SECURITY CONTROL SYSTEM

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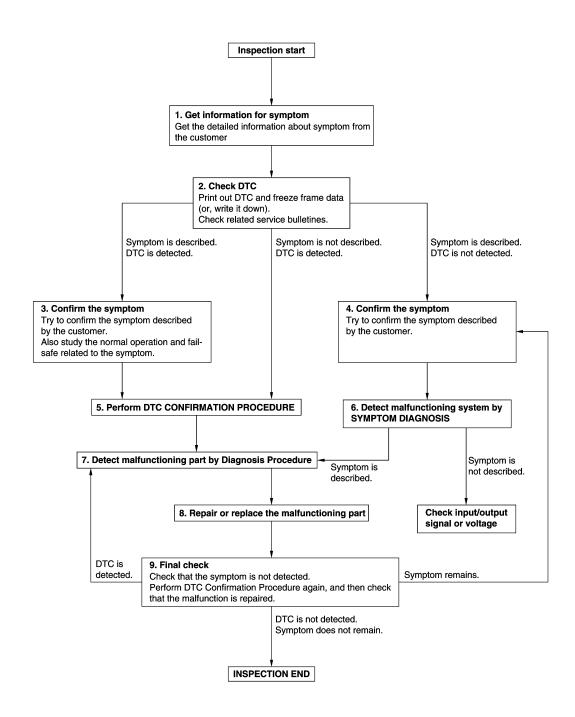
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BASIC INSPECTION

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 FOR SYMPTOM

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

>> GO TO 2.

2. CHECK DTC

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

Are any symptoms described and any DTC detected?

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

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

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

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to BCS-61, "DTC Inspection Priority Chart" and determine trouble diagnosis order.

NOTE:

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

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

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to GI-46, "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.

Is the symptom described?

YES >> GO TO 7.

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

7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to GI-46, "Intermittent Incident".

8.repair or replace the malfunctioning part

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

>> GO TO 9.

9. FINAL CHECK

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

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

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

YES-2 >> Symptom remains: GO TO 4.

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

INSPECTION AND ADJUSTMENT

[WITH INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION > INSPECTION AND ADJUSTMENT ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Description used parts or registering an additional Intelligent Key or mechanical key.

INFOID:0000000008279840

Perform the system initialization when replacing BCM, ECM, Intelligent Key unit or steering lock unit with a

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement INFOID:0000000008279841

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Refer to CONSULT Operation Manual NATS-IVIS/NVIS.

ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION: Description

INFOID:0000000008279842

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 a virgin ECM which has never been energized on-board.

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

NOTE:

- When registering new Key IDs or replacing the ECM that is not brand new, refer to CONSULT Operation Manual NATS-IVIS/NVIS.
- 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:0000000008279843

1. PERFORM ECM RE-COMMUNICATING FUNCTION

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

Can engine be started?

YES >> Procedure is completed.

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

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SYSTEM DESCRIPTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram

INFOID:0000000008279844 Key ID Intelligent Key Remote keyless entry receiver CAN communication Combination meter Each inside key antenna IPDM E/R Intelligent Starter motor Key unit Ignition knob switch ECM Key switch **BCM** To each power source Steering lock unit

System Description

INFOID:0000000008279845

INPUT/OUTPUT SIGNAL CHART

Intelligent Key Unit

Switch/Input signal	Input signal to Intelligent Key unit	Intelligent Key unit function	Actuator/Output signal	
Key switch	Mechanical key (insert/remove)			
Ignition knob switch	Ignition knob (press/release)	Engine start function	 KEY warning lamp/buzzer Steering lock unit Starter relay request (to IPDM E/R) Inside key antenna (Console, rear seat) 	
Steering lock unit	Steering lock (lock/unlock)			
Inside key antenna (Console, rear seat)	Intelligent Key (inside antenna detection area or not.)			
IPDM E/R				
Switch/Input signal	Input signal to IPDM E/R	IPDM E/R function	Actuator/Output signal	
Transmission range switch	P, N range	Engine start function	Starter relay Starter motor	
ВСМ				
Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal	
Key switch	Mechanical key (insert/remove)	Engine start function	Inside key antenna (Cconsole, rear seat)	

SYSTEM DESCRIPTION

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

The driver should carry the Intelligent Key at all times.

 Intelligent Key has 2 IDs (for Intelligent Key and for NVIS/NATS). It can perform the door lock/unlock operation and the engine start operation when the registered Intelligent Key is carried.

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- When the Intelligent Key battery is discharged, it can be used as emergency back-up by inserting the
 mechanical key set in the Intelligent Key to the ignition key cylinder. At that time, perform the NVIS/NATS ID
 verification. If it is used when the Intelligent Key is carried, perform the Intelligent Key ID verification.
- If the ID is successfully verified, and when the ignition knob switch is pressed, steering lock will be released and initiating the engine will be possible.
- The door lock/unlock operation can be performed when the Intelligent Key battery is discharged, by operating the driver door key cylinder using the mechanical key set in the Intelligent Key.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) on request from the owner.
 NOTE:
 - Refer to <u>SEC-15, "System Description"</u> for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

• In the Intelligent Key system of model S35, 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, the mechanical key cannot perform the ID verification, and thus it cannot start the engine. Instead, the NVIS/NATS ID verification can be performed by inserting the mechanical key into the key cylinder, and then it can start the engine.

OPERATION WHEN INTELLIGENT KEY IS CARRIED

- 1. When the ignition knob switch is ON, and Intelligent Key unit is transmit the request signal to the Intelligent Key.
- 2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the Intelligent Key unit.
- The Intelligent Key unit receives the Intelligent Key ID signal and verifies it with the registered ID.
- Intelligent Key unit transmits the steering lock/unlock signal to steering lock unit and turn on the key warning lamp (green) if the verification results are OK. (The detail of key warning lamp operation, refer to <u>DLK-34</u>, "WARNING FUNCTION: System <u>Description</u>")
- Release of the steering lock.
- 6. 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.
- 7. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
- When shift position is in P or N position, battery power is supplied through the starter relay and operate the starter motor and to start the cranking.
 CAUTION:

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

OPERATION RANGE

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

OPERATION WHEN MECHANICAL KEY IS USED

When the Intelligent Key battery is discharged, performs the NVIS/NATS ID verification between the integrated transponder and BCM by inserting the mechanical key into the key cylinder, and then the engine can be started.

For details relating to starting the engine using mechanical key, refer to SEC-15. "System Description".

STEERING LOCK OPERATION

Steering is locked by steering lock unit when ignition switch is in the OFF position (the ignition knob is released) and key switch is OFF (key is removed from ignition key cylinder).

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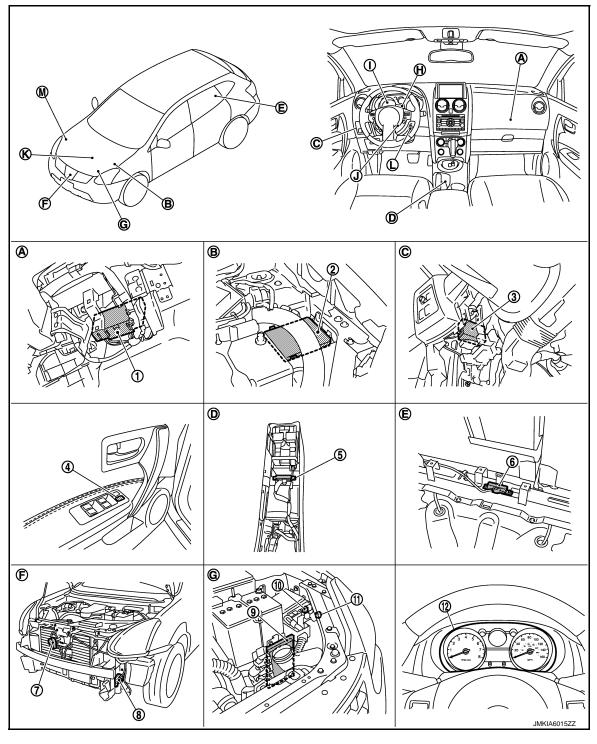
2013 ROGUE

Revision: 2013 December

SEC-11

Component Parts Location

INFOID:0000000008279846



- 1. BCM
- Door lock and unlock switch (power window main switch)
- 7. Horn (low)
- 10. Horn relay (except for Mexico)

- 2. IPDM E/R
- 5. Inside key antenna (console)
- 8. Horn (high)
- 11. Theft warning horn relay (for Mexico)
- 3. Intelligent Key unit
- 6. Inside key antenna (rear seat)
- 9. ECM
- 12. Combination meter

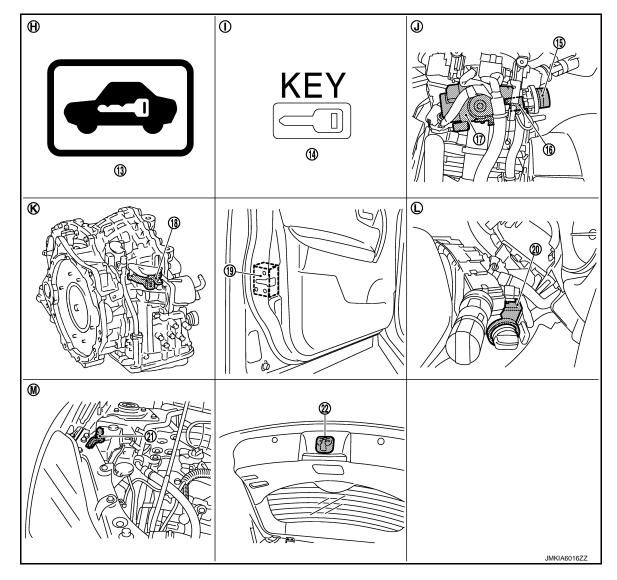
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

- A. Over the glove box

 B. Engine room (LH)

 C. Over the instrument driver lower cover
- D. Back side of center console E. View with luggage floor trim center F. View with front bumper removed finisher removed
- G. Engine room (LH) H. Built in combination meter



- 13. Security indicator lamp (combination meter)
- Key switch (Ignition knob switch, key switch and key lock solenoid)
- 19. Front door lock assembly (driver side)
- 22. Hood switch (for Mexico)
- I. Built in combination meter
- L. View with steering column cover removed

- Key warning lamp (combination meter)
- 17. Steering lock unit
- 20. NATS antenna amp.
- 23. Back door switch (back door lock assembly)
- J. View with steering column cover removed
- M. Engine room (RH)

- Ignition knob switch (Ignition knob switch, key switch and key lock solenoid)
- 18. Transmission range switch
- 21. Hood switch (for Mexico)
- K. Transaxle assembly

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Revision: 2013 December SEC-13 2013 ROGUE

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

INFOID:0000000008279847

< SYSTEM DESCRIPTION >

Component Description

Component	Reference
Intelligent Key unit	<u>SEC-43</u>
BCM	BCS-7
ECM	Except for Mexico: <u>EC-44</u> For Mexico: <u>EC-488</u>
Combination meter	MWI-8
Steering lock unit	<u>SEC-41</u>
Ignition knob switch	<u>SEC-53</u>
Key switch	<u>SEC-51</u>
Inside key antenna	<u>DLK-92</u>
Security indicator lamp	<u>SEC-64</u>

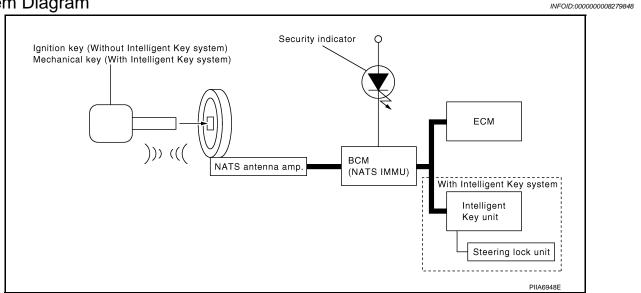
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram



System Description

INFOID:0000000008279849

INPUT/OUTPUT SIGNAL CHART

Intelligent Key Unit

Switch/Input signal	Input signal to BCM	Intelligent Key unit function	Actuator/Output signal
Ignition knob switch	Ignition knob (press/release)		
Key switch	Mechanical key (Insert/remove)	NVIS/NATS	Steering lock unit
Steering lock unit	Steering (lock/unlock)		
ECM	Engine status signal		

BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal
NATS antenna amp.	Key ID	NVIS/NATS	Security indicator lamp
ECM	Engine status signal	14010/14/410	Starter request

SYSTEM DESCRIPTION

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) has the following immobilizer functions:

- Engine immobilizer shows high anti-theft performance to prevent engine from starting by other than the
- 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.
- Therefore, NVIS/NATS warns outsiders that the vehicle is equipped with the anti-theft system. Refer to <u>SEC-</u> 20, "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.

PRECAUTIONS FOR KEY REGISTRATION

 The key registration is a procedure that erases the current NVIS/NATS ID once, and then re-registers a new ID. Therefore the registered Intelligent Key is necessary for this procedure. Before starting the registration operation collect all registered Intelligent Keys from the customer.

SEC-15 Revision: 2013 December **2013 ROGUE**

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- The NVIS/NATS ID registration is the procedure that registers the ID stored into the transponder (integrated in mechanical key) to BCM.
 - The Intelligent Key ID registration is the procedure that registers the ID to Intelligent Key unit.
- When performing the Intelligent Key system registration only, the engine cannot be started by inserting the key into the key cylinder. When performing the NVIS/NATS registration only, the engine cannot be started by using the mechanical key.

SECURITY INDICATOR

- Warns that the vehicle is equipped with NVIS/NATS.
- The security indicator lamp always blinks, when the ignition switch is in the except ON position.
- The security indicator lamp turns OFF, when the ignition switch is in ON position.
- When NVIS/NATS detects trouble, the security indicator lamp lights up while ignition key is in the "ON" position.

MAINTENANCE INFORMATION

CAUTION:

- During trouble diagnosis or when the following parts have been replaced with a used parts, and if
 mechanical key is added, registration* is required. A new part (except Intelligent Key and mechanical
 key) should register automatically after the ignition switch is turned ON. New one means a virgin
 control unit that has never been energized on-board
 - *: All keys kept by the owner of the vehicle should be registered with mechanical key.
- ECM
- BCM
- Mechanical key
- Intelligent Key unit
- Steering lock unit
- NVIS/NATS trouble diagnosis, system initialization and additional registration of other mechanical key IDs must be carried out using CONSULT hardware and SECURITY CARD.
 When NVIS/NATS initialization has been completed, the ID of the inserted Intelligent Key or mechan-

ical key IDs can be carried out.

- 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 NISSAN is installed, the engine cannot be started.

