer to [BCS-29, "Diagnosis Procedure"](#).

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# KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

## KEY CYLINDER SWITCH

### KING CAB

#### KING CAB : Description

INFOID:000000001678388

The main power window and door lock/unlock switch detects condition of the door key cylinder switch and transmits to BCM as the LOCK or UNLOCK signal.

#### KING CAB : Component Function Check

INFOID:000000001678389

### 1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check "KEY CYL LK-SW" AND "KEY CYL UN-SW" in DATA MONITOR mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III.

Monitor item	Condition
KEY CYL LK-SW	Lock : ON
	Neutral / Unlock : OFF
KEY CYL UN-SW	Unlock : ON
	Neutral / Lock : OFF

Is the inspection result normal?

- YES >> Key cylinder switch is OK.  
 NO >> Refer to [SEC-26. "KING CAB : Diagnosis Procedure"](#).

#### KING CAB : Diagnosis Procedure

INFOID:000000001678390

### 1.CHECK DOOR KEY CYLINDER SWITCH LH

ⓐ With CONSULT-III

Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW") in DATA MONITOR mode with CONSULT-III. Refer to [DLK-15. "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)"](#).

- When key inserted in front key cylinder is turned to LOCK:

**KEY CYL LK-SW : ON**

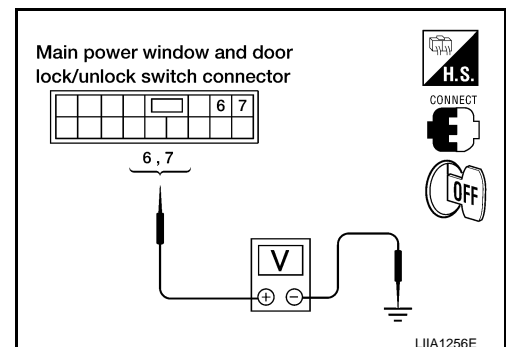
- When key inserted in front key cylinder is turned to UNLOCK:

**KEY CYL UN-SW : ON**

ⓑ Without CONSULT-III

Check voltage between main power window and door lock/unlock switch connector D7 terminals 6, 7 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	6	Ground	Neutral/Unlock	5
			Lock	0
	7		Neutral/Lock	5
			Unlock	0



Is the inspection result normal?

- YES >> Front door lock assembly LH (key cylinder switch) signal is OK.

# KEY CYLINDER SWITCH

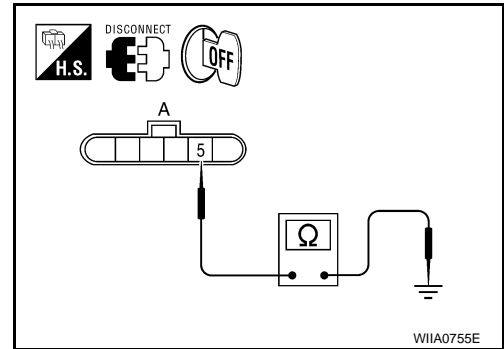
## < COMPONENT DIAGNOSIS >

NO >> GO TO 2

### 2. CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

1. Turn ignition switch OFF.
2. Disconnect front door lock assembly LH (key cylinder switch).
3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

Connector	Terminals	Continuity
D14	5 – Ground	Yes



Is the inspection result normal?

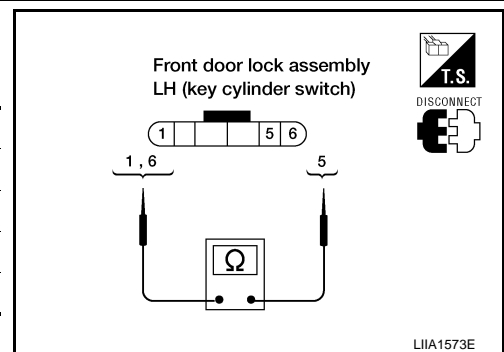
YES >> GO TO 3

NO >> Repair or replace harness.

### 3. CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between front door lock assembly LH (key cylinder switch) terminals.

Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes



Is the inspection result normal?

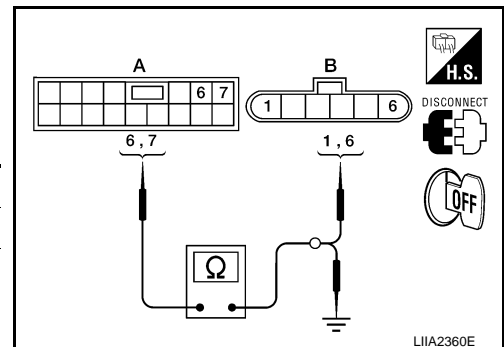
YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to [DLK-108. "Removal and Installation"](#).

### 4. CHECK DOOR KEY CYLINDER HARNESS

1. Disconnect main power window and door lock/unlock switch.
2. Check continuity between main power window and door lock/unlock switch connector (A) D7 terminals 6, 7 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 1, 6 and body ground.

Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/unlock switch	6	B: Front door lock assembly LH (key cylinder switch)	1	Yes
	7		6	Yes
	6, 7	Ground	No	



Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch.

NO >> Repair or replace harness.

CREW CAB

# KEY CYLINDER SWITCH

## < COMPONENT DIAGNOSIS >

### CREW CAB : Description

INFOID:000000001678391

The main power window and door lock/unlock switch detects condition of the door key cylinder switch and transmits to BCM as the LOCK or UNLOCK signal.

### CREW CAB : Component Function Check

INFOID:000000001678392

## 1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check "KEY CYL LK-SW" AND "KEY CYL UN-SW" in DATA MONITOR mode for "POWER DOOR LOCK SYSTEM" with CONSULT-III.

Monitor item	Condition
KEY CYL LK-SW	Lock : ON
	Neutral / Unlock : OFF
KEY CYL UN-SW	Unlock : ON
	Neutral / Lock : OFF

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to [SEC-28. "CREW CAB : Diagnosis Procedure"](#).