Component Parts Location

INFOID:0000000008279850

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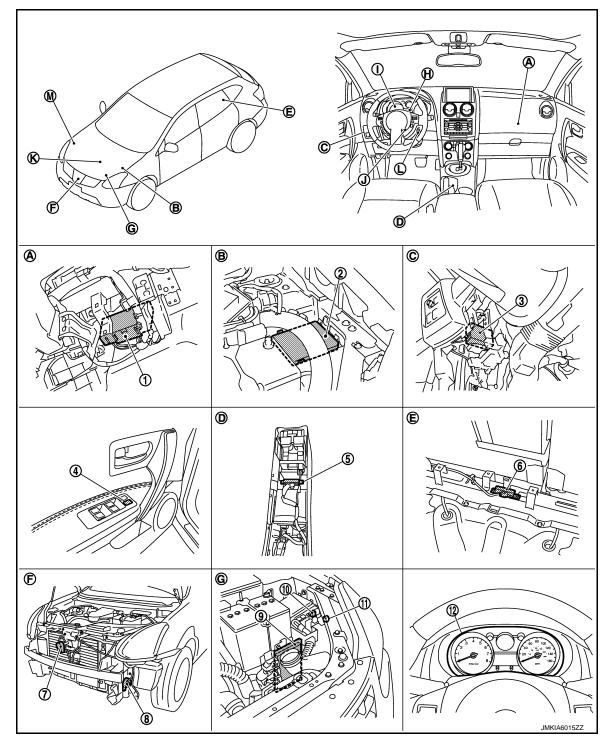
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- 1. BCM
- Door lock and unlock switch (power window main switch)
- 7. Horn (low)
- 10. Horn relay (except for Mexico)

- 2. IPDM E/R
- 5. Inside key antenna (console)
- 8. Horn (high)
- 11. Theft warning horn relay (for Mexico)
- 3. Intelligent Key unit
- 6. Inside key antenna (rear seat)
- 9. ECM
- 12. Combination meter

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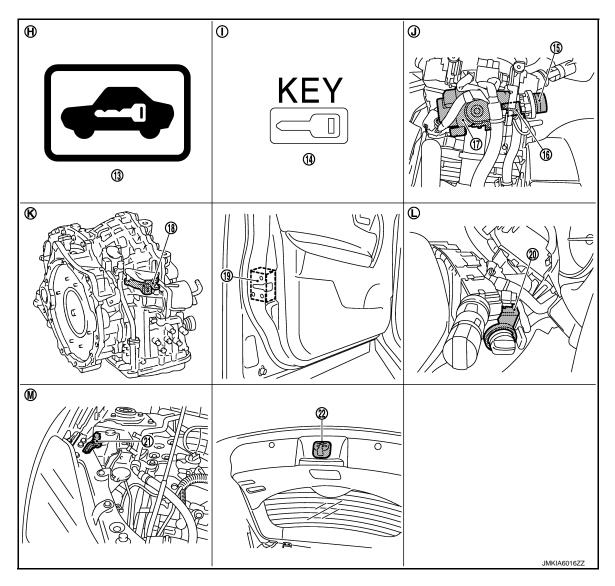
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) SCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

- A. Over the glove box
- B. Engine room (LH)
- C. Over the instrument driver lower cov-

- D. Back side of center console
- View with luggage floor trim center finisher removed
- F. View with front bumper removed

- G. Engine room (LH)
- H. Built in combination meter



- 13. Security indicator lamp (combination meter)
- Key warning lamp (combination meter)
- Ignition knob switch
 (Ignition knob switch, key switch
 and key lock solenoid)

- Key switch (Ignition knob switch, key switch and key lock solenoid)
- 17. Steering lock unit

18. Transmission range switch

- 19. Front door lock assembly (driver side)
- 20. NATS antenna amp.
- 21. Hood switch (for Mexico)

22. Hood switch (for Mexico)

- 23. Back door switch (back door lock assembly)
- K. Transaxle assembly

- I. Built in combination meter
- J. View with steering column cover removed
- View with steering column cover re- M. moved
 - M. Engine room (RH)

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< SYSTEM DESCRIPTION > Component Description

[WITH INTELLIGENT KEY SYSTEM]

INFOID:0000000008279851

Component	Reference
BCM	BCS-7
IPDM E/R	PCS-2
Steering lock unit	<u>SEC-41</u>
Key switch	<u>SEC-51</u>
Ignition knob switch	<u>SEC-53</u>
NATS antenna amp.	<u>SEC-38</u>
Security indicator lamp	<u>SEC-64</u>
Door lock and unlock switch	DLK-61
Key cylinder switch	<u>DLK-72</u>

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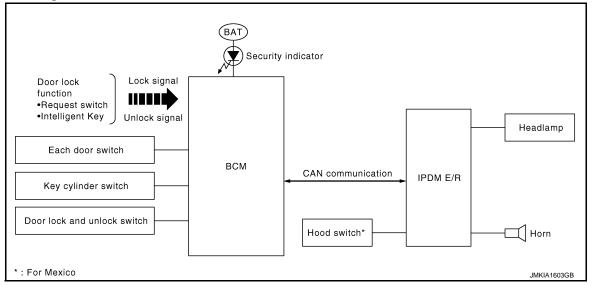
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VEHICLE SECURITY SYSTEM

System Diagram

INFOID:0000000008279852



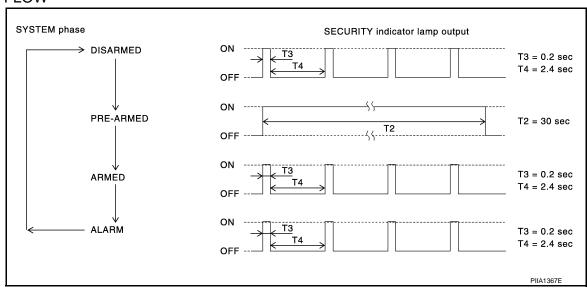
System Description

INFOID:0000000008279853

INPUT/OUTPUT SIGNAL CHART

Switch	Input signal to BCM	BCM system	Actuator
All door switch	Open or close	Vehicle security system	IPDM E/R Head lamp Horn Security indicator lamp
Hood switch			
Door key cylinder switch	Lock or unlock		
Door lock and unlock switch			
Door request switch			
Intelligent Key	Lock or unlock		
	Panic alarm		

OPERATION FLOW



SETTING THE VEHICLE SECURITY SYSTEM

Initial Condition

VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

• Ignition switch is in OFF position.

Disarmed Phase

- When hood, doors or back 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.
- When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 sec-

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. (The security indicator lamp illuminates for approx. 30 seconds. Then, the system automatically shifts into the "armed" phase.)

- BCM receives LOCK signal from front door key cylinder switch or Intelligent Key, after hood, back door and all doors are closed.
- 2. Hood, back door and all doors are closed after front doors are locked by key or door lock and unlock switch.

CANCELING THE SET VEHICLE SECURITY SYSTEM

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

- Unlock the doors with the key or Intelligent Key.
- Turn ignition switch "ON" or "ACC" position.

CANCELING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

When unlocking the door with the key or Intelligent Key the alarm operation is canceled.

ACTIVATING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

Check that the system is in the armed phase. (The security indicator lamp blinks every 2.4 seconds.) When the following operation 1 or 2 is performed, the system sounds the horns and flashes the headlamps for approx. 50 seconds.

- 1. Hood or any door is opened during armed phase.
- Disconnecting and connecting the battery connector before canceling armed phase.

PANIC ALARM OPERATION

Intelligent Key system may or may not operate vehicle security system (horn and headlamps) as required. When the Intelligent Key system is triggered, ground is supplied intermittently to both headlamp relay and horn

When headlamp relay and horn relay are energized, then power is supplied to headlamps (LH and RH) and horns (HIGH and LOW).

The headlamp flashes and the horn sounds intermittently.

The alarm automatically turns off after 50 seconds or when BCM receives any signal from Intelligent Key.

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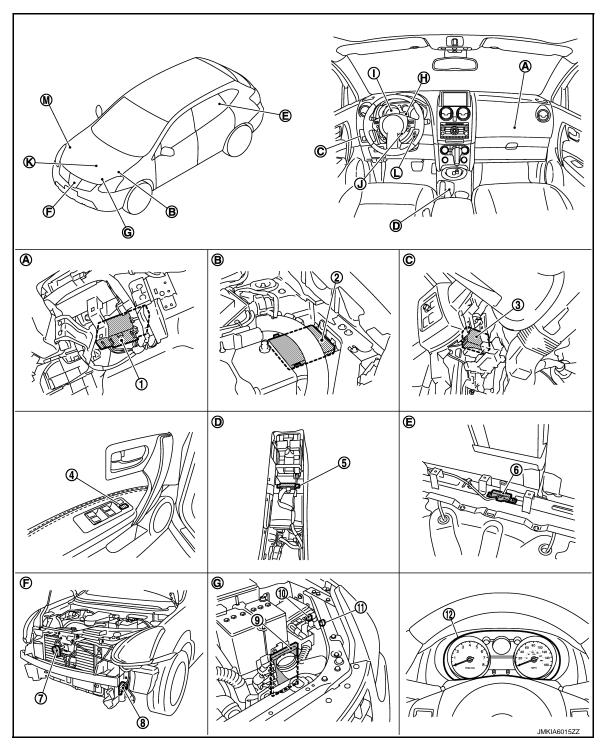
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Component Parts Location

INFOID:0000000008279854



- 1. BCM
- Door lock and unlock switch (power window main switch)
- 7. Horn (low)
- 10. Horn relay (except for Mexico)

- 2. IPDM E/R
- 5. Inside key antenna (console)
- 8. Horn (high)
- 11. Theft warning horn relay (for Mexico)
- 3. Intelligent Key unit
- 6. Inside key antenna (rear seat)
- 9. ECM
- 12. Combination meter

VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- Over the glove box
- В. Engine room (LH)
- Over the instrument driver lower cov-

- D. Back side of center console
- E. View with luggage floor trim center finisher removed
- F. View with front bumper removed

- Engine room (LH) G.
- Built in combination meter Н.
- Θ ① **①** (14) (13) **(K) ((M)** 2
- 13. Security indicator lamp (combination meter)
- Key warning lamp (combination meter)
- 15. Ignition knob switch (Ignition knob switch, key switch and key lock solenoid)

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- 16. Key switch (Ignition knob switch, key switch and key lock solenoid)
- 17. Steering lock unit
- 18. Transmission range switch

- 19. Front door lock assembly (driver side)
- 20. NATS antenna amp.
- 21. Hood switch (for Mexico)

22. Hood switch

- 23. Back door switch (back door lock assembly)
- Transaxle assembly

- (for Mexico)
- I. Built in combination meter
- View with steering column cover re-J. moved
- View with steering column cover removed
- Engine room (RH) M.

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VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Component Description

INFOID:0000000008279855

Component	Reference
BCM	BCS-7
Horn	<u>SEC-62</u>
Hood switch	<u>SEC-55</u>
Security indicator	SEC-64
Door switch	<u>DLK-276</u>
IPDM E/R	PCS-2

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

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APPLICATION ITEM

CONSULT can display each diagnostic item using the diagnostic test modes shown following.

Diagnosis mode	Function description
ECU Identification	BCM part number is displayed.
Self-Diagnostic Result	Displays the diagnosis results judged by BCM. Refer to BCS-61, "DTC Index".
Data Monitor	BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work Support	Changes the setting for each system function.
Configuration	 Read and save the vehicle specification. Write the vehicle specification when replacing BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.

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

Cuatara	CONSULT	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 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		×	×
Auto air conditioning systemManual air conditioning system	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Body control system	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
_	FUEL LID*			
TPMS	AIR PRESSURE MONITOR	×	×	×
Panic alarm system	PANIC ALARM			×

^{*:} This item is displayed, but is not function.

IMMU

Revision: 2013 December SEC-25 2013 ROGUE

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

IMMU: CONSULT Function (BCM - IMMU)

INFOID:0000000008279857

APPLICATION ITEM

CONSULT 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 BCM.	

DATA MONITOR

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.

ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator operation [ON/OFF].

THEFT ALM

THEFT ALM: CONSULT Function (BCM - THEFT ALM)

INFOID:0000000008279858

APPLICATION ITEM

CONSULT 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.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
KEYLESS LOCK*2	Indicates [ON/OFF] condition of lock signal from key fob.
KEYLESS UNLOCK*2	Indicates [ON/OFF] condition of unlock signal from key fob.
I-KEY LOCK*1	Indicates [ON/OFF] condition of lock signal from Intelligent Key.
I-KEY UNLOCK*1	Indicates [ON/OFF] condition of unlock signal from Intelligent Key.
TRUNK OPNR SW	Indicates [ON/OFF] condition of back door opener switch.
TRUNK CYL SW	NOTE: The item is indicated, but not monitored.
TRNK OPNR MNTR	NOTE: The item is indicated, but not monitored.
HOOD SW	Indicates [ON/OFF] condition of hood 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.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition
KEY CYL LK-SW	Indicates [ON/OFF] condition of key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of key cylinder switch.
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.

^{*1:} For vehicle equipped with Intelligent Key.

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].
HEAD LAMP(HI)	This test is able to check head lamp (HI) operation [ON/OFF].

WORK SUPPORT

Test item	Description
SECURITY ALARM SET	Vehicle security function mode can be changed in this mode. ON: Vehicle security function is ON. OFF: Vehicle security function is OFF.
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.

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 $^{^{\}star 2}\!\!:$ For the vehicle equipped with remote key less entry system.

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

CONSULT Function (INTELLIGENT KEY)

INFOID:0000000008279859

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with Intelligent Key unit.

Diagnosis mode	Function Description	
WORK SUPPORT	Changes the setting for each system function	
SELF-DIAG RESULTS	Displays the diagnosis results judged by Intelligent Key unit	
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from Intelligent Key unit	
DATA MONITOR	The Intelligent Key unit input/output signals are displayed	
ACTIVE TEST	The signals used to activate each device are forcibly supplied from Intelligent Key unit	
ECU IDENTIFICATION	The Intelligent Key unit part number is displayed	

WORK SUPPORT

Support item	Description	
CONFIRM KEY FOB ID	It can check whether Intelligent Key ID code is registered or not	
TAKE OUT FROM WINDOW WARN	Take away warning chime (from window) mode can be changed	
LOW BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed	
ANSWER BACK FUNCTION	Buzzer reminder operation can be changed	
SELECTIVE UNLOCK FUNCTION	Selective unlock mode can be changed	
ANTI KEY LOCK IN FUNCTION	Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode	
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	
HAZARD ANSWER BACK	Hazard reminder operation mode can be changed	
ANSWER BACK WITH I-KEY LOCK	Buzzer reminder operation (lock operation) mode by each door request switch can be changed	
ANSWER BACK WITH I-KEY UNLOCK	Buzzer reminder operation (unlock operation) mode by each door request switch can be changed	
AUTO RELOCK TIMER	Auto door lock operation mode can be changed	
PANIC ALARM DELAY	Panic alarm button pressing time on Intelligent Key remote control button can be changed	
P/W DOWN DELAY	This item is indicated, but not possible to use it	
ENGINE START BY I-KEY	Engine start function (by Intelligent Key) mode can be changed	
LOCK/UNLOCK BY I-KEY	Door lock function by door request switch can be changed	

SELF-DIAG RESULT

Refer to SEC-101, "DTC Index".

DATA MONITOR

Monitor Item	Condition	
PUSH SW	Indicates [ON (pressed)/OFF (released)] condition of ignition knob switch	
KEY SW	Indicates [ON (inserted)/OFF (removed)] condition of key switch	
DR REQ SW	Indicates [ON (pressed)/OFF (released)] condition of door request switch (driver side)	
AS REQ SW	Indicates [ON (pressed)/OFF (released)] condition of door request switch (passenger side)	
BD/TR REQ SW	Indicates [ON (pressed)/OFF (released)] condition of door request switch (back door)	

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	
IGN SW	Indicates [ON (ON or START position)/OFF (other than ON and START position)] condition of ignition switch ON position	
ACC SW	Indicates [ON/OFF] condition of ignition switch ACC position	
STOP LAMP SW	Indicates [ON/OFF] condition of stop lamp switch	
P RANGE SW	Indicates [ON/OFF] condition shift lever park position	
BD OPEN SW	This item is indicated, but not monitored	
TR CANCEL SW	This item is indicated, but not monitored	
DOOR LOCK SIG	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key	
DOOR UNLOCK SIG	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key	
KEYLESS TRUNK	This item is indicated, but not monitored	
KEYLESS PANIC	Indicates [ON/OFF] condition PANIC button of Intelligent key	
KEYLS PSD LH	This item is indicated, but not monitored	
KEYLS PSD RH	This item is indicated, but not monitored	
KEYLS PBD SIG	This item is indicated, but not monitored	
DOOR SW DR	Indicates [OPEN/CLOSE] condition of front door switch (driver side) from BCM via CAI communication	
DOOR SW AS	Indicates [OPEN/CLOSE] condition of front door switch (passenger side) from BCM via CAN communication	
DOOR SW RR	Indicates [OPEN/CLOSE] condition of rear door switch (RH) from BCM via CAN communication	
DOOR SW RL	Indicates [OPEN/CLOSE] condition of rear door switch (LH) from BCM via CAN communication	
DOOR BK SW	Indicates [OPEN/CLOSE] condition of back door switch from BCM via CAN commun cation	
TRUNK SW	This item is indicated, but not monitored	
VEHICLE SPEED	Displays the vehicle speed signal received from combination meter by numerical value [km/h]	

ACTIVE TEST

Test item	Description
DOOR LOCK/UNLOCK	This test is able to check door lock/unlock operation • ALL UNLK: All door lock actuators are unlocked • DR UNLK: Door lock actuator (driver side) is unlocked • AS UNLK: Door lock actuator (passenger side) is unlocked • BK UNLK: This item is indicated, but inactive • LOCK: All door lock actuator is locked
·	
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation ON OFF

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DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Test item Description	
INSIDE BUZZER	This test is able to check warning chime in combination meter operation • take out: Take away warning chime sounds • knob: Ignition knob switch warning chime sounds • key: Key warning chime sounds • off
INDICATOR	This test is able to check warning lamp operation BLUE ON: Key warning lamp (green) illuminates RED ON: Key warning lamp (red) illuminates KNOB ON: Lock warning lamp illuminates BLUE IND: Key warning lamp (green) flashes RED IND: Key warning lamp (red) flashes KNOB IND: Lock warning lamp flashes OFF

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

BCM

BCM: Description

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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-26, "CAN Communication Signal Chart".