### CREW CAB : Diagnosis Procedure

INFOID:000000001678393

## 1.CHECK DOOR KEY CYLINDER SWITCH LH

Ⓟ With CONSULT-II

Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW") in DATA MONITOR mode with CONSULT-II. Refer to [DLK-15. "DOOR LOCK : CONSULT-III Function \(BCM - DOOR LOCK\)"](#).

- When key inserted in front key cylinder is turned to LOCK:

**KEY CYL LK-SW : ON**

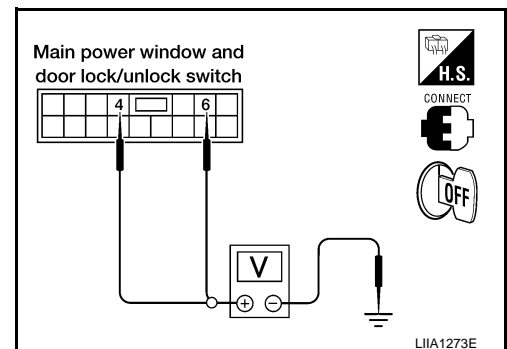
- When key inserted in front key cylinder is turned to UNLOCK:

**KEY CYL UN-SW : ON**

ⓧ Without CONSULT-II

Check voltage between main power window and door lock/unlock switch connector D7 terminals 4, 6 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D7	4	Ground	Neutral/Unlock	5
			Lock	0
	6		Neutral/Lock	5
			Unlock	0



Is the inspection result normal?

YES >> Front door lock assembly LH (key cylinder switch) signal is OK.

NO >> GO TO 2

## 2.CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

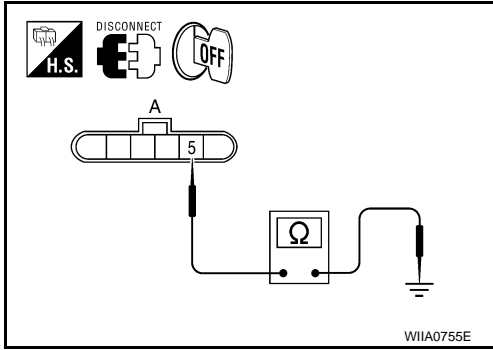
- Turn ignition switch OFF.

# KEY CYLINDER SWITCH

## < COMPONENT DIAGNOSIS >

- Disconnect front door lock assembly LH (key cylinder switch).
- Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

Connector	Terminals	Continuity
D14	5 – Ground	Yes



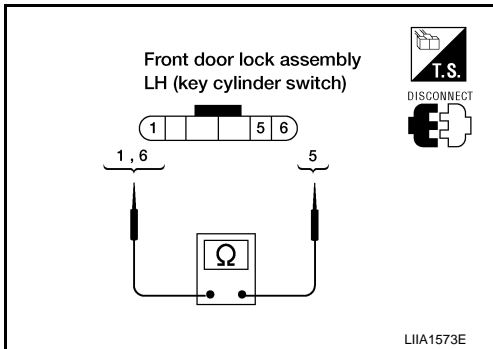
Is the inspection result normal?

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

### 3.CHECK DOOR KEY CYLINDER SWITCH LH

Check continuity between front door lock assembly LH (key cylinder switch) terminals.

Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes



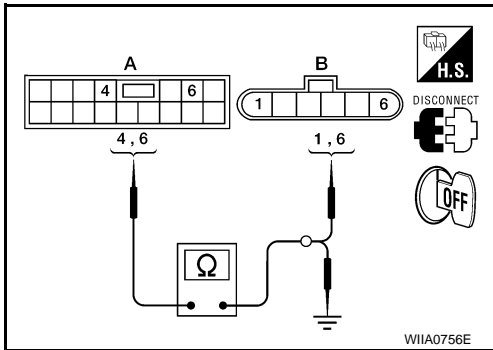
Is the inspection result normal?

- YES >> GO TO 4  
 NO >> Replace front door lock assembly LH (key cylinder switch). Refer to [DLK-108. "Removal and Installation"](#).

### 4.CHECK DOOR KEY CYLINDER HARNESS

- Disconnect main power window and door lock/unlock switch.
- Check continuity between main power window and door lock/unlock switch connector (A) D7 terminals 4, 6 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 1, 6 and body ground.

Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/unlock switch	4	B: Front door lock assembly LH (key cylinder switch)	1	Yes
	6		6	Yes
	4, 6	Ground	No	



Is the inspection result normal?

- YES >> Replace main power window and door lock/unlock switch.  
 NO >> Repair or replace harness.

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SEC

# HORN FUNCTION

< COMPONENT DIAGNOSIS >

## HORN FUNCTION

### Description

INFOID:000000001678422

Perform answer-back for each operation with horn.

### Component Function Check

INFOID:000000001678423

#### 1.CHECK FUNCTION

1. Select "HORN" in "ACTIVE TEST" mode with CONSULT-III.
2. Check the horn (high/low) operation.

Test item		Description	
HORN	ON	Horn relay	ON (for 20 ms)

Is the operation normal?

- YES >> INSPECTION END.  
 NO >> Go to [SEC-30. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000001678424

#### 1.CHECK HORN FUNCTION

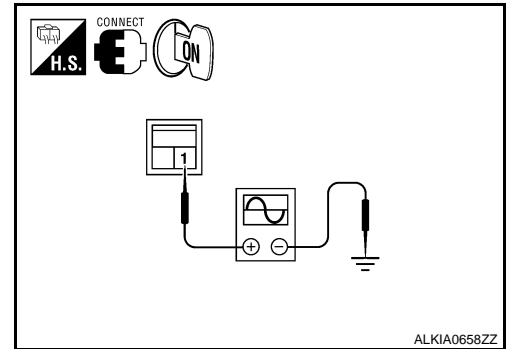
Check horn function with horn switch

Do the horns sound?

- YES >> GO TO 2  
 NO >> Go to [HRN-3. "Wiring Diagram"](#).

#### 2.CHECK HORN RELAY POWER SUPPLY

1. Turn ignition switch ON.
2. Perform "ACTIVE TEST", "HORN" with CONSULT-III.
3. Using an oscilloscope or analog voltmeter, check voltage between horn relay harness connector and ground.