BCM: DTC Logic

INFOID:0000000008279861

DTC DETECTION LOGIC

DTC	DTC Detection Condition	Possible cause
U1000: CAN COMM CIRCUIT	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

BCM: Diagnosis Procedure

INFOID:00000000008279862

1.PERFORM SELF DIAGNOSTIC

- Turn the ignition switch ON and wait for 2 seconds or more.
- Check "Self Diagnostic Result" of BCM.

Is DTC "U1000" displayed?

YES >> Refer to LAN-16, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-46, "Intermittent Incident".

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

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

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, CAN-L) 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-26, "CAN Communication Signal Chart".

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM): DTC Logic INFOID:0000000008279864

DTC DETECTION LOGIC

Revision: 2013 December

DTC	CONSULT display de- scription	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

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

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

agnosis Procedure

INFOID:0000000008279865

1.PERFORM SELF DIAGNOSTIC

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

Is DTC "U1000" displayed?

YES >> Refer to LAN-16, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-46, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

U1010 CONTROL UNIT (CAN)

DTC Logic INFOID:0000000008279866

DTC DETECTION LOGIC

DTC	CONSULT display de- scription	DTC Detection Condition	Possible cause
U1010	CONTROL UNIT (CAN)	When detecting error during the initial diagnosis of CAN controller of Intelligent Key unit.	Intelligent Key unit

Diagnosis Procedure

1. REPLACE INTELLIGENT KEY UNIT

When DTC [U1010] is detected, replace Intelligent Key unit.

>> Replace Intelligent Key unit.

Special Repair Requirement

1. REQUIRED WORK WHEN REPLACING INTELLIGENT KEY UNIT

Initialize control unit. Refer to CONSULT Operation Manual NATS-IVIS/NVIS.

>> WORK END

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[WITH INTELLIGENT KEY SYSTEM]

P1610 LOCK MODE

Description INFOID:000000008279869

When the starting operation is carried more than 10 times consecutively under the following conditions, NVIS/NATS will shift to the mode which prevents the engine from being started.

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

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	When the BCM detects wrong key ID, 10 or more times consecutively under the following conditions. Unregistered mechanical key BCM or ECM's malfunctioning.	_

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to <u>SEC-34, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008279871

1. CHECK ENGINE START FUNCTION

- 1. Perform the check for DTC except DTC P1610.
- Use CONSULT 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-46, "Intermittent Incident".

>> INSPECTION END

P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1611 ID DISCORD, IMMU-ECM

Description INFOID:0000000008279872

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:0000000008279873

DTC DETECTION LOGIC

NOTE:

 If DTC P1611 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-31, "BCM: DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Turn ignition switch ON.

Check "Self Diagnostic Result" with CONSULT.

Is DTC detected?

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

NO >> INSPECTION END

1. PERFORM INITIALIZATION

Diagnosis Procedure

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

For initialization and registration of mechanical key.

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

YES >> INSPECTION END (ID was unregistered.)

NO >> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-65, "Removal and Installation".

Perform initialization with CONSULT. Re-register all mechanical keys. For initialization and registration of mechanical key.

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

YES >> INSPECTION END (BCM was malfunctioning.)

NO >> GO TO 3.

3.replace ecm

Replace ECM. Refer to the following page.

- Except for Mexico: Refer to EC-20, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".
- For Mexico: Refer to EC-472, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".
- Perform initialization with CONSULT. Re-register all mechanical keys. For initialization and registration of mechanical key.

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

>> INSPECTION END (ECM was malfunctioning.) YES

NO >> GO TO 4. SEC

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INFOID:0000000008279874

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P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

4. CHECK INTERMITENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1612 CHAIN OF ECM-IMMU

Description INFOID:0000000008279875

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:0000000008279876

DTC DETECTION LOGIC

NOTE:

 If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-31, "BCM: DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	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 Diagnostic Result" with CONSULT.

Is DTC detected?

1.REPLACE BCM

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

>> INSPECTION END NO

Diagnosis Procedure

Replace BCM. Refer to BCS-65, "Removal and Installation".

Perform initialization with CONSULT.

Does the engine start?

>> INSPECTION END (BCM was malfunctioning.) YES

NO

>> ECM is malfunctioning.

- Replace ECM. Refer to following page.
- Except for Mexico: Refer to EC-20. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".
- For Mexico: Refer to EC-472, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".

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P1614 CHAIN OF IMMU-KEY

Description INFOID:000000008279878

Performs ID verification through BCM and NVIS/NATS antenna amplifier 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

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. Mechanical key is malfunctioning.	Harness or connectors (The NATS antenna amp. circuit is open or short) Mechanical key NATS antenna amp. BCM

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- Insert mechanical key into key cylinder.
- 2. Press ignition knob switch.
- 3. Check "Self Diagnostic Result" with CONSULT.

Is DTC detected?

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

NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008279880

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-124, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK MECHANICAL KEY

Start engine with another registered mechanical key.

Does the engine start?

YES >> Replace mechanical key. Perform initialization and registration of mechanical key.

NO >> GO TO 3.

3.CHECK NATS ANTENNA AMP. POWER SUPPLY

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

(NATS ant	+) enna amp.	(-)	Voltage (V) (Approx.)	
Connector Terminal			(44)	
M26	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

4. 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 5.

NO >> Repair or replace circuit.

5. CHECK NATS ANTENNA AMP. SIGNAL CIRCUIT

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

(+) NATS antenna amp.		(-)	Condition	Voltage (V) (Approx.)	
Connector Terminal				(лергол.)	
	2		Just after inserting mechanical key in key cylinder.	Pointer of tester should move.	
M26		Crownd	Other than above.	0	
IVIZO -	Ground 4	Just after inserting mechanical key in key cylinder.	Pointer of tester should move.		
			Other than above.	0	

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace circuit.

6. CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

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P1615 DIFFRENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1615 DIFFRENCE OF KEY

Description INFOID:0000000008279881

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

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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

- Insert mechanical key into key cylinder.
- 2. Press ignition knob switch.
- 3. Check "Self Diagnostic Result" with CONSULT.

Is DTC detected?

YES >> Refer to SEC-40, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008279883

1. PERFORM INITIALIZATION

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

For initialization and registration of mechanical key.

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

YES >> Mechanical key was unregistered.

NO >> INSPECTION END (BCM is malfunctioning.)

- Replace BCM. Refer to BCS-65, "Removal and Installation".
 - Perform initialization again.

B2013 ID DISCORD I-KEY-STRG

Description INFOID:0000000008279884

Intelligent Key unit performs the ID verification with the steering lock unit and releases the steering lock if both Intelligent Key unit and steering lock unit ID are same. Intelligent Key unit starts the communication with the steering lock unit when Intelligent Key is carried into the vehicle and the ignition knob switch is pressed.

DTC Logic INFOID:0000000008279885

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2013	STRG COMM 1	The ID verification results between Intelligent Key unit and steering control unit are NG. The registration is necessary.	Harness or connectors Steering lock unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- Press ignition knob switch.
- Check "Self Diagnostic Result" with CONSULT.

Is DTC detected?

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

>> INSPECTION END NO

Diagnosis Procedure

1 . PERFORM INITIALIZATION

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

For initialization and registration of mechanical key.

Can the system be initialized and can steering lock be released with re-registered mechanical key?

YES >> INSPECTION END (Steering lock unit was unregistered.)

NO >> GO TO 2.

2.CHECK STEERING LOCK UNIT POWER SUPPLY-1

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

	(+)	(–)	\/-\t (\)	
Steerin	g lock unit		Voltage (V) (Approx.)	
Connector Terminal			, , ,	
M28	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK STEERING LOCK UNIT POWER SUPPLY-2

Check voltage between steering lock unit harness connector and ground.

(Steering	+) lock unit	(-)	Voltage (V) (Approx.)	
Connector	Terminal	. ,	(Арргох.)	
M28	2	Ground	5	

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B2013 ID DISCORD I-KEY-STRG

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK STEERING LOCK UNIT GROUND CIRCUIT

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

Intelligent Key unit		Steering	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M40	31	M28	4	Existed

3. Check continuity between Intelligent Key unit harness connector and ground.

Intelliger	nt Key unit		Continuity
Connector Terminal		Ground	Continuity
M40	31		Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK STEERING LOCK UNIT COMMUNICATION CIRCUIT

- 1. Connect Intelligent Key unit connector and steering lock unit connector.
- 2. Check voltage between steering lock unit harness connector and ground.

(+) Steering lock unit		(-)	(–) Condition		Voltage (V) (Approx.)
Connector	Terminal				(*)
				LOCK status	5
M28	3	Ground	Steering lock	LOCK ⇔ UNLOCK	(V) 6 4 2 0 100 ms JMKIA0433ZZ
			For 15 seconds after UNLOCK	5	
				15 seconds later UN- LOCK	0

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6.CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

B2552 INTELLIGENT KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2552 INTELLIGENT KEY

Description INFOID:0000000008279887

Intelligent key unit performs engine start operation and steering lock control by crosschecking ID with the Intelligent key.

DTC Logic INFOID:0000000008279888

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2552	INTELLIGENT KEY	Malfunction is detected inside Intelligent key unit.	Intelligent Key unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Check "Self Diagnostic Result" with CONSULT.

Is DTC detected?

YES >> Refer to SEC-43, "Diagnosis Procedure".

>> INSPECTION END NO

Diagnosis Procedure

1. REPLACE INTELLIGENT KEY UNIT

- Replace Intelligent Key unit.
- Perform initialization with CONSULT. Re-register all mechanical keys.
- Start the engine.

Does the engine start?

YES >> INSPECTION END (Intelligent Key unit was malfunctioning.)

>> Perform "DTC confirmation procedure". Refer to SEC-43, "DTC Logic".

Special Repair Requirement

1. REQUIRED WORK WHEN REPLACING INTELLIGENT KEY UNIT

Initialize control unit.

>> WORK END

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B2590 ID DISCORD BCM-I-KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2590 ID DISCORD BCM-I-KEY

Description INFOID:0000000008279891

Intelligent Key unit performs the ID verification with BCM that allows the engine to start. BCM starts the engine if the ID is OK and prevents the engine from starting if the ID is not registered.

DTC Logic

DTC DETECTION LOGIC

NOTE:

 If DTC B2590 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-31, "BCM: DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2590	ID DISCORD BCM-I- KEY	The ID verification results between BCM and Intelligent Key unit are NG. The registration is necessary.	BCM Intelligent Key unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to <u>SEC-44</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008279893

1. PERFORM INITIALIZATION

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

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

YES >> INSPECTION END (ID was unregistered.)

NO >> BCM is malfunctioning.

- Replace BCM
- · Perform initialization again

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT INTELLIGENT KEY UNIT

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INTELLIGENT KEY UNIT: Diagnosis Procedure

1. CHECK FUSE AND FUSIBLE LINK

- Turn ignition switch OFF.
- Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.
11	Battery power supply	14 (10A)
6	Ignition power supply	1 (10A)

Is the fuse blown?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

- Disconnect Intelligent Key unit connector.
- 2. Turn ignition switch ON.
- Check voltage between Intelligent Key unit harness connector and ground.

(+)	(–)	V 16 0.0	
Intelliger	nt Key unit		Voltage (V) (Approx.)	
Connector	Terminal		(11 - 7	
M40	11	Ground	Rattony voltago	
14140	6	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- Check continuity between Intelligent Key unit harness connector and ground.

Intelliger	t Key unit		Continuity	
Connector Terminal		Ground	Continuity	
M40	12		Exists	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness.

BCM

BCM: Diagnosis Procedure

INFOID:0000000008279895

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	10
battery power suppry	J
ACC power supply	20
Ignition power supply	1

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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 BCM connectors.
- 3. Check voltage between BCM harness connector and the ground.

Terminals			Ignition switch position		
(+)			ignition switch position		
BCM		(–)	(-) OFF	ACC ON	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
	38		Approx. 0 V	Approx. 0 V	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and the ground.

В	CM		Continuity	
Connector	Connector Terminal		Continuity	
M67	M67 67		Existed	

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

DOOR SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

DOOR SWITCH Α Description INFOID:0000000008279896 Detects door open/closed condition. В Component Function Check INFOID:0000000008279897 1. CHECK FUNCTION (II) With CONSULT Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR D SW") in "Data Monitor" mode with CONSULT. Monitor item Door condition Display Е DOOR SW-DR DOOR SW-AS DOOR SW-RL $\mathsf{CLOSE} \to \mathsf{OPEN}$ $\mathsf{OFF} \to \mathsf{ON}$ F DOOR SW-RR **BACK DOOR** Is the inspection result normal? YES >> Door switch is OK. NO >> Refer to SEC-47, "Diagnosis Procedure". Н Diagnosis Procedure INFOID:0000000008279898

- 1. CHECK DOOR SWITCH INPUT SIGNAL
- Turn ignition switch OFF.
- 2. Disconnect door switch connectors.
- Check signal between door switch harness connector and ground with oscilloscope.

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(+)				Voltage (V) (Approx.)	
Connector	Terminal	(–)	(, , , , , , , , , , , , , , , , , , ,		
Front door switch (passenger side)	B93			(V) 15 10 5 0 + 10ms JPMIA0586GB	
Front door switch (driver side)	B92			(V) ₁₅ 10 5 0 → 10ms JPMIA0587GB	
Rear door switch RH	Rear door switch RH B95 3		Ground	(V) ₁₅ 10 5 0 → 10ms JPMIA0587GB	
Rear door switch LH	B94			(V) ₁₅ 10 5 0 → 10ms JPMIA0594GB	
Back door lock assembly (back door switch)	D190			(V) ₁₅ 10 5 0 → 10ms JPMIA0593GB	

Is the inspection result normal?

YES >> • Back door switch : GO TO 3.

• Door switch: GO TO 4.

NO >> GO TO 2.

2.CHECK DOOR SWITCH CIRCUIT

- 1. Disconnect BCM connectors.
- 2. Check continuity between BCM harness connector and door switch harness connector.

[WITH INTELLIGENT KEY SYSTEM]

ВСМ		Door switch	Continuity	
Connector Terminal		Connector	Terminal	Continuity
M65	12	B93		
WIOS	13	B95		
	43	D190	3	Exists
M66	47	B92		
	48	B94		

3. Check continuity between BCM harness connector and ground.

BCM connector	Terminal		Continuity
M65	12		Does not exist
IVIOS	13	Ground	
	43		
M66	47		
	48		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-65, "Exploded View".

NO >> Repair or replace harness.

3.CHECK BACK DOOR GROUND CIRCUIT

Check continuity between back door lock assembly harness connector and ground.

Back door lock a	assembly		Continuity	
Connector	Terminal	Ground	Continuity	
D190	D190 4		Exist	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK DOOR SWITCH

Check door switch.

Refer to SEC-49, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace door switch. Refer to <u>DLK-241, "Removal and Installation"</u>.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

Component Inspection

1. CHECK DOOR SWITCH

- Turn ignition switch OFF.
- 2. Disconnect door switch connector.
- Check door switch.

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INFOID:0000000008279899

DOOR SWITCH

[WITH INTELLIGENT KEY SYSTEM]

Terminal			Condition	Continuity	
Each door	Each door	Ground	Door switch pressed	Exists	
Each door			Door switch released	Does not exist	
Back door	3		4	Back door open	Exists
Dack Gool	Back door		Back door close	Does not exist	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace door switch . Refer to <u>DLK-241</u>, "Removal and Installation".

KEY SWITCH

Description INFOID:000000008279900

Key switch detects that mechanical key is inserted into the key cylinder, and then transmits the signal to BCM.

Component Function Check

1. CHECK KEY SWITCH INPUT SIGNAL

Check key switch ("KEY ON SW") in "Data Monitor" mode with CONSULT. Refer to <u>DLK-46, "DOOR LOCK:</u> CONSULT Function (BCM - DOOR LOCK)".

Monitor item	Condition	
KEY ON SW	Insert mechanical key into key cylinder	: ON
	Remove mechanical key from key cylinder	: OFF

Is the inspection result normal?

YES >> Key switch is OK.

NO >> Refer to <u>SEC-51</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

1. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

- 1. Remove mechanical key from key cylinder.
- 2. Disconnect key switch connector.
- Check voltage between ignition knob switch, key switch and key lock solenoid harness connector and ground.

(+) Ignition knob switch, key switch	ch and key lock solenoid	(-)	Voltage (V) (Approx.)
Connector Terminal			(11 - /
M25	2	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK KEY SWITCH SIGNAL CIRCUIT

1. Check continuity between BCM harness connector and ignition knob switch, key switch and key lock solenoid connector.

ВСМ		Ignition knob switch, key swit lenoid	Continuity	
Connector	Terminal	Connector	Terminal	
M65	37	M25	1	Exists

2. Check continuity between key switch and ground.

Ignition knob switch, key s	witch and key lock solenoid		Continuity	
Connector Terminal		Ground	Continuity	
M25	1		Does not exist	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK KEY SWITCH

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KEY SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Check key switch function.

Refer to SEC-52, "Component Inspection".

Is the inspection result normal?

yes >> GO TO 4.

NO >> Replace ignition knob switch, key switch and key lock solenoid.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000008279903

1. CHECK KEY SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect key switch connector.
- 3. Check continuity between ignition knob switch, key switch and key lock solenoid terminals.

Terminal Ignition knob switch, key switch and key lock solenoid		Condition	Continuity
		Condition	
1	2	Insert mechanical key into key cylinder	Exists
'	2	Remove mechanical key from key cylinder	Does not exist

Is the inspection result normal?

YES >> Key switch is OK.

NO >> Replace ignition knob switch, key switch and key lock solenoid.

IGNITION KNOB SWITCH

Description

Ignition knob switch detects that ignition knob is pressed, and then transmits the signal to Intelligent Key unit.

Component Function Check

1. CHECK IGNITION KNOB SWITCH INPUT SIGNAL

Check ignition knob switch ("PUSH SW") in "Data Monitor" mode with CONSULT.

Monitor item	Condition	
PUSH SW	Ignition knob switch is pressed	: ON
	Ignition knob switch is released	: OFF

Is the inspection result normal?

YES >> Ignition knob switch is OK.

NO >> Refer to <u>SEC-53</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

1. CHECK IGNITION KNOB SWITCH POWER SUPPLY CIRCUIT

Turn ignition switch OFF.

2. Disconnect ignition knob switch, key switch and key lock solenoid connector.

3. Check voltage between ignition knob switch, key switch and key lock solenoid harness connector and ground.

(+)			
Ignition knob switch, key s	witch and key lock solenoid	(–)	Voltage (V) (Approx.)	
Connector Terminal			(11 - 7	
M25	M25 4		Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK IGNITION KNOB SWITCH SIGNAL CIRCUIT

 Check continuity between Intelligent Key unit harness connector and ignition knob switch, key switch and key lock solenoid harness connector.

Intelligen	Intelligent Key unit		Ignition knob switch, key switch and key lock solenoid	
Connector	Terminal	Connector Terminal		Continuity
M40	27	M25	3	Exists

Check continuity between ignition knob switch, key switch and key lock solenoid harness connector and ground.

Ignition knob switch, key s	witch and key lock solenoid		Continuity	
Connector Terminal		Ground	Continuity	
M25	3		Does not exist	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK IGNITION KNOB SWITCH

Check ignition knob switch.

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IGNITION KNOB SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Refer to SEC-54, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace ignition knob switch, key switch and key lock solenoid.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000008279907

1. CHECK IGNITION KNOB SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect ignition knob switch. Key switch and key lock solenoid connector.
- 3. Check continuity between ignition knob switch, key switch and key lock solenoid terminals under the following conditions.

Ignition knob switch, key switch and key lock so- lenoid Terminal		Condition	Continuity
2	4	Ignition knob switch is pressed	Exists
3	4	Ignition knob switch is released	Does not exist

Is the inspection result normal?

YES >> Ignition knob switch is OK.

NO >> Replace ignition knob switch, key switch and key lock solenoid.

[WITH INTELLIGENT KEY SYSTEM]

HOOD SWITCH

Description

Hood switch detects that hood is open/close condition, and then IPDM E/R detects the signal.

Component Function Check

1. CHECK FUNCTION

- Select "HOOD SW" in "Data Monitor" mode with CONSULT.
- 2. Check the hood switch signal under the following condition.

Test item	Condition		Status
HOOD SW	Hood	Open	ON
HOOD SW	Tiood	Close	OFF

Is the indication normal?

YES >> INSPECTION END

NO >> Refer to <u>SEC-55</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

1. CHECK HOOD SWITCH SIGNAL

1. Turn ignition switch OFF.

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

	+) M E/R	(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(11 -)
E13	34	Ground	Hood	Open	0
E13	34	Giodila	Hood	Close	Battery voltage

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 2.

2.CHECK HOOD SWITCH SIGNAL CIRCUIT

- 1. Disconnect IPDM E/R connector and hood switch connector.
- Check continuity between IPDM E/R harness connector and hood switch harness connector.

IPDM E/R		Hood switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E13	34	E113	1	Existed

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

IPDM	1 E/R		Continuity
Connector	Terminal	Ground	Continuity
E13	E13 34		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.check hood switch ground circuit

Check continuity between hood switch harness connector and ground.

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INFOID:0000000008279909

INFOID:0000000008279910

HOOD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Hood	switch		Continuity
Connector	Connector Terminal		Continuity
E113	2		Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK IPDM E/R OUTPUT

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

IPD	M E/R		Voltage (V)
Connector	Connector Terminal		(Approx.)
E13	34		Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to PCS-28, "Removal and Installation".

5. CHECK HOOD SWITCH

Refer to SEC-56, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace hood switch. Refer to <u>SEC-125</u>, "Removal and Installation".

6. CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000008279911

1. CHECK HOOD SWITCH

Check continuity between hood switch terminals.

Hood switch Terminal		Condition		Continuity
1	2	HOOG SWILCH	Release	Existed

Is the inspection result normal?

YES >> Hood switch is OK.

NO >> Replace hood switch. Refer to <u>SEC-125</u>, "Removal and Installation".

INSIDE KEY ANTENNA INSTRUMENT CENTER

INSTRUMENT CENTER: Description

INFOID:0000000008279912

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Detects whether Intelligent Key is inside the vehicle.

INSTRUMENT CENTER: Component Function Check

INFOID:0000000008279913

1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL

(P)With CONSULT

- 1. Check "ANTENNA" in "Active Test" mode with CONSULT.
- 2. Touch "ROOM ANT 2".
- When Intelligent Key is in inside key antenna (instrument center) detection area, hazard warning lamp blinks.

	Test Item	Inside Antenna
ANTENNA	:ROOM ANT 2	Inside key antenna (instrument center)

Is the inspection result normal?

YES >> Inside key antenna (instrument center) is OK.

NO >> Refer to <u>SEC-57</u>, "INSTRUMENT CENTER: Diagnosis Procedure".

INSTRUMENT CENTER: Diagnosis Procedure

INFOID:0000000008279914

1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect inside key antenna (instrument center) connector.
- Check signal between inside key antenna (instrument center) harness connector and ground with oscilloscope.

Terr	ninals				
(+)			0 100	Signal	
Inside key antenna (instrument center) connector	Terminal	(–)	Condition	(Reference value)	
M56	1	Ground	Ignition knob switch is pressed	(V) 15 10 5 0 1 s JMKIA0393ZZ	
WOO	2	Siound	Ignition with 15 prosect	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1	

Is the inspection result normal?

YES >> Replace inside key antenna (instrument center).

NO >> GO TO 2.

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< DTC/CIRCUIT DIAGNOSIS >

2.check inside key antenna circuit

1. Disconnect Intelligent Key unit connector.

2. Check continuity between Intelligent Key unit harness connector and inside key antenna (instrument center) harness connector.

Intelliger	nt Key unit	Inside key antenna (instrument center)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M40	33	M56	1	Exists
W40	34	IVIOO	2	EXISIS

3. Check continuity between Intelligent Key unit harness connector and ground.

Intellige	nt Key unit		Continuity
Connector	Terminal	Continuity	
M40	33	Ground	Does not exist
IVI40	34		Does not exist

Is the inspection result normal?

YES >> Replace Intelligent Key unit. Refer to <u>DLK-249</u>, "Removal and Installation".

NO >> Repair or replace harness between Intelligent Key unit and inside key antenna (instrument center).

CONSOLE

CONSOLE : Description

INFOID:0000000008279915

Detects whether Intelligent Key is inside the vehicle.

CONSOLE: Component Function Check

INFOID:0000000008279916

1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL

(P)With CONSULT

- 1. Check "ANTENNA" in "Active Test" mode with CONSULT.
- 2. Touch "ROOM ANT 1".
- 3. When Intelligent Key is in inside key antenna (console) detection area, hazard warning lamp blinks.

	Test Item	Inside Antenna
ANTENNA	:ROOM ANT 1	Inside key antenna (console)

Is the inspection result normal?

YES >> Inside key antenna (console) is OK.

NO >> Refer to <u>SEC-58</u>, "CONSOLE : Diagnosis Procedure".

CONSOLE : Diagnosis Procedure

INFOID:0000000008279917

1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL

- Turn ignition switch OFF.
- Disconnect inside key antenna (console) connector.
- 3. Check signal between inside key antenna (console) harness connector and ground with oscilloscope.

Tern	ninal			
(+)			Condition	Signal
Inside key antenna (console) connector	Terminal	(–)		(Reference value)
M252	1	Ground	Ignition knob switch is pressed	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1
IVIZOZ	2	Glound	ignition knob switch is pressed	(V) 15 10 5 0 1 s JMKIA0392ZZ

Is the inspection result normal?

YES >> Replace inside key antenna (console).

NO >> GO TO 2.

2.check inside key antenna circuit

- Disconnect Intelligent Key unit connector.
- Check continuity between Intelligent Key unit harness connector and inside key antenna (console) harness connector.

Intellige	nt Key unit	Inside key antenna (console)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M40	15	M252	1	Exists
17140	16	IVIZOZ	2	LAISIS

Check continuity between Intelligent Key unit harness connector and ground.

Intelligen	t Key unit		Continuity
Connector	Terminal	Ground	Continuity
M40	15	Giodila	Does not exist
WI4O	16		DOES HOLEKIST

Is the inspection result normal?

YES >> Replace Intelligent Key unit. Refer to DLK-249, "Removal and Installation".

>> Repair or replace harness between Intelligent Key unit and inside key antenna (console). NO

REAR SEAT

REAR SEAT: Description

Detects whether Intelligent Key is inside the vehicle.

REAR SEAT : Component Function Check INFOID:0000000008279919

1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL

(P)With CONSULT

Check "ANTENNA" in "Active Test" mode with CONSULT.

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INFOID:0000000008279918

INSIDE KEY ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- 2. Touch "ROOM ANT 2".
- 3. When Intelligent Key is in inside key antenna (rear seat) detection area, hazard warning lamp blinks.

	Test Item	
ANTENNA	:ROOM ANT 2	Inside key antenna (rear seat)

Is the inspection result normal?

YES >> Inside key antenna (rear seat) is OK.

NO >> Refer to SEC-60, "REAR SEAT : Diagnosis Procedure".

REAR SEAT: Diagnosis Procedure

INFOID:0000000008279920

1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect inside key antenna (rear seat) connector.
- 3. Check signal between inside key antenna (rear seat) harness connector and ground with oscilloscope.

Terr	Terminal			
(+)			Condition	Signal
Inside key antenna (rear seat) connector	Terminal	(-)		(Reference value)
B45	1	Ground	Ignition knob switch is pressed	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1
240	2	Sisting	ig.m.o. m.o. om.o. o procedu	(V) 15 10 5 0

Is the inspection result normal?

YES >> Replace inside key antenna (rear seat).

NO >> GO TO 2.

2. CHECK INSIDE KEY ANTENNA CIRCUIT

1. Disconnect Intelligent Key unit connector.

Check continuity between Intelligent Key unit harness connector and inside key antenna (rear seat) harness connector.

Intelliger	nt Key unit	Inside key antenna (rear seat)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M40	13	B45	1	Exists
10140	14	B45	2	EXISIS

3. Check continuity between Intelligent Key unit harness connector and ground.

INSIDE KEY ANTENNA

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Intellige	ent Key unit		Continuity
Connector	Terminal	Ground	Continuity
M40	13	Giodila	Does not exist
IVI4U	14		Does not exist

Is the inspection result normal?

YES >> Replace Intelligent Key unit. Refer to <u>DLK-249</u>, "Removal and Installation".

NO >> Repair or replace harness between Intelligent Key unit and inside key antenna (rear seat).

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< DTC/CIRCUIT DIAGNOSIS >

HORN

EXCEPT FOR MEXICO

EXCEPT FOR MEXICO: Description

INFOID:0000000008279921

Horn (high/low) is located inside of front bumper and operates when vehicle security system is in alarm phase.

EXCEPT FOR MEXICO: Component Function Check

INFOID:0000000008279922

1. CHECK FUNCTION

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

Test item		Desc	ription
HORN	ON	Horn (high/low)	ON (for 20 ms)

Is the operation normal?

YES >> INSPECTION END

NO >> Refer to <u>SEC-62</u>, "EXCEPT FOR MEXICO : Diagnosis Procedure".

EXCEPT FOR MEXICO: Diagnosis Procedure

INFOID:0000000008279923

1. CHECK HORN FUNCTION

Check horn function with horn switch

Do the horns sound?

YES >> GO TO 2.

NO >> Refer to HRN-2, "EXCEPT FOR MEXICO: Wiring Diagram - HORN -".

2.CHECK HORN RELAY CIRCUIT

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

IPD	M E/R	Horn relay		Continuity
Connector	Terminal	Connector Terminal		Continuity
E15	57	E5	1	Existed

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

IPDI	M E/R		Continuity
Connector Terminal		Ground	Continuity
E15	57		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-28, "Removal and Installation".

NO >> Repair or replace harness.

FOR MEXICO

FOR MEXICO: Description

INFOID:0000000008279924

INFOID:0000000008279925

Horn (high/low) is located inside of front bumper and operates when vehicle security system is in alarm phase.

FOR MEXICO: Component Function Check

1. CHECK FUNCTION

- Select "HORN" in "Active Test" mode with CONSULT.
- Check the horn (high/low) operation.