Horn relay		Ground	Test item	Voltage (V) (Approx.)
Connector	Terminal			
H-1	1	Ground	HORN	Battery voltage → 0 → Battery voltage
			Other than above	Battery voltage

Is the inspection result normal?

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

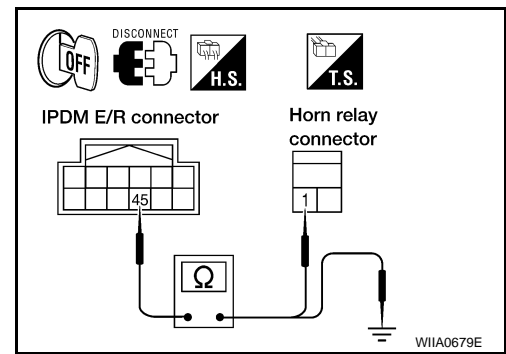
#### 3.CHECK HORN RELAY CIRCUIT

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

# HORN FUNCTION

## < COMPONENT DIAGNOSIS >

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



IPDM E/R		Horn relay		Continuity
Connector	Terminal	Connector	Terminal	
E122	45	H-1	1	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E122	45	Ground	No

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

## 4.CHECK INTERMITTENT INCIDENT

Refer to [GI-41. "Intermittent Incident"](#).

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-30. "Removal and Installation of IPDM E/R"](#).

NO >> Repair or replace the malfunctioning part.

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# VEHICLE SECURITY INDICATOR

< COMPONENT DIAGNOSIS >

## VEHICLE SECURITY INDICATOR

### Description

INFOID:000000001547032

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

### Component Function Check

INFOID:000000001547033

#### 1.CHECK FUNCTION

1. Perform "THEFT IND" in the "Active Test" mode with CONSULT-III.
2. Check vehicle security indicator operation.

Test item		Description	
THEFT IND	ON	Vehicle security indicator	ON
	OFF		OFF

Is the inspection result normal?

YES >> INSPECTION END.

NO >> Refer to [SEC-32, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000001547034

#### 1.SECURITY INDICATOR LAMP ACTIVE TEST

With CONSULT-III

Check "THEFT IND" in "ACTIVE TEST" mode with CONSULT-III.

Without CONSULT-III

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

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

Is the inspection result normal?

YES >> Security indicator lamp is OK.

NO >> GO TO 2

#### 2.SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

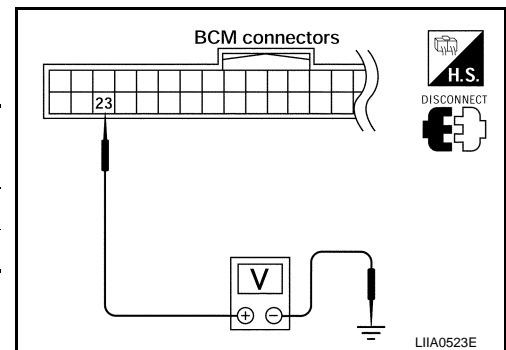
Is the inspection result normal?

YES >> GO TO 3

NO >> Replace security indicator lamp.

#### 3.CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and security indicator lamp connector.





# VEHICLE SECURITY INDICATOR

## < COMPONENT DIAGNOSIS >

3. Check continuity between BCM connector (A) M18 terminal 23 and security indicator lamp harness connector (B) M24 terminal 28.

**23 - 28 : Continuity should exist.**

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

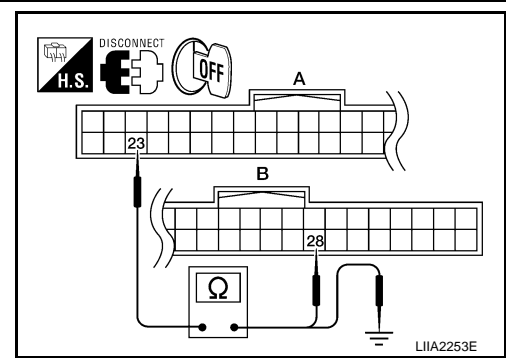
**23 - Ground : Continuity should not exist.**

Is the inspection result normal?

YES >> Check the following:

- 10A fuse [No. 19, located in fuse block (J/B)]
- Harness for open or short between security indicator lamp and fuse

NO >> Repair or replace harness.



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SEC

## BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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### ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000001547035

VALUES ON THE DIAGNOSIS TOOL

Refer to [BCS-35, "Reference Value"](#).

TERMINAL LAYOUT

Refer to [BCS-37, "Terminal Layout"](#).

PHYSICAL VALUES

Refer to [BCS-37, "Physical Values"](#).