[WITH INTELLIGENT KEY SYSTEM]

Test item		Descrip	escription	
HORN	ON	Horn (high/low)	ON (for 20 ms)	

YES >> INSPECTION END

>> Refer to SEC-63, "FOR MEXICO: Diagnosis Procedure". NO

FOR MEXICO: Diagnosis Procedure

1. CHECK HORN FUNCTION

Check horn function with horn switch

Do the horns sound?

YES >> GO TO 2.

NO >> Refer to HRN-2, "EXCEPT FOR MEXICO: Wiring Diagram - HORN -".

2.CHECK HORN RELAY CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connector, horn relay connector and theft warning horn relay connector.
- Check continuity between IPDM E/R harness connector and horn relay harness connector.

IPD	M E/R	Horn relay		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E15	57	E5	1	Existed

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

IPD	M E/R	Theft warning horn relay		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E15	57	E70	1	Existed	

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

IPDM E/R			Continuity
Connector Terminal		Ground	Continuity
E15	57		Not existed

Is the inspection result normal?

>> Replace IPDM E/R. Refer to PCS-28, "Removal and Installation". YES

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

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[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY INDICATOR

Description INFOID:000000008279927

- Vehicle security indicator is built in combination meter.
- NVIS/NATS and vehicle security system conditions are indicated by blink or illumination of vehicle security indicator.

Component Function Check

INFOID:0000000008279928

1.CHECK FUNCTION

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

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to <u>SEC-64, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:0000000008279929

1. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+) Combination meter		(-)	Voltage (V) (Approx.)
Connector	Terminal		(44.5)
M34	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK SECURITY INDICATOR LAMP SIGNAL CIRCUIT

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

ВСМ		Combina	tion meter	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M65	23	M34	28	Existed

Check continuity between combination meter harness connector and ground.

Combination meter			Continuity
Connector	Terminal	Ground	Continuity
M34	28		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK BCM OUTPUT SIGNAL

1. Connect combination meter connector.

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

2. Check voltage between BCM harness connector and ground.

(+) BCM		(-)	Voltage (V) (Approx.)
Connector	Terminal		
M65	23	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-65, "Removal and Installation".

NO >> Replace combination meter. Refer to MWI-69, "Removal and Installation".

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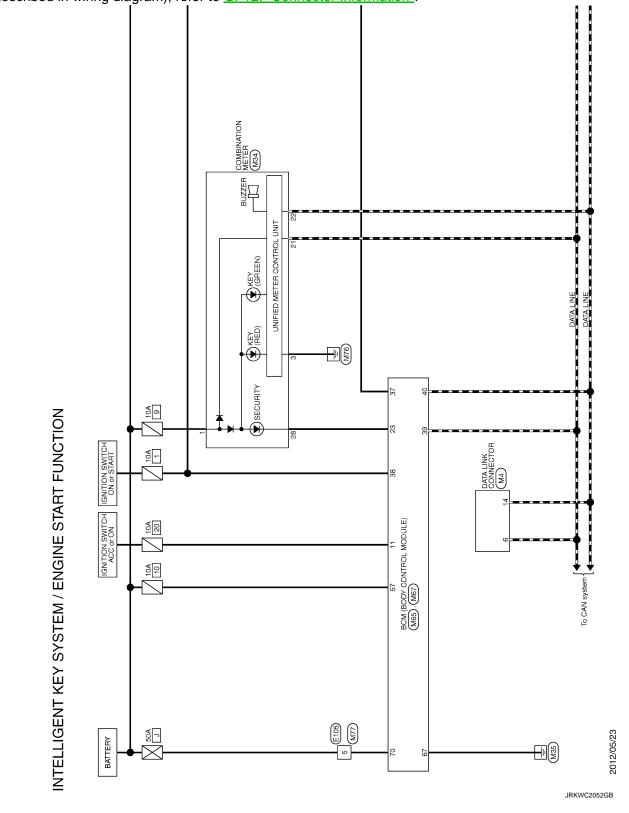
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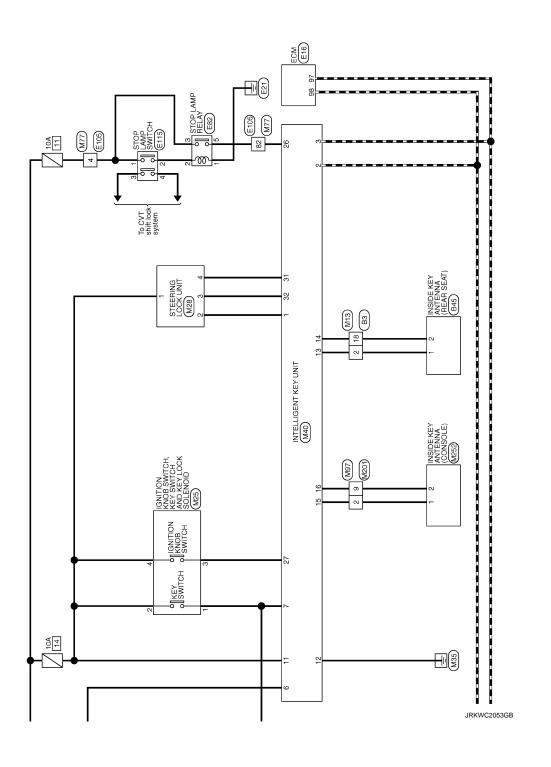
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -

INFOID:0000000008279930

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".





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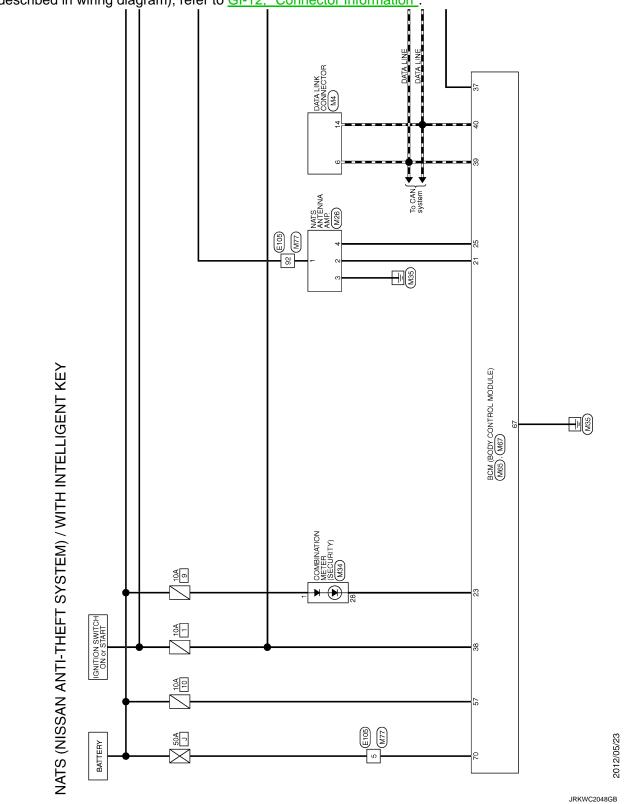
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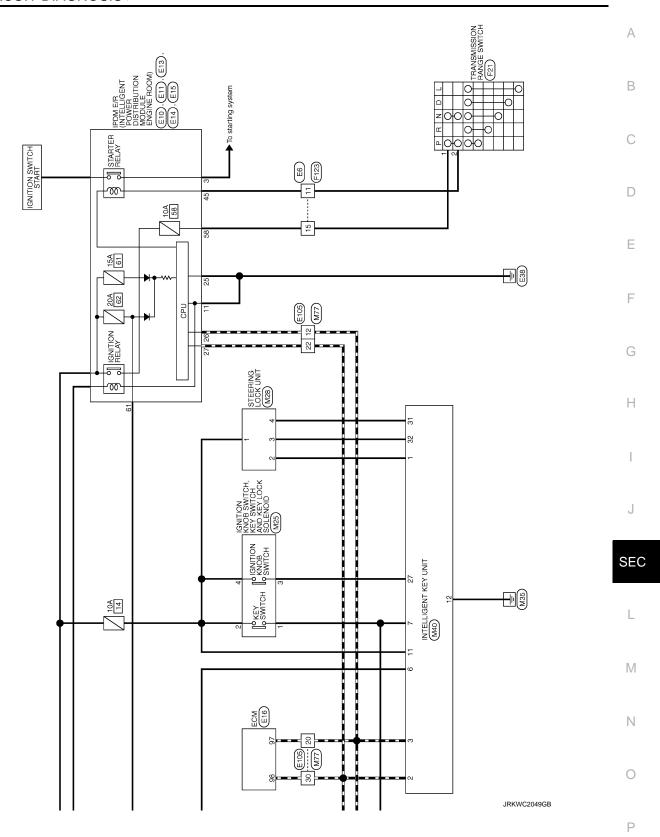
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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram - NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS - INFOID:000000008279931

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".





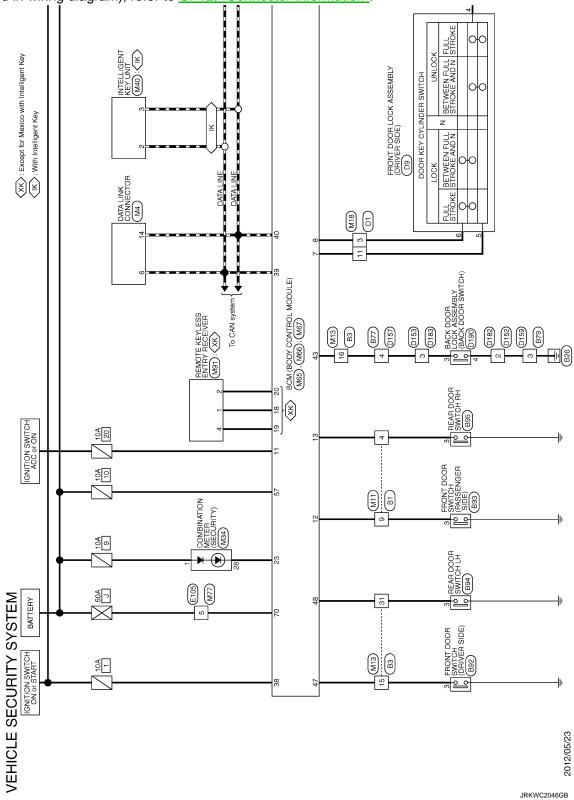
VEHICLE SECURITY SYSTEM

Wiring Diagram - VEHICLE SECURITY SYSTEM -

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INFOID:0000000008279932

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



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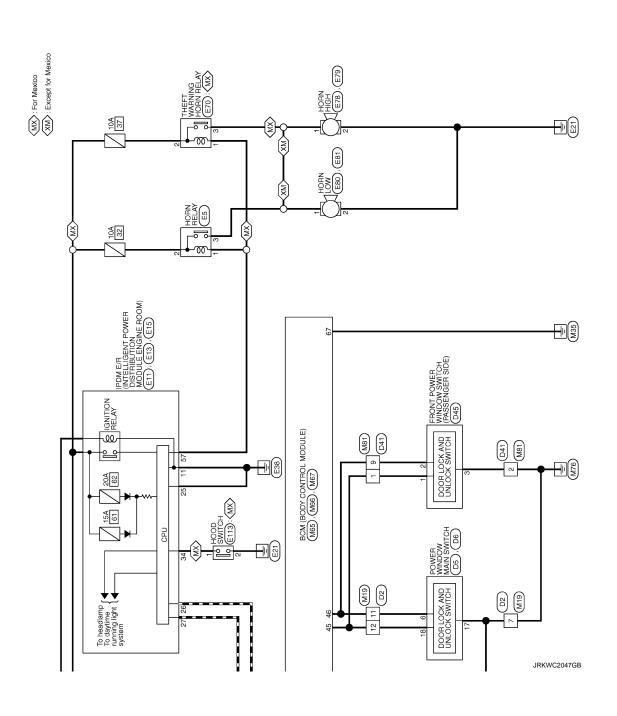
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	Off
IGIN ON SW	Ignition switch ON	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the lock side	On
	Door lock/unlock switch does not operate	Off
CDL UNLOCK SW	Press door lock/unlock switch to the unlock side	On
DOOD CW DD	Driver's door closed	Off
DOOR SW-DR	Driver's door opened	On
DOOR SW-AS	Passenger door closed	Off
	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
BACK DOOR SW	Back door closed	Off
BACK DOOK SW	Back door opened	On
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
RETUTE LR-SW	Driver door key cylinder LOCK position	On
KEN CAL TIN 6/W	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
KEVI ESS I OCK	"LOCK" button of key fob is not pressed	Off
KEYLESS LOCK	"LOCK" button of key fob is pressed	On
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	Off
RETELSS UNLOCK	"UNLOCK" button of key fob is pressed	On
I-KEY LOCK	"LOCK" button of Intelligent Key or door request switch are not pressed	Off
THE FEOOR	"LOCK" button of Intelligent Key or door request switch are pressed	On
I-KEY UNLOCK	"UNLOCK" button of Intelligent Key or door request switch are not pressed	Off
	"UNLOCK" button of Intelligent Key or door request switch are pressed	On
	Ignition switch OFF	Off
ACC ON SW	Ignition switch ACC or ON	On
DEAD DEE OM	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
LIGHT SW 1ST	Lighting switch OFF	Off
LIGHT SW 131	Lighting switch 1ST	On
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	Off
BOOKEE OW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	On
KEYLESS PANIC	PANIC button of key fob is not pressed	Off
AL ILLOS FAMIO	PANIC button of key fob is pressed	On
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	Off
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	Off
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	Off
THE ECK-UNION	LOCK/UNLOCK button of key fob is pressed and held simultaneously	On
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	Off
AND NEET UNLIN	UNLOCK button of key fob is pressed and held	On
HI REAM SW	Lighting switch OFF	Off
HI BEAM SW	Lighting switch HI	On
HEAD LAMP SW 1	Lighting switch OFF	Off
TEAD LAIVIP SVV I	Lighting switch 2ND	On
LIEAD LAMB OW O	Lighting switch OFF	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
NUTO LICHT SW	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
PASSING SW	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
FR FOG SW	Front fog lamp switch OFF	Off
-R FOG SW	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
TURN SIGNAL R	Turn signal switch OFF	Off
I URIN SIGNAL R	Turn signal switch RH	On
FLIDNI CIONAL I	Turn signal switch OFF	Off
TURN SIGNAL L	Turn signal switch LH	On
ENGINE RUN	Engine stopped	Off
ENGINE RON	Engine running	On
PKB SW	Parking brake switch is OFF	Off
IVD OVV	Parking brake switch is ON	On
CARGO LAMP SW	NOTE: The item is indicated, but not monitored.	Off
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
OF HUAL SENSUR	Dark outside of the vehicle	Close to 0 V
IGN SW CAN	Ignition switch OFF or ACC	Off
IGIN SVV CAIN	Ignition switch ON	On

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Monitor Item	Condition	Value/Status
FR WIPER HI	Front wiper switch OFF	Off
TIX WIF LIXTII	Front wiper switch HI	On
FR WIPER LOW	Front wiper switch OFF	Off
FR WIPER LOW	Front wiper switch LO	On
FR WIPER INT	Front wiper switch OFF	Off
FR WIPER INT	Front wiper switch INT	On
ED WASHED OW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
INT 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
FR WIPER STOP	Front wiper stop position	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
DD WIDED ON	Rear wiper switch OFF	Off
RR WIPER ON	Rear wiper switch ON	On
DD WIDED INT	Rear wiper switch OFF	Off
RR WIPER INT	Rear wiper switch INT	On
	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
	Rear wiper stop position	Off
RR WIPER STOP	Other than rear wiper stop position	On
RR WIPER STP2	NOTE: The item is indicated, but not monitored.	Off
H/L WASH SW	NOTE: The item is indicated, but not monitored.	Off
114.74.DD 0\4/	Hazard switch OFF	Off
HAZARD SW	Hazard switch ON	On
DD ALCE OLA	Brake pedal is not depressed	Off
BRAKE SW	Brake pedal is depressed	On
544 04 010	Blower fan motor switch OFF	Off
FAN ON SIG	Blower fan motor switch ON (other than OFF)	On
AIR COND SW	 A/C conditioner OFF (A/C switch indicator OFF) (Automatic air conditioner) A/C switch OFF (Manual air conditioner) 	Off
AIR COND SW	 A/C conditioner ON (A/C switch indicator ON) (Automatic air conditioner) A/C switch ON (Manual air conditioner) 	On
I-KEY TRUNK	NOTE: The item is indicated, but not monitored.	Off
I-KEY PW DWN	UNLOCK button of Intelligent Key is not pressed	Off
I-IXET E AA DAAIA	UNLOCK button of Intelligent Key is pressed and held	On
I-KEA DVIIO	PANIC button of Intelligent Key is not pressed	Off
I-KEY PANIC	PANIC button of Intelligent Key is pressed	On
DUCH CW	Return to ignition switch to "LOCK" position	Off
PUSH SW	Press ignition switch	On
TDAW ODAE CO	When back door opener switch is not pressed	Off
TRNK OPNR SW	When back door opener switch is pressed	On

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
TRUNK CYL SW	NOTE: The item is indicated, but not monitored.	Off
HOOD SW	Close the hood NOTE: Vehicles of except for Mexico are OFF-fixed	Off
	Open the hood	On
OIL PRESS SW	Ignition switch OFF or ACC Engine running	Off
	Ignition switch ON	On
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 DECCT EL 4	ID of front LH tire transmitter is registered	Done
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
ID REGST FRT	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
ID REGGI KKI	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
ID REGST RET	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
WAINING LAWF	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
DUZZEN	Tire pressure warning alarm is sounding	On

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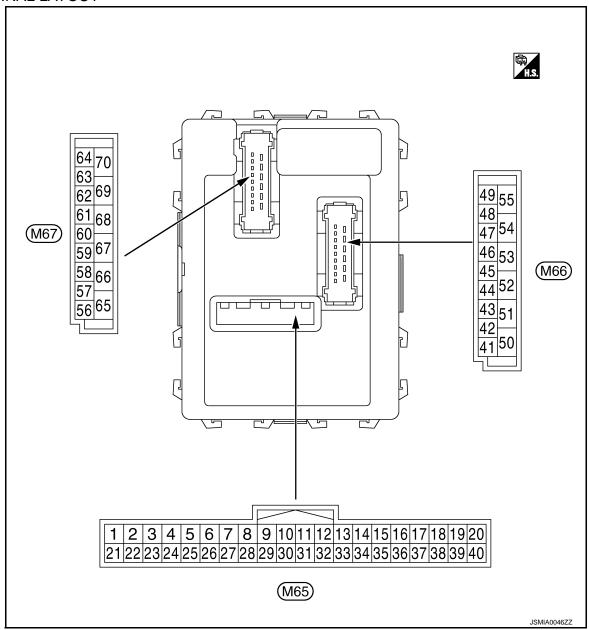
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TERMINAL LAYOUT



PHYSICAL VALUES

CAUTION:

- Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.
- Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT. Refer to BCS-26, "COMB SW: CONSULT Function (BCM COMB SW)".
- BCM reads the status of the combination switch at 10 ms internal normally. Refer to <u>BCS-9, "System Diagram"</u>.

Terminal No. (Wire color)		Description				Value		
		Signal name	Input/	Condition		(Approx.)		
+	_	Signar name	Output			() ()		
1	1 Ground Ignition key hole illu-		xey hole illu-		lgnition key hole illu-	Ignition key hole	OFF	Battery voltage
(V)	Ground	mination control	Output	illumination	ON	0 V		

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value
+ (vvire	- COIOF)	Signal name	Input/ Output		Condition	(Approx.)
2		Combination switch		Combination switch	All switch OFF Turn signal switch RH Lighting switch HI Lighting switch 1ST	0 V (V) 15 10 5 0 PKIB4959J
(G) Ground	Ground	INPUT 5	Input	(Wiper intermittent dial 4)	Lighting switch 2ND	1.0 V
					All switch OFF	2.0 V 0 V
		und Combination switch INPUT 4		Combination switch (Wiper intermit- tent dial 4)	Turn signal switch LH Lighting switch PASS	(V) 15
3 (Y)	Ground		Input		Lighting switch 2ND	10 0 +-10ms PKIB4959J 1.0 V
(Y) Ground					Front fog lamp switch ON	(V) 15 10 5 0 +-10ms
					All switch OFF	0.8 V 0 V
4 (W)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit-	Lighting switch AUTO Front wiper switch LO Front wiper switch MIST	(V) 15 10 5
(**)	1141 01 3		tent dial 4)	Front wiper switch INT	++10ms PKIB4959J	

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output		Condition	Value (Approx.)
					All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch (Wiper intermittent dial 4) Rear washer ON (Wiper intermittent dial 4)	(V) 15 10 5
5 (R)	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	PKIB4959J
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 10 10 10 10 10 10 10 10 10 10 10 10
		Ground Combination switch INPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5
					Wiper intermittent dial 3 (All switch OFF)	PKIB4959J
6 (BG)	Ground				Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 15 10 5 0 ++10ms PKIB4952J 1.7 V
					Any of the condition below with all switch OFF • 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 >

Terminal No. (Wire color)		Description				Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
7 (V)	Ground	Door key cylinder switch UNLOCK sig- nal	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0 ++10ms JPMIA0587GB 8.0 - 8.5 V
					UNLOCK position	0 V
8 (R)	Ground	Door key cylinder switch LOCK signal	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0
					LOCK position	0 V
9	C=====================================	Stop lamp switch	المسرية المسرية	Stop lamp	OFF (Brake pedal is not depressed)	0 V
(R) Ground	Stop lamp switch	Input	switch	ON (Brake pedal is depressed)	Battery voltage	
10 (SB)	Ground	Rear window defog- ger switch	Input	Rear window defogger switch	Not pressed	Battery voltage
		ger switch		Ignition switch O	Pressed	0 V 0 V
11 (SB)	Ground	Ignition switch ACC	Input	Ignition switch A		Battery voltage
12 (BG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) ₁₅ 10 5 0 ++10ms JPMIA0586GB 7.5 - 8.0 V
					ON (When passenger door opened)	0 V
13 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	(V) 15 10 5 0 *** 10ms JPMIA0587GB 8.0 - 8.5 V
				ON (When rear door RH opened)	0 V	

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
14 (G)	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle When dark outside of the	Close to 5 V
					vehicle	Close to 0 V
17 (W)	Ground	Optical sensor pow- er supply	Output	Ignition switch	OFF, ACC	0 V 5 V
18 [*] (R)	Ground	Receiver and sensor ground	Input	Ignition switch O		0 V
				Without Intelligent Key system	At any condition	5 V
19 [*] (V)	Ground	Remote keyless en- try receiver power supply	Input	With Intelligent Key system	Ignition switch OFF For 3 seconds after ignition switch OFF to ON	0 V
				ricy cyclem	3 seconds or later after ignition switch OFF to ON	5 V
		Remote keyless entry receiver signal		Without Intelligent Key system	At any condition	(V) 15 10 5 0 PMIA0589GB NOTE: The wave form changes according to signal-receiving condition.
20 [*] (GR)	Ground		Input		Ignition switch OFF For 3 seconds after ignition switch OFF to ON	0 V
				With Intelligent Key system	3 seconds or later after ig- nition switch OFF to ON	(V) 15 10 5 0 JPMIA0589GB NOTE: The wave form changes according to signal-receiving condition.
21 (G)	Ground	NATS antenna amp.	Input/ Output	Just after insertin	g ignition key in key cylinder	Pointer of tester should move
					ON	0 V
23 (B)	Ground	Security indicator signal	Input	Security indicator	Blinking (Ignition switch OFF)	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
					OFF	12.0 V Battery voltage
-					J	Dattory voltage

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Terminal No. (Wire color)		Description			One distant	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
25 (BR)	Ground	NATS antenna amp.	Input/ Output	Just after insertir	ng ignition key in key cylinder	Pointer of tester should move
27 (Y)	Ground	A/C switch	Input	Ignition switch O	A/C switch OFF	(V) ₁₅ 10 5 0 → 10ms JPMIA0591GB 1.6 V
				1	A/C switch ON	0 V
28 (LG)	Ground	Blower fan switch	Input	Ignition switch O	Blower fan switch OFF	(V) ₁₅ 10 5 0 ++10ms JPMIA0592GB 7.0 - 7.5 V
					Blower fan switch ON	0 V
29	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
(W)	2.54.14				ON	0 V
30 (G)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	Battery voltage
(G)		SWITCH	'	opener switch	Pressed	0 V
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + + 10ms PKIB4960J 7.2 V
32 (BR) Ground	Combination switch OUTPUT 5	Output	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4) Rear wiper switch ON	(V) 15 10	
				(Wiper intermittent dial 4) Any of the condition below with all switch OFF • Wiper intermittent dial 1	→ +10ms	
					Wiper intermittent dial 2Wiper intermittent dial 6Wiper intermittent dial 7	PKIB4956J 1.0 V

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< ECU DIAGNOSIS INFORMATION >

	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 PKJB4960J 7.2 V
33 (GR)	Ground	Combination switch OUTPUT 4	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	
. ,					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	РКIВ4958J 1.2 V
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.2 V
34 (SB)	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

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Terminal No. (Wire color) Description			0 155	Value								
+	e color)	Signal name	Input/ Output		Condition	(Approx.)						
					All switch OFF	(V) 15 10 5 0						
35	Ground	Combination switch	Output	Combination switch		PKIB4960J 7.2 V						
(B)	Ground	OUTPUT 2	Output	(Wiper intermit- tent dial 4)	Lighting switch 2ND	(1)						
					Lighting switch PASS	(V) 15 10						
					Front wiper switch INT	5						
					Front wiper switch HI	→ +10ms PKIB4958J						
						1.2 V						
				Combination	All switch OFF	(V) 15 10 5 0 → 10ms PKIB4960J						
36 (V)	Ground	Combination switch OUTPUT 1	Output	Output	Output	Output	Output	switch	switch	switch (Wiper intermit-	Turn signal switch RH	7.2 V
(-)				tent dial 4)	Turn signal switch LH	(V) 15						
					Front wiper switch LO	15						
					(Front wiper switch MIST) Front washer switch ON	0 → 10ms						
						PKIB4958J 1.2 V						
37				Insert mechanica	al key into ignition key cylin-	Battery voltage						
(LG)	Ground	Key switch	Input	Remove mechar cylinder	nical key from ignition key	0 V						
38	Ground	Ignition switch ON	Input	Ignition switch O	FF or ACC	0 V						
(G)	Ground	ignition switch ON		Ignition switch O	N or START	Battery voltage						
39 (L)	Ground	CAN-H	Input/ Output		_	_						
40 (P)	Ground	CAN-L	Input/ Output	_		_						

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< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
+ (VVire	color)	Signal name	Input/ Output		Condition	(Approx.)
43 (V)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) ₁₅ 10 5 0 **10ms JPMIA0593GB 9.5 - 10.0 V
					ON (When back door opened)	0 V
44		Rear wiper auto stop		Ignition switch	Rear wiper stop position	0 V
(B)	Ground	position	Input	ON SWILCH	Any position other than rear wiper stop position	Battery voltage
45 (P)	Ground	Door lock and unlock switch LOCK signal	Input	Door lock and unlock switch	NEUTRAL position	(V) 10 5 0 **10ms JPMIA0591GB
					LOCK position	0 V
46 (BR)	Ground	Door lock and unlock switch UNLOCK sig- nal	Input	Door lock and unlock switch	NEUTRAL position	(V) ₁₅ 10 5 0 1.6 V
					UNLOCK position	0 V
47 (W)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 5 0 JPMIA0587GB 8.0 - 8.5 V
					(When driver door opened)	0 V

< ECU DIAGNOSIS INFORMATION >

Terminal No. Description (Wire color)			O-malistica		Value					
-	Signal name	Input/ Output		Condition	(Approx.)					
Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	(V) 15 10 5 0 JPMIA0594GB 8.5 - 9.0 V					
				ON (When rear door LH opened)	0 V					
Cround	Luggage room lamp	Output	Luggage room	Back door is closed (Luggage room lamp turns OFF)	Battery voltage					
Giouna	control	control	control	control	control	Output	DOOR position		Back door is opened (Luggage room lamp turns ON)	0 V
0,000	Rack door open	Outrass	Back door	Back door	Not pressed (Back door actuator is activated)	0 V				
3 Ground Back door open Output	open Output o	opener switch	Pressed (Back door actuator is activated)	Battery voltage						
Ground	Rear winer motor	Output	Ignition switch	Rear wiper switch OFF	0 V					
Giouria	iseai wipei iiioloi	Output	ON	Rear wiper switch ON	Battery voltage					
Ground	Interior room lamp	Output	saver operation	time	0 V					
	power supply				Battery voltage					
Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage					
Ground	Driver door UN-	Outout	Driver deer	UNLOCK (Actuator is activated)	Battery voltage					
Giouna	LOCK	Output	Dilver door	Other then UNLOCK (Actuator is not activated)	0 V					
				Turn signal switch OFF	0 V					
Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1s					
	Ground Ground Ground Ground Ground	Ground Rear door switch LH Ground Luggage room lamp control Ground Rear wiper motor Ground Interior room lamp power supply Ground Battery power supply Ground Driver door UN-LOCK	Signal name Input/Output Ground Rear door switch LH Input Ground Luggage room lamp control Ground Back door open Output Ground Rear wiper motor Output Ground Interior room lamp power supply Output Ground Battery power supply Input Ground Driver door UN-LOCK Output	Signal name Input Output	Signal name Input Output Condition					

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output	Condition		(Approx.)
					Turn signal switch OFF	0 V
61 (GR)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 1 1s 1 PKIC6370E
63	Ground	Interior room lamp	Outnut	Interior room	OFF	Battery voltage
(R)	Ground	timer control	Output	lamp	ON	0 V
65	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	Battery voltage
(V)	Ground	TIG AII GOOTS LOOK	Output	atput 7 ili dooro	Other then LOCK (Actuator is not activated)	0 V
66	Cround	Passenger door and	Outenut	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
(G)	Ground	rear door UNLOCK	Output	and rear door	Other then UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch ON		0 V
68 (L)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		Battery voltage
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch OFF		Battery voltage

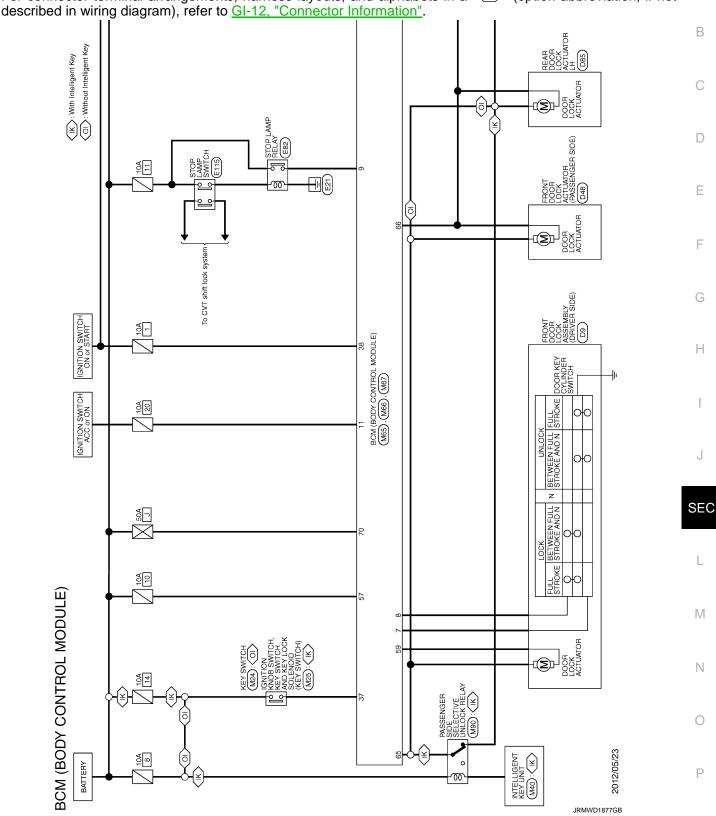
^{*:} Except for Mexico with Intelligent Key