# BCM (BODY CONTROL MODULE)

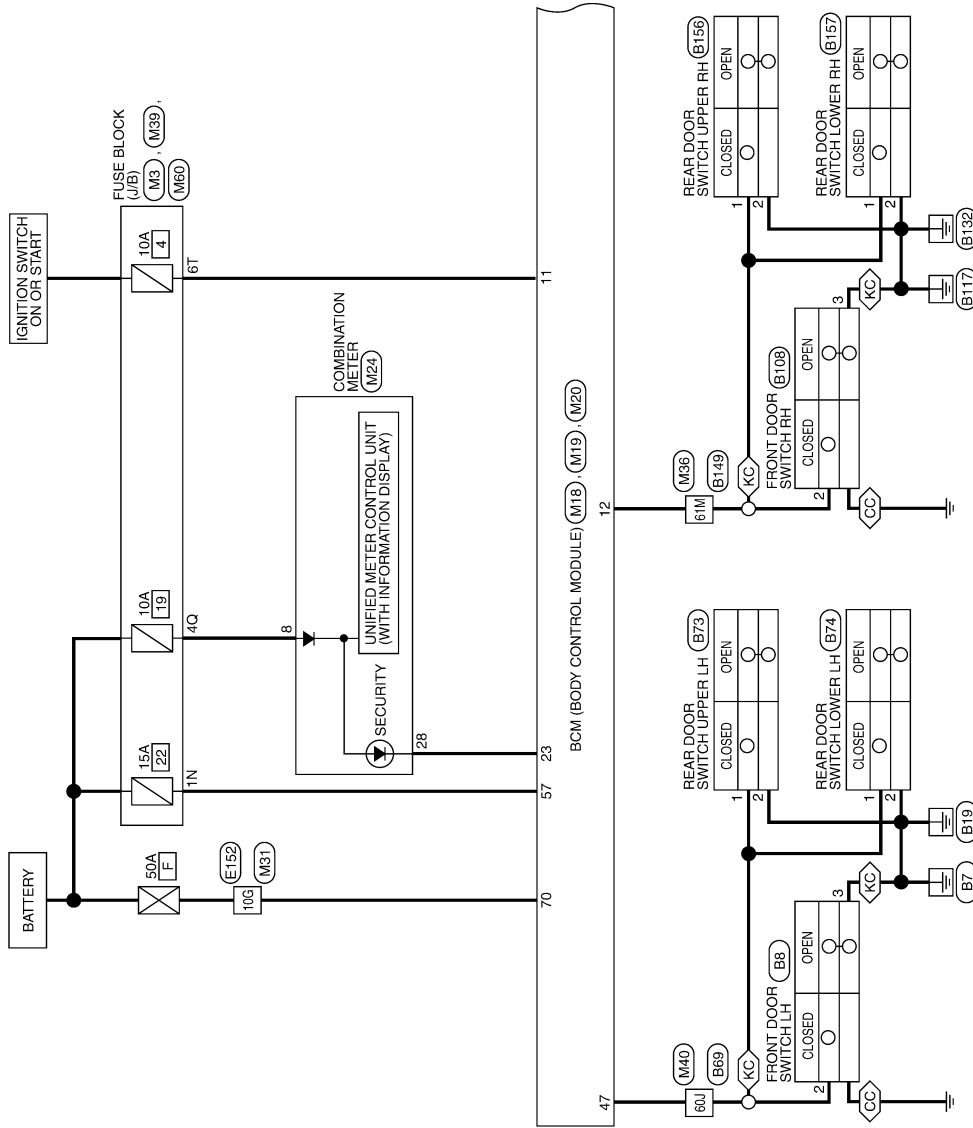
< ECU DIAGNOSIS >

## Wiring Diagram - VEHICLE SECURITY SYSTEM

INFOID:000000001547036

### VEHICLE SECURITY SYSTEM

CC : CREW CAB  
KC : KING CAB



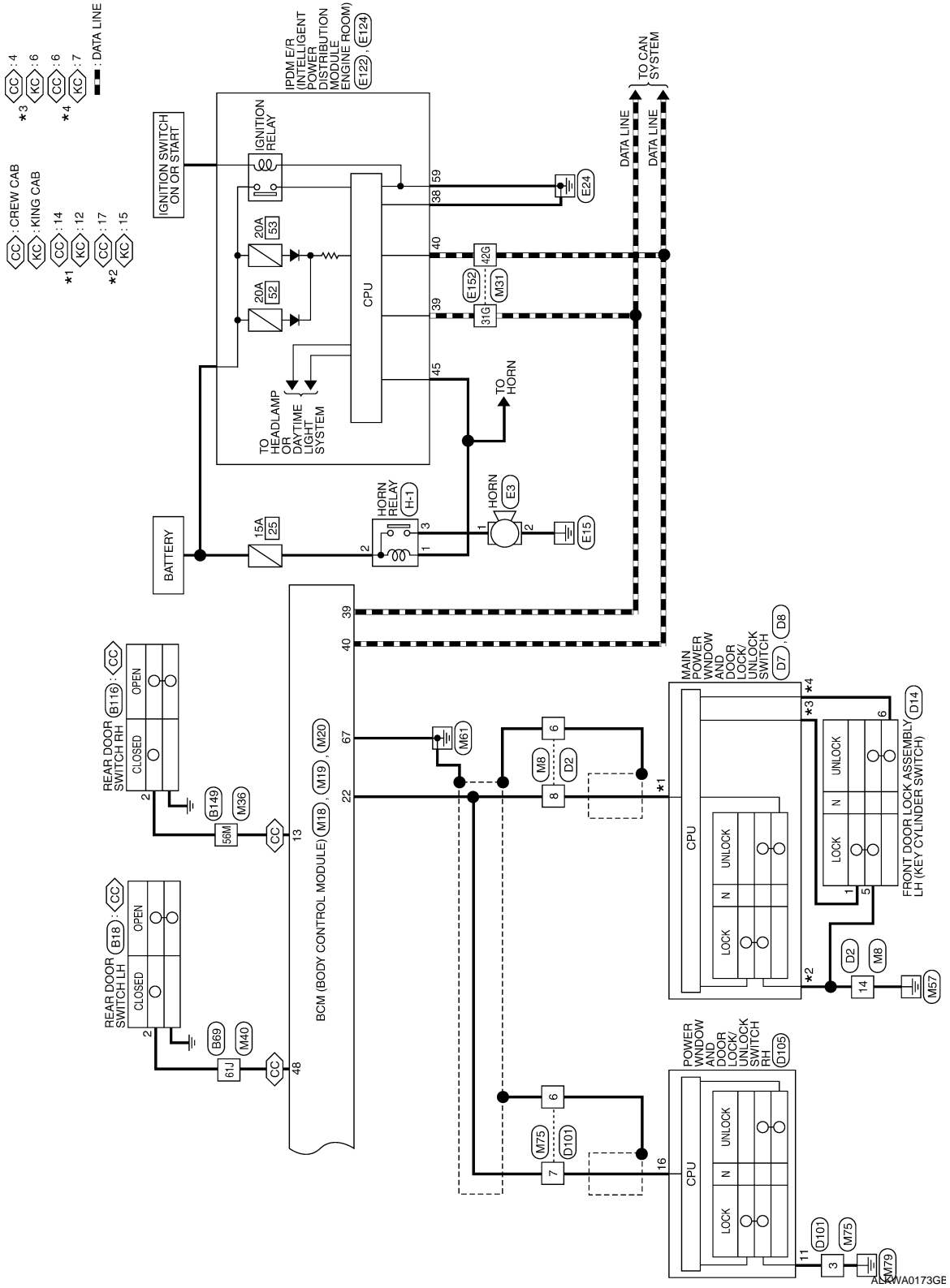
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