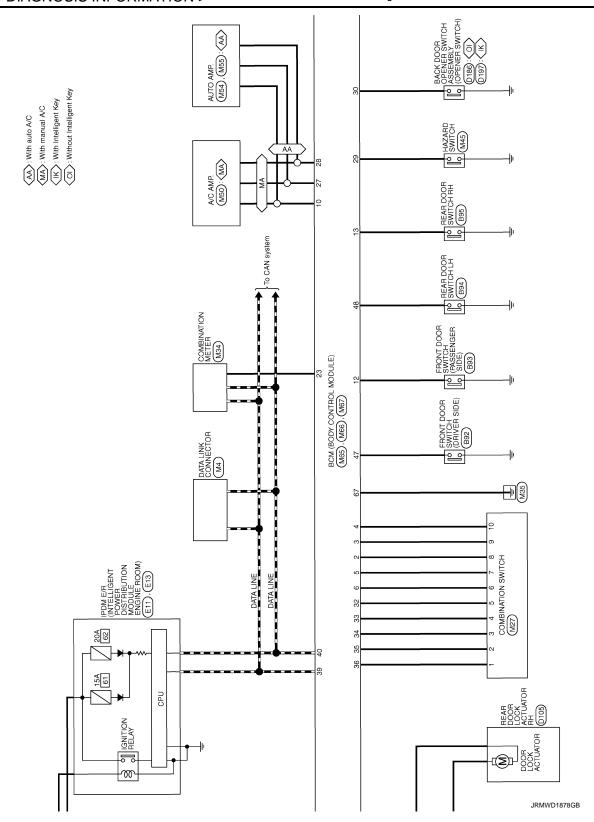
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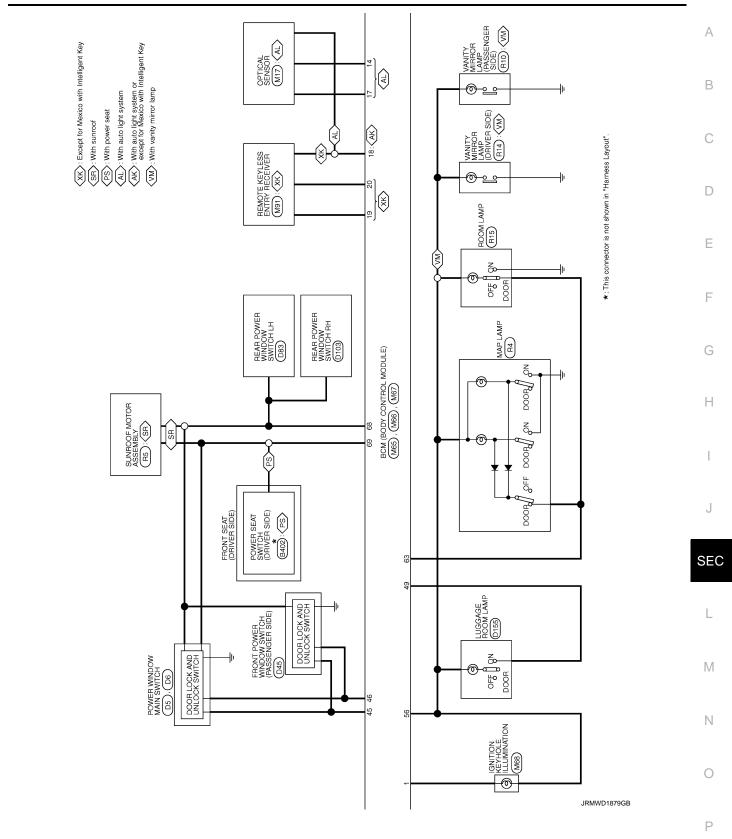
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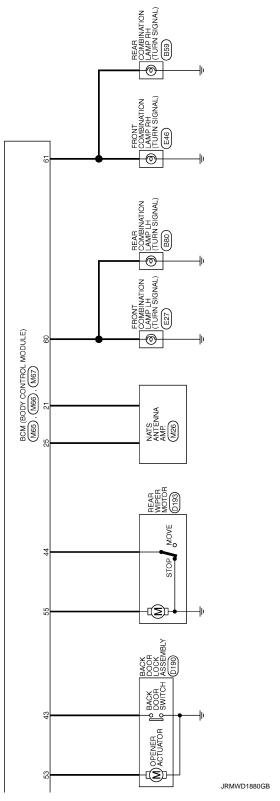
Wiring Diagram - BCM -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not









Fail-safe INFOID:000000008729058

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 more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

- 1. Pass more than 1 minute after the rear wiper stop.
- 2. Turn the rear wiper switch OFF.
- 3. 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	U1000: CAN COMM CIRCUIT	
2	C1735: IGN CIRCUIT OPEN	
3	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESS DATA ERR] FL C1717: [PRESS DATA ERR] FR C1718: [PRESS DATA ERR] RR C1719: [PRESS DATA ERR] RR C1719: [PRESS DATA ERR] RL C1729: VHCL SPEED SIG ERR 	

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.

CONSULT display	Tire pressure monitor warning lamp ON	Reference
U1000: CAN COMM CIRCUIT	_	BCS-34
C1704: LOW PRESSURE FL	×	
C1705: LOW PRESSURE FR	×	\\/T 14
C1706: LOW PRESSURE RR	×	<u>WT-14</u>
C1707: LOW PRESSURE RL	×	
C1708: [NO DATA] FL	×	
C1709: [NO DATA] FR	×	WT-16
C1710: [NO DATA] RR	×	<u>vv 1-10</u>
C1711: [NO DATA] RL	×	
C1716: [PRESS DATA ERR] FL	×	
C1717: [PRESS DATA ERR] FR	×	\/\/T 10
C1718: [PRESS DATA ERR] RR	×	<u>WT-19</u>
C1719: [PRESS DATA ERR] RL	×	
C1729: VHCL SPEED SIG ERR	×	<u>WT-21</u>
C1735: IGN CIRCUIT OPEN	_	BCS-35

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Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

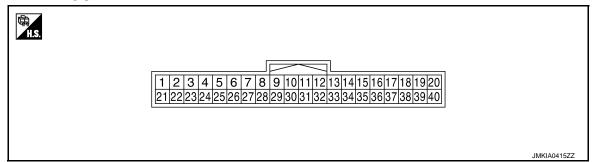
Monitor Item		Condition	Value/Status			
PUSH SW	Ignition knob	Release	OFF			
	Igilition knob	Press	ON			
KEY SW	Mechanical key	Removed	OFF			
KL1 3W	Mechanical key	Inserted	ON			
DR REQ SW	Door request switch	Release	OFF			
DIX IXEQ SW	(driver)	Press	ON			
AS REQ SW	Door request switch	Release	OFF			
AS ILLO SW	(passenger)	Press	ON			
BD/TR REQ SW	Door request switch	Release	OFF			
DD/TK KEQ 3W	(back door)	Press	ON			
IGN SW	Ignition quitab	Other than ON position	OFF			
IGIN SVV	Ignition switch	ON position	ON			
ACC SW	lanition cwitch	Other than ACC or ON position	OFF			
AUU 300	Ignition switch	ACC or ON position	ON			
STOP LAMP SW	Proke nodel	Press	OFF			
STOP LAIVIP SW	Brake pedal	Release	ON			
P RANGE SW	Chiff position	P position	ON			
P RANGE SW	Shift position	Other than P position	OFF			
BD OPEN SW	The item is indicated, but not monitored.					
TR CANCEL SW		The item is indicated, but not monitored.				
DOOD I OOK GIO	Lock button of	Release	OFF			
DOOR LOCK SIG	Intelligent Key	Press	ON			
DOOD LINI OOK SIC	Unlock button of	Release	OFF			
DOOR UNLOCK SIG	Intelligent Key	Press	ON			
KEYLESS TRUNK		The item is indicated, but not m	onitored.			
KENI ESS DANIO	PANIC button of key	Release	OFF			
KEYLESS PANIC	fob	Press	ON			
KEYLESS PSD LH		The item is indicated, but not m	onitored.			
KEYLESS PSD RH		The item is indicated, but not m	onitored.			
KEYLESS PBD SIG		The item is indicated, but not m	onitored.			
DOOD SW DD	Door (driver eide)	Close	OFF			
DOOR SW DR	Door (driver side)	Open	ON			
DOOD CW AC	Deer (no	Close	OFF			
DOOR SW AS	Door (passenger side)	Open	ON			
DOOD CW DD	Deer (re DII)	Close	OFF			
DOOR SW RR	Door (rear RH)	Open	ON			
DOOD CW DI	Deer (re111)	Close	OFF			
DOOR SW RL	Door (rear LH)	Open	ON			

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item		Condition	Value/Status
DOOR BK SW	Back door	Close	OFF
DOOK BR 3W	Back door	Open	ON
TRUNK SW		monitored.	
VEHICLE SPEED	While driving		Equivalent to speedometer reading

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (wire color)		Description				Value [V]
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
1 (GR)	Ground	Steering lock unit power supply	Output		_	5
2 (L)	Ground	CAN - H	Input/ Output		_	_
3 (P)	Ground	CAN - L	Input/ Output		_	_
4		Intelligent Key warn-	•	Intelligent Key	Sounding	0
(V)	Ground	ing buzzer	Output	warning buzz- er	Not sounding	Battery voltage
5		Front door request		Front door re-	ON (Pressed)	0
(Y)	Ground	switch (driver side)		quest switch (driver side)	OFF (Released)	5
6	Ground	Ignition switch power	Input	Ignition switch	OFF	0
(W)	Giodila	supply	iliput	ignition switch	ON	Battery voltage
7	Ground	Key switch	Innut	When ignition I tion key cylinde	key is inserted into ignier	Battery voltage
(LG)	Ground	Rey Switch	Input	When ignition lignition key cyl	key is not inserted into inder	0
10	Ground	Park position switch	Input	Shift lever in park position Other than above		0
(SB)	Ground	Fair position switch	Input			Battery voltage
11 (R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
12 (B)	Ground	Ground	_		_	0

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	ninal No.	Description		Condition		Value [V]
+ (wir	e color)	Signal name	Input/ Output			(Approx.)
13	Ground	Inside key antenna	Output	Ignition knob	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
(Y)	Siouna	(+) (rear seat)	Cutput	is pressed.	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0
14	Ground	Inside key antenna	Output	Ignition knob	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0392ZZ
(BR)		(-) (rear seat)		output is pressed.	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0390ZZ
15	Ground	Inside key antenna	Output	Ignition knob	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0393ZZ
(R)	Glound	Ground (+) (console) Ou	Cutput	is pressed.	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 M 18 JMKIA0391ZZ

< ECU DIAGNOSIS INFORMATION >

	erminal No.	Description		Condition		Value IVII	
	wire color)	Signal name	Input/ Output			Value [V] (Approx.)	А
11	6	Inside key antenna	Outout	Ignition knob	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0392ZZ	B C
(6	Ground	(-) (console)	Output	is pressed.	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0390ZZ	E F
1		Outside key antenna	Output	When the back door request switch	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0397ZZ	G H
(V	V) Glound	(+) (rear bumper)	Output	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0	SEC
1:		Outside key antenna	Output	When the back door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 M M M M M M M M M	M
(F		(-) (rear bumper)	Output	quest switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 1 s JMKIA0515ZZ	O

	ninal No.	Description				Value [V]
+ (wire	e color)	Signal name	Input/ Output	Condition		(Approx.)
19	Ground	When the front door request switch		When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0397ZZ	
(BR)	Glound	(+) (driver side)	Output	(driver side) is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0514ZZ
20	Ground	Outside key antenna	Output	When the front door request switch (driver side) is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0395ZZ
(B)	Glound	(-) (driver side)	Output		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0515ZZ
25 (BR)	Ground	Front door request switch (passenger side)	Input	Front door request switch (passenger side)	ON (Pressed) OFF (Released)	5
26 (B)	Ground	Stop lamp switch	Input	Depress the brake pedal		Battery voltage
27 (G)	Ground	Ignition knob switch	Input	Release the br	When ignition knob switch is pressed	0 Battery voltage
					When ignition knob switch is released	0
28 (W)	Ground	Unlock sensor	Input	Lock (ON) Unlock (OFF)		5 0
29	Ground	Back door request	Input	Back door re-	ON (Pressed)	0
(SB) 31 (L)	Ground	switch Steering lock unit ground	<u> </u>	quest switch —	OFF (Released)	0

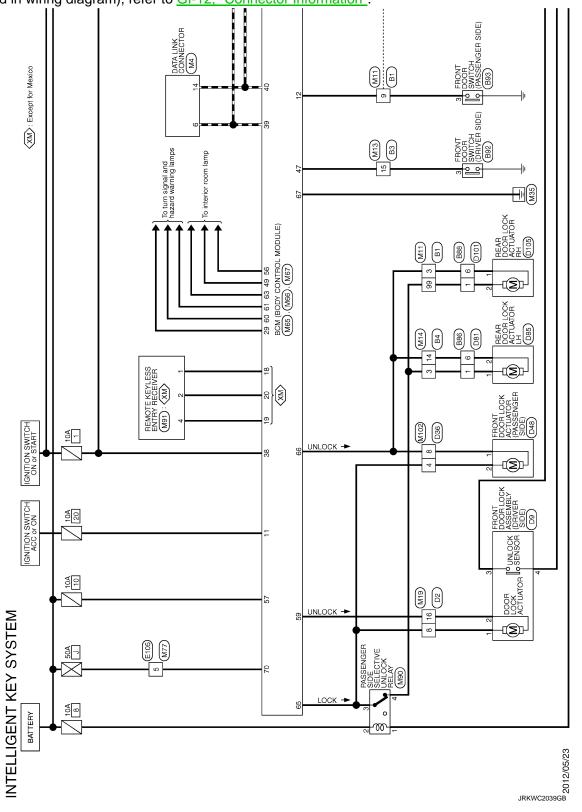
< ECU DIAGNOSIS INFORMATION >

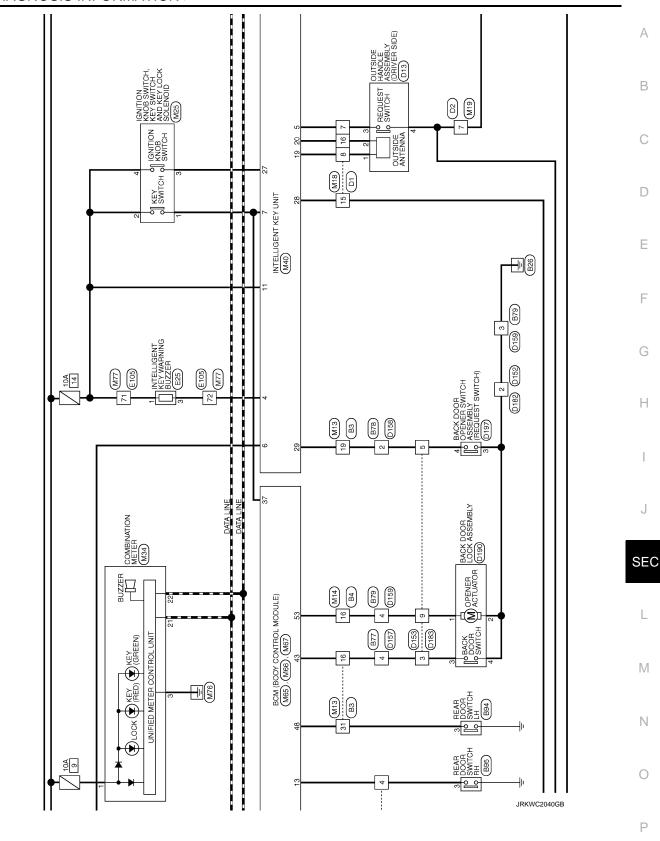
		Description		Condition		Value [V]	
(wire	e color) –	Signal name	Input/ Output			(Approx.)	Α
					LOCK status	5	В
32 (P)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK or UNLOCK	(V) 6 4 2 0 100 ms JMKIA0433ZZ	C
37	Ground	Outside key antenna	Output	When the front door request switch (passenger	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0397ZZ	E F G
(V)		(+) (passenger side)	Софи	side) is oper- ated with igni- tion switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0514ZZ	H
38	Ground	Outside key antenna	Output	When the front door request switch (passenger	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0395ZZ	SEC
(P)	Sidana	(-) (passenger side)	Сагра	side) is oper- ated with igni- tion switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0515ZZ	M N
40 (V)	Ground	Passenger side se- lective unlock relay	Input	Press front door request switch (pas-	Anti-hijack operation Other than above	Battery voltage → 0 → Battery voltage Battery voltage	Р
	(wir + 32 (P) 37 (V)	32 (P) Ground 37 (V) Ground 40 Ground	Signal name Signal name	Signal name Input/Output	Signal name Input/ Output	Signal name	Signal name