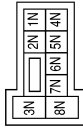


# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

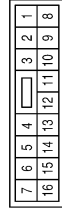
## VEHICLE SECURITY SYSTEM CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



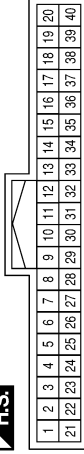
Terminal No.	Color of Wire	Signal Name
1N	Y/R	-

Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	WHITE



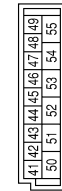
Terminal No.	Color of Wire	Signal Name
6	SHIELD	-
8	G	-
14	B	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
11	O	ACC SW
12	R/L	DR_SW_AS
13	GR	DOOR_SW_RR
22	G	BUS
23	G/O	SECURITY INDICATOR
39	L	CAN-H
40	P	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



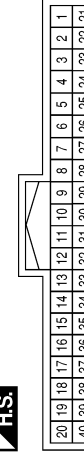
Terminal No.	Color of Wire	Signal Name
47	SB	DOOR SW (DR)
48	R/Y	DOOR SW (RL)

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
57	Y/R	BAT
67	B	GND (POWER)
70	W/B	BATT (FL)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of wire	Signal Name
8	Y/R	-
28	G/O	-

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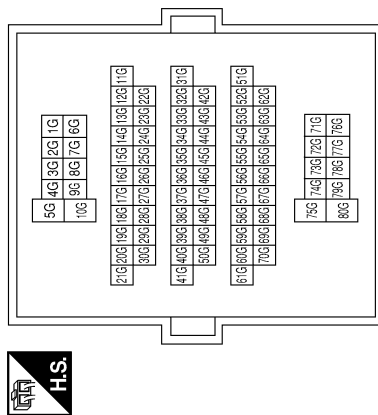
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

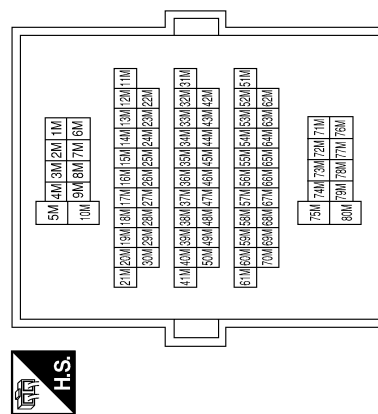
Terminal No.	Color of Wire	Signal Name
10G	W/B	-
31G	L	-
42G	P	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
56M	GR	-
61M	R/L	-

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

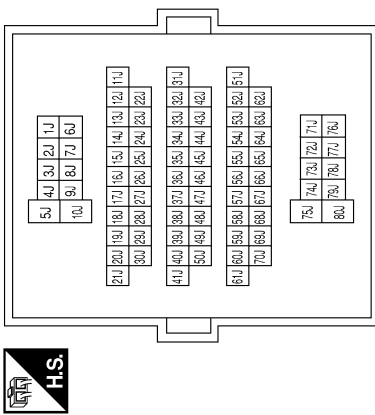


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# BCM (BODY CONTROL MODULE)

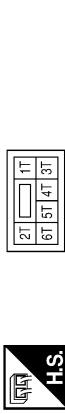
< ECU DIAGNOSIS >

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE



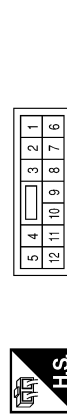
Terminal No.	Color of Wire	Signal Name
60J	SB	-
61J	R/Y	-

Connector No.	M60
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



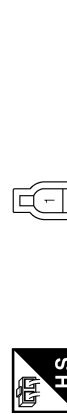
Terminal No.	Color of Wire	Signal Name
6T	O	-

Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



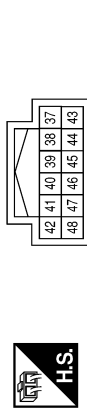
Terminal No.	Color of Wire	Signal Name
3	B	-
6	SHIELD	-
7	G	-

Connector No.	E3
Connector Name	HORN
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	G	-
2	B	-

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
38	B	SIGNAL_GND
39	L	CAN_H
40	P	CAN_L
45	G/W	ANT_THEFT_HORN

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# BCM (BODY CONTROL MODULE)

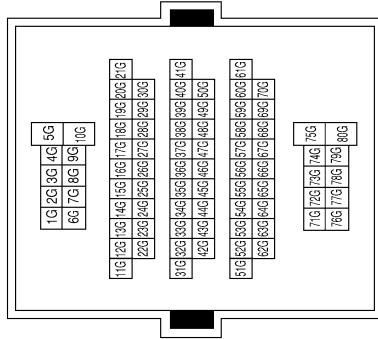
< ECU DIAGNOSIS >

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



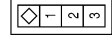
Terminal No.	Color of Wire	Signal Name
59	B	GND (PWR)

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



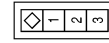
Terminal No.	Color of Wire	Signal Name
10G	W/B	-
31G	L	-
42G	P	-

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	SB	-
3	B	-

Connector No.	B18
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	R/Y	-

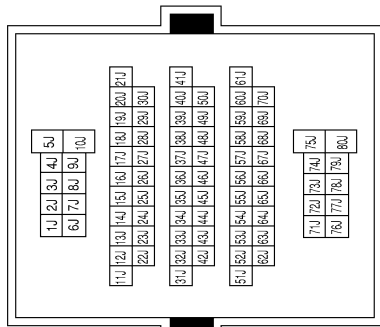
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
60J	SB	-
61J	R/Y	-

Connector No.	B73
Connector Name	REAR DOOR SWITCH UPPER LH
Connector Color	BLACK



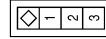
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Connector No.	B74
Connector Name	REAR DOOR SWITCH LOWER LH
Connector Color	BLACK



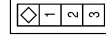
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	B	-

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	R/L	-
3	B	-

Connector No.	B116
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	GR	-

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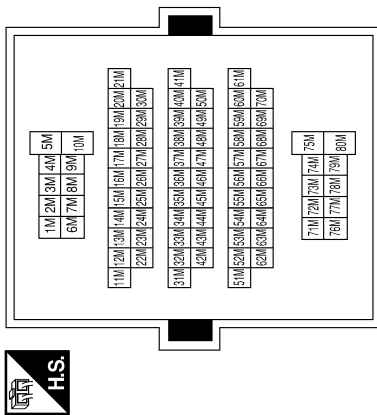
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
56M	GR	-
61M	R/L	-

Connector No.	B156
Connector Name	REAR DOOR SWITCH UPPER RH
Connector Color	BLACK



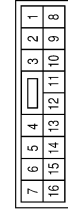
Terminal No.	Color of Wire	Signal Name
1	R/L	-
2	B	-

Connector No.	B157
Connector Name	REAR DOOR SWITCH LOWER RH
Connector Color	BLACK



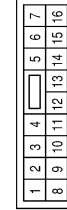
Terminal No.	Color of Wire	Signal Name
1	R/L	-
2	B	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	SHIELD	-
8	LG/W	-
14	B	-

Connector No.	D7
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (KING CAB)
Connector Color	WHITE



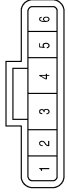
Terminal No.	Color of Wire	Signal Name
6	L	-
7	R	-
12	LG/W	-
15	B	-

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# BCM (BODY CONTROL MODULE)

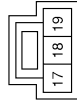
< ECU DIAGNOSIS >

Connector No.	D14
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	BLACK



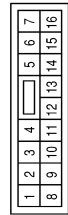
Terminal No.	Color of Wire	Signal Name
1	L	LOCK
5	B	GND
6	R	UNLOCK

Connector No.	D8
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE



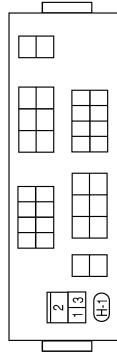
Terminal No.	Color of Wire	Signal Name
17	B	GND

Connector No.	D7
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (CREW CAB)
Connector Color	WHITE



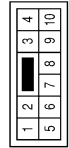
Terminal No.	Color of Wire	Signal Name
4	L	LOCK
6	R	UNLOCK
14	LGW	ANTI_PNCH_SERIAL_LINK

Connector No.	FUSE AND FUSIBLE LINK BOX
Connector Name	H-1
Connector Color	-



Terminal No.	Color of Wire	Signal Name
1	R/W	-
2	G/B	-
3	G	-

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	B	-
6	SHIELD	-
7	LGW	-

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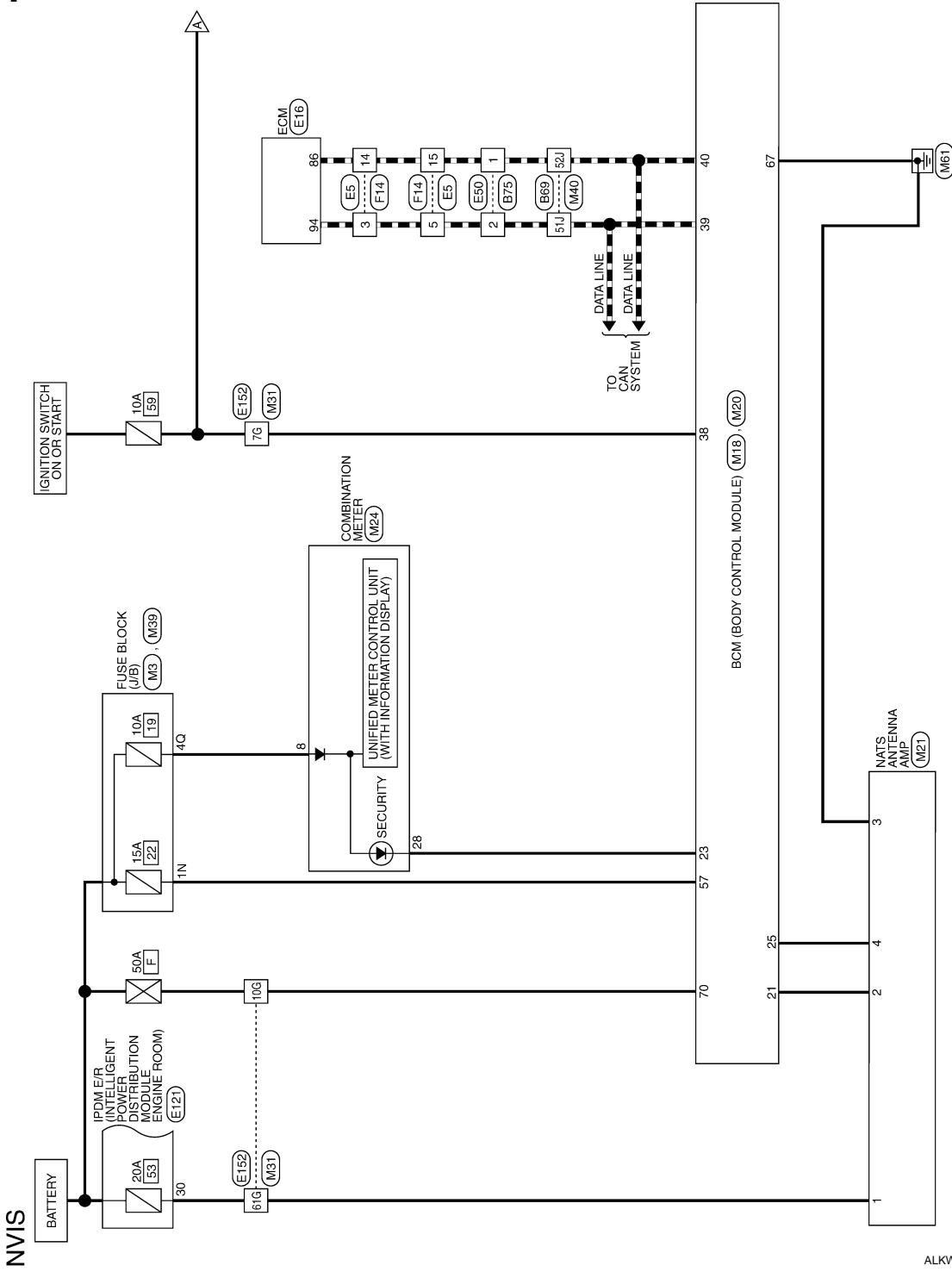
# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## Wiring Diagram - NVIS -

INFOID:000000001547037

■ : DATA LINE



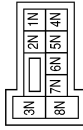
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# BCM (BODY CONTROL MODULE)

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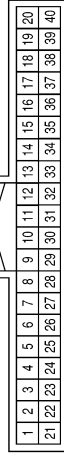
## NVIS CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



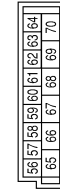
Terminal No.	Color of Wire	Signal Name
1N	Y/R	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



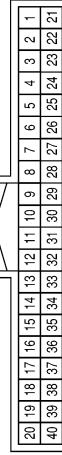
Terminal No.	Color of Wire	Signal Name
21	G	IMMOBILIZER SCL (L LOCK)
23	G/O	SECURITY_IND_ OUTPUT
25	BR	IMMOBILIZER SCI (RX, TX)
38	W/L	IGN
39	L	CAN-H
40	P	CAN-L

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
57	Y/R	BAT
67	B	GND (POWER)
70	W/B	BATT (FL)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	Y/R	-
24	O/L	-
28	G/O	-

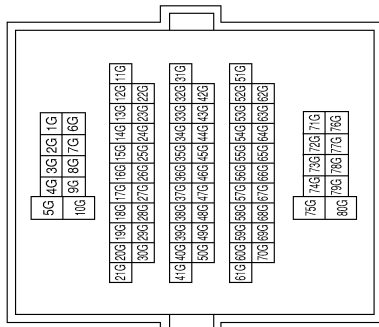
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# BCM (BODY CONTROL MODULE)

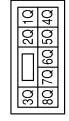
< ECU DIAGNOSIS >

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



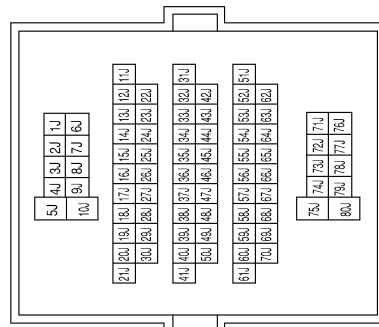
Terminal No.	Color of Wire	Signal Name
7G	W/L	-
10G	W/B	-
61G	W	-

Connector No.	M39
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



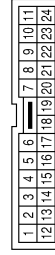
Terminal No.	Color of Wire	Signal Name
4Q	Y/R	-

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
51J	L	-
52J	P	-

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE



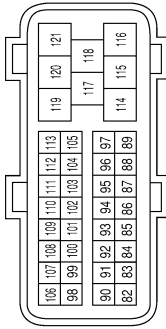
Terminal No.	Color of Wire	Signal Name
3	L	-
5	L	-
14	P	-
15	P	-

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK



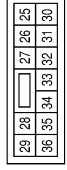
Terminal No.	Color of Wire	Signal Name
86	P	CAN-L
94	L	CAN-H

Connector No.	E50
Connector Name	WIRE TO WIRE
Connector Color	BROWN



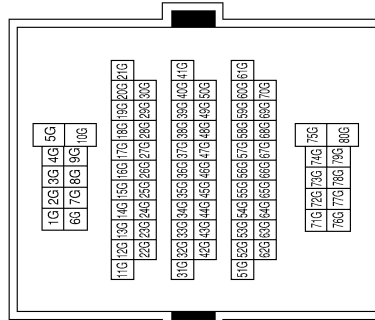
Terminal No.	Color of Wire	Signal Name
1	P	CAN-L
2	L	CAN-H

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



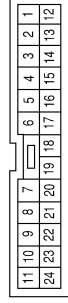
Terminal No.	Color of Wire	Signal Name
30	W	ECM BATT

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7G	L/W	-
10G	W/B	-
61G	W	-

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	L	-
5	L	-
14	P	-
15	P	-

AWKIA0030GB

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SEC

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

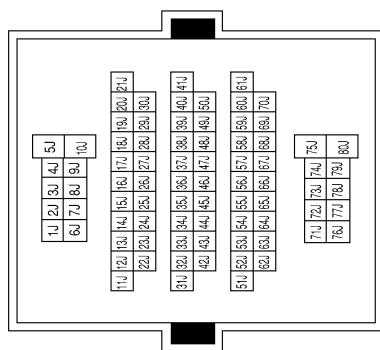
Connector No.	B75
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	P	-
2	L	-

Terminal No.	Color of Wire	Signal Name
51J	L	-
52J	P	-

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



AWKIA0031GB



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## DTC Inspection Priority Chart

INFOID:000000001547039

Priority	DTC
1	<ul style="list-style-type: none"> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>
2	<ul style="list-style-type: none"> <li>• B2190: NATS ANTENNA AMP</li> <li>• B2191: DIFFERENCE OF KEY</li> <li>• B2192: ID DISCORD BCM-ECM</li> <li>• B2193: CHAIN OF BCM-ECM</li> </ul>

## DTC Index

INFOID:000000001547040

### 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.
- PAST: Displays when there is a malfunction that is detected in the past and stored.
- 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.

CONSULT display	TIME		Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	0	1 - 39	—	<a href="#">SEC-15</a>
U1010: CONTROL UNIT (CAN)	0	1 - 39	—	<a href="#">SEC-16</a>
B2190: NATS ANTENNA AMP	CRNT	PAST	×	<a href="#">SEC-17</a>
B2191: DIFFERENCE OF KEY	CRNT	PAST	×	<a href="#">SEC-20</a>
B2192: ID DISCORD BCM-ECM	CRNT	PAST	×	<a href="#">SEC-21</a>
B2193: CHAIN OF BCM-ECM	CRNT	PAST	×	<a href="#">SEC-23</a>

SEC

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

< ECU DIAGNOSIS >

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

#### Reference Value

INFOID:000000001547041

#### VALUES ON THE DIAGNOSIS TOOL

Refer to [PCS-17, "Reference Value"](#).

#### TERMINAL LAYOUT

Refer to [PCS-19, "Terminal Layout"](#).

#### Fail Safe

INFOID:000000001547042

Refer to [PCS-26, "Fail Safe"](#).

#### DTC Index

INFOID:000000001547043

Refer to [PCS-28, "DTC Index"](#).

# VEHICLE SECURITY SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### VEHICLE SECURITY SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000001547044

Procedure		Diagnostic procedure	Refer to page
Symptom			
1	Vehicle security system cannot be set by ....	Door switch	Check door switch (king cab) <a href="#">DLK-21</a>
			Check door switch (crew cab) <a href="#">DLK-22</a>
	Key cylinder switch		Check key cylinder switch (king cab) <a href="#">DLK-30</a>
			Check key cylinder switch (crew cab) <a href="#">DLK-32</a>
	—	Check Intermittent Incident <a href="#">GI-41</a>	
	Security indicator does not turn ON.	Check vehicle security indicator <a href="#">SEC-32</a>	
Check Intermittent Incident <a href="#">GI-41</a>			
2	* Vehicle security system does not sound alarm when ....	Any door is opened.	Check door switch (king cab) <a href="#">DLK-21</a>
			Check door switch (crew cab) <a href="#">DLK-22</a>
	—	Check Intermittent Incident <a href="#">GI-41</a>	
3	Vehicle security alarm does not activate.	Horn alarm	Check horn switch —
			Check Intermittent Incident <a href="#">GI-41</a>
4	Vehicle security system cannot be canceled by ....	Key cylinder switch	Check key cylinder switch (king cab) <a href="#">DLK-30</a>
			Check key cylinder switch (crew cab) <a href="#">DLK-32</a>
	—	Check Intermittent Incident <a href="#">GI-41</a>	

\*: Check the system is in the armed phase.

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SEC

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

< SYMPTOM DIAGNOSIS >

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

### Symptom Table

INFOID:000000001547045

#### NOTE:

- Before performing the diagnosis in the following table, check "[SEC-3. "Work Flow"](#)".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.
- If the following symptoms are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

#### CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

- Ignition switch is not turned ON.
- Ignition key is not inserted into key cylinder.

Symptom	Diagnosis/service procedure	Reference page
Security indicator does not turn ON or flash.	1. Check vehicle security indicator	<a href="#">SEC-32</a>
	2. Check Intermittent Incident	<a href="#">GI-41</a>

# PRE-INSPECTION FOR DIAGNOSTIC

< ON-VEHICLE MAINTENANCE >

## ON-VEHICLE MAINTENANCE

### PRE-INSPECTION FOR DIAGNOSTIC

#### Basic Inspection

INFOID:000000001547046

#### 1.INSPECTION START

Turn ignition switch "OFF".

**NOTE:**

Before starting operation check, open front windows.

>> GO TO 2.

#### 2.CHECK SECURITY INDICATOR LAMP

1. Lock doors using keyfob or ignition key.
2. Check that security indicator lamp illuminates for 30 seconds.

Security indicator lamp should illuminate.

OK >> GO TO 3.

NG >> Perform diagnosis and repair. Refer to [SEC-32. "Component Function Check"](#).

#### 3.CHECK ALARM FUNCTION

1. After 30 seconds, security indicator lamp will start to blink.
2. Open any door before unlocking with keyfob or ignition key.

Does the alarm function properly?

YES >> GO TO 4.

NO >> Check the following.

- The vehicle security system does not phase in alarm mode. Refer to [SEC-51. "Symptom Table"](#).
- Alarm (horn and headlamp do not operate. Refer to [SEC-51. "Symptom Table"](#).

#### 4.CHECK ALARM CANCEL OPERATION

Unlock any door or open back door using keyfob or ignition key.

Alarm (horn, headlamp and hazard lamp) should stop.

OK >> INSPECTION END.

NG >> Check door lock function. Refer to [DLK-8. "DOOR LOCK AND UNLOCK SWITCH : System Description"](#).

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# VEHICLE SECURITY SYSTEM

< ON-VEHICLE REPAIR >

## ON-VEHICLE REPAIR

### VEHICLE SECURITY SYSTEM

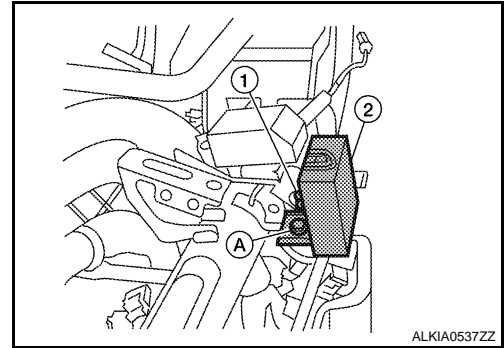
#### Removal and Installation

INFOID:000000001547047

#### REMOTE KEYLESS ENTRY RECEIVER

##### Removal

1. Remove the instrument panel. Refer to [JP-11, "Removal and Installation"](#).
2. Disconnect the wire harness (1), remove the bolt (A), and the RKE receiver (2).



##### Installation

Installation is in the reverse order of removal.

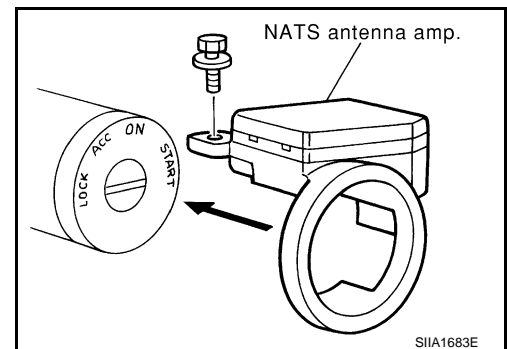
#### NATS ANTENNA AMP

##### NOTE:

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

##### Removal

1. Disconnect the battery negative terminal.
2. Remove the steering column covers. Refer to [JP-10, "Exploded View"](#).
3. Remove the bolt, disconnect the electrical connector, and remove the NATS antenna amp.



##### Installation

Installation is in the reverse order of removal.