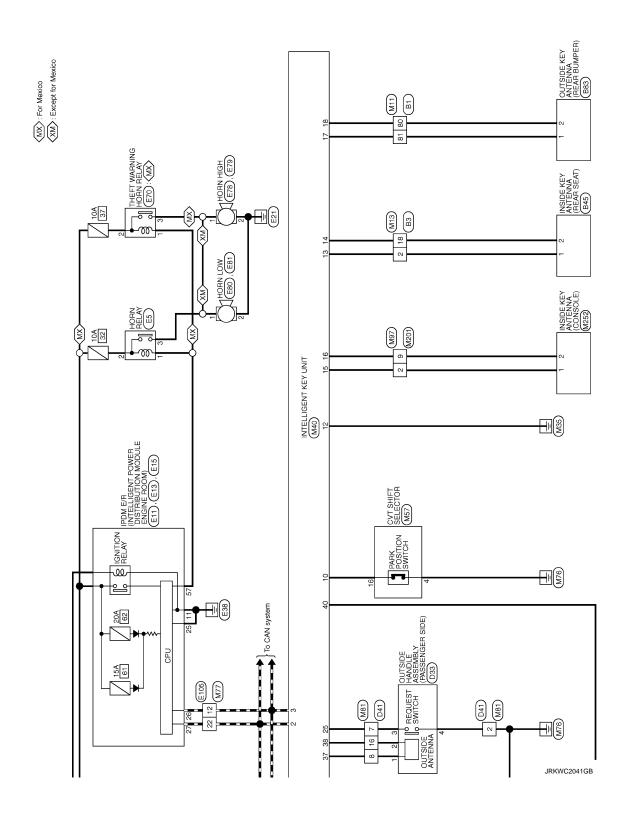
Wiring Diagram - INTELLIGENT KEY SYSTEM -

INFOID:0000000008750380

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".







[WITH INTELLIGENT KEY SYSTEM]

Fail Safe

Display contents of CONSULT	Fail-safe	Cancellation
B2013: STRG COMM 1	Inhibits steering look unlocking	Erase DTC
B2552: INTELLIGENT KEY	Inhibits steering look unlocking Inhibits engine cranking (BCM) Fuel cut (ECM)	Erase DTC
B2590: NATS MALFUNCTION	Inhibits steering look unlocking Inhibits engine cranking (BCM) Fuel cut (ECM)	Erase DTC

DTC Inspection Priority Chart

INFOID:0000000008279941

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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 CIRCUIT U1010: CONTROL UNIT (CAN) B2552: INTELIGENT KEY
2	B2013: STRG COMM 1 B2590: NATS MALFUNCTION

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.

CONSULT display	Detection condition	Fail-safe	Diagnosis
No DTC is detected. further testing may be required.	_	_	_
U1000: CAN COMM CIRCUIT	Intelligent Key unit cannot receive CAN communication signal continuously for 2 seconds or more	_	Check CAN communication system. Refer to LAN-30
U1010: CONTROL UNIT (CAN)	Intelligent Key unit detects internal CAN communication circuit malfunction	_	Replace Intelligent Key unit. Refer to <u>DLK-54</u> .
B2013: STRG COMM 1	The ID verification result between Intelligent key unit and steering lock unit are NG. Or Intelligent Key unit cannot communicate with steering lock unit	×	Perform steering lock unit ID registration with CONSULT. Refer to SEC-41.
B2552: INTELLIGENT KEY	Intelligent Key unit internal malfunction	×	Replace Intelligent Key unit. Refer to <u>SEC-43</u> .
B2590: ID DISCORD BCM-I-KEY	The ID verification result between Intelligent key unit and BCM are NG. Or Intelligent Key unit cannot communicate with BCM	×	Check NATS. Refer to SEC-44.

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< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000008729063

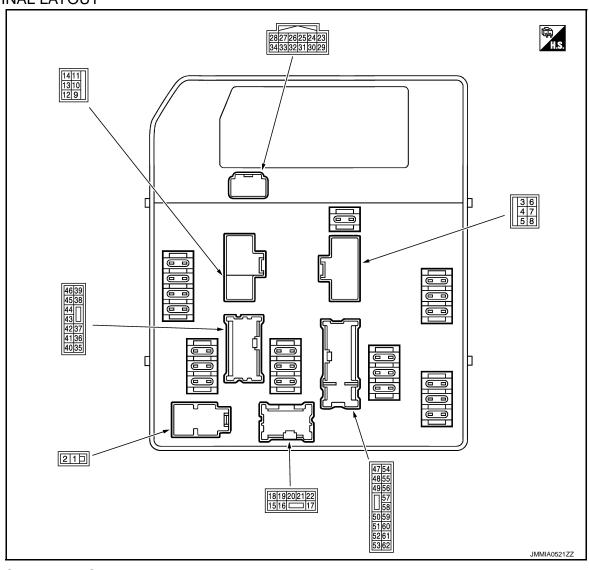
VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Value/Status	
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1 - 4
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
TAIL & CLD DEO	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST or 2ND		On
HI LO BEO	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND		On
HL HI REQ	Lighting switch OFF		Off
nt ni keQ	Lighting switch HI (Light is i	lluminated)	On
FR FOG REQ		Front fog lamp switch OFF	Off
NOTE: This item is monitored only on the vehicle with front fog lamp.	Lighting switch 2ND	Front fog lamp switch ON	On
		Front wiper switch OFF	Stop
	Leaving and the CN	Front wiper switch INT	1LOW
FR WIP REQ	Ignition switch ON	Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
NIP 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
ST RLY REQ NOTE:	When Intelligent Key is outs is pushed	side the vehicle, and the push switch	Off
Vehicle without Intelligent Key system indicates only "ON", and it does not change.	When Intelligent Key is inside pushed	de the vehicle, and the push switch is	On
GN RLY	Ignition switch OFF or ACC		Off
GRICE	Ignition switch ON		On
		Rear window defogger switch OFF	Off
RR DEF REQ	Ignition switch ON	Rear window defogger switch ON (Rear window defogger is operating)	On
OIL D OW	Ignition switch OFF, ACC or	r engine running	Open
OIL P SW	Ignition switch ON		Close
OTRL REQ	Daytime running light syste	m is not operated.	Off
NOTE: This item is monitored only on the vehicle with the daytime running light system.	Daytime running light system	On	

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
HOOD SW	Close the hood	Off
NOTE: This item is monitored only the vehicle for Mexico.	Open the hood	On
	Not operation	Off
THFT HRN REQ	Horn is activated with vehicle security system or panic alarm system.	On
HORN CHIRP	Not operation	Off
HORN CHIRP	Horn is activated with key fob LOCK operation.	On

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No. Description			Value		
(Wire color)		Signal name Input/		Condition	(Approx.)	
+	_	Oiginal Haine	Output			
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	

SEC-103 Revision: 2013 December **2013 ROGUE** Α

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description			Value	
+	-	Signal name	Input/ Output	(Condition	
3	Cround	Ctarter relay newer supply	Output	When engine is clanking		Battery voltag
(L)	Ground	Starter relay power supply	Output	When engine is not clanking		0 V
4	Ground	Cooling fan relay-1 power	Output	Cooling fan opera-	OFF	0 V
(W)	Ground	supply	Output	tion	MID or HI	Battery voltag
5	Ground	Ignition switch START	Input	Ignition switch OFF,	ACC or ON	0 V
(R)	Ground	Ignition switch of Alti	при	Ignition switch STAF	RT	Battery voltag
6 (BR)	Ground	Battery power supply (Cooling fan relay)	Input	Ignition switch OFF		Battery voltag
7	Ground	Cooling fan motor-2 (HI)		Cooling fan opera-	OFF	Battery voltag
(P)	Oround	ground	_	tion	HI	0 V
8	Ground	Cooling fan relay-2 power	Output	Cooling fan opera-	OFF	0 V
(G)	Ground	supply	Output	tion	HI	Battery voltag
11 (B)	Ground	Ground	_	Ignition switch ON		0 V
12	Ground	Rear window defogger re-	Output	Ignition switch ON	Rear window defogger switch OFF	0 V
(G)	Ground	lay power supply	Output	Ignition switch on	Rear window defogger switch ON	Battery voltag
15 ^{*1}	Ground	Daytime running light relay	Output	Daytime running	Not operated	Battery voltag
(SB)	Ground	control	Output	light system	Operated	0 V
16 ^{*2}	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(Y)	Orouna	1 Tont log lamp (EIT)	Output	2ND	Front fog lamp switch ON	Battery voltag
17 ^{*2}	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(W)	Oroana	Troncing tamp (tall)	Catpat	2ND	Front fog lamp switch ON	Battery voltag
18	Ground	Headlamp LO (LH)	Output	Lighting switch OFF		0 V
(L)		,		Lighting switch 2ND		Battery voltag
20	Ground	Headlamp LO (RH)	Output	Lighting switch OFF		0 V
(SB)		, ,	•	Lighting switch 2ND		Battery voltag
				Lighting switch OFF		0 V
21 (G)	Ground	Headlamp HI (LH)	Output	Lighting switch 2NLighting switch PA		Battery voltag
				Daytime running ligh	nt system Operated*1	7.0 V
				Lighting switch OFF		0 V
22 (LG)	Ground	Headlamp HI (RH)	Output		Lighting switch 2ND and HILighting switch PASS	
				Daytime running ligh	nt system Operated*1	7.0 V
23	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
(W)	Giodila	On pressure switch	iriput	Ignition Switch ON	Engine running	Battery voltag
24					Front wiper stop position	0 V
(Y)	Ground	Front wiper auto stop	Input	Ignition switch ON Any position other than front wiper stop position		Battery voltag
25 (B)	Ground	Ground	_	Ignition switch ON		0 V
26 (P)	_	CAN-L	Input/ Output		_	_

SEC-104 Revision: 2013 December 2013 ROGUE

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		O a Prince		Value
+	-	Signal name	Input/ Output	Condition —		(Approx.)
27 (L)	_	CAN-H	Input/ Output			
31	Ground	Cooling fan relay-4 control	Output	Cooling fan opera-	OFF	Battery voltage
(LG)	Giodila	Cooling lan relay-4 control	Output	tion	LO	0 - 1.0 V
32		Throttle control motor re-			After passing approximately 2 seconds or more after turning the ignition switch from ON to OFF	
(V)	Ground	lay control	Input	Ignition switch ON For approximately tion switch from O	2 seconds after turning igni-	0 - 1.0 V
				Ignition switch OFF		0 V
33 (GR)	Ground	Fuel pump relay control	Input	Ignition quitab ON	Engine stopped	Battery voltage
(3.1)				Ignition switch ON	Engine running	0.8 V
34 ^{*3}	Graved	Hood switch	Inn: :4	Close the hood		Battery voltage
(W)	Ground	Hood switch	Input	Open the hood		0 V
37	0	Tail, license plate lamps	O	Lighting switch OFF		0 V
(R)	Ground	and illuminations	Output	Lighting switch 1ST		Battery voltage
38	0	Doubing Is (LLL)	O	Lighting switch OFF		0 V
(R)	Ground	Parking lamp (LH)	Output	Lighting switch 1ST		
39	0	Darlina Israel (DL)	0	Lighting switch OFF		0 V
(GR)	Ground	Parking lamp (RH)	Output	Lighting switch 1ST		Battery voltage
40	Crave d	Ignition relations	O 4 4	Ignition switch OFF or ACC Ignition switch ON		0 V
(BR)	Ground	Ignition relay power supply	Output			Battery voltage
41	0	Lauritian and the second	0.1.1	Ignition switch OFF or ACC		0 V
(W)	Ground	Ignition relay power supply	Output	Ignition switch ON		Battery voltage
42	Crownsi	Front winer LU	Outside	Ignition quitab ON	Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch HI	Battery voltage
43	Graved	Front wiper LO	Outen : :4	Ignition quitab ON	Front wiper switch OFF	0 V
(G)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch LO	Battery voltage
4F					Selector lever "P" or "N"	Battery voltage
45 (Y)	Ground	Starter relay power supply	Input	Ignition switch ON	Selector lever in any position other than "P" or "N"	0 V
46	Ground	Fuel pump relay power	Output	Ignition switch OF After passing appr after turning the ignormal.	oximately 1 second or more	0 V
(W)	Glound	supply	Output	For approximately 1 second after turning the ignition switch ON Engine running		Battery voltage
47					kimately 4 seconds or more tion switch from ON to OFF	0 V
(BR)	Ground	ECM relay power supply	Output	 Ignition switch ON For approximately 4 seconds after turning ignition switch from ON to OFF 		Battery voltage
48					kimately 4 seconds or more tion switch from ON to OFF	0 V
(R)	Ground	ECM relay power supply	Output	 Ignition switch ON For approximately tion switch from O 	Battery voltage	

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	nal No.	Description				Value																			
(Wire	color)	Signal name	Input/ Output	Condition		(Approx.)																			
50	Ground	Cooling fan relay-5 control	Output	Cooling fan opera- OFF		Battery voltage																			
(G)	Ground	Cooling fair relay-5 control	Output	tion	MID or HI	0 - 1.0 V																			
51					After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF																				
(L)	Ground	ECM relay control	Output	Ignition switch ON For approximately tion switch from C	4 seconds after turning igni-	0 - 1.0 V																			
52		Throttle control motor re-			ximately 2 seconds or more tion switch from ON to OFF	0 V																			
(P)	Ground	lay power supply	Output	 Ignition switch ON For approximately 2 seconds after turning ignation switch from ON to OFF 		Battery voltage																			
				Engine stopped	Engine stopped																				
55	Ground	A/C relay power supply	Output		A/C switch OFF	0 V																			
(BG)				Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output
56	Ground	Ignition switch ON	Input	Ignition switch OFF	or ACC	0 V																			
(SB)	Giodila	Ignition switch ON	IIIput	Ignition switch ON		Battery voltage																			
57	Ground	Horn relay control	Output	The horn is not activ	/ated	Battery voltage																			
(V)	Ground	Hom relay control	Output	The horn is activated	d	0 V																			
58	Ground	Ignition relay power supply	Output	Ignition switch OFF	or ACC	0 V																			
(LG)	Crouna	ignition rolay power supply	Catpat	Ignition switch ON		Battery voltage																			
59	Ground	Ignition relay power supply	Output	Ignition switch OFF or ACC		0 V																			
(BR)	Ground	ignition roley power supply	Catpat	Ignition switch ON		Battery voltage																			
60	Ground	Ignition relay power supply	Output	Ignition switch OFF or ACC		0 V																			
(SB)	2.53.74	.g	20.500	Ignition switch ON		Battery voltage																			
61 (R)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage																			

^{*1:} With daytime running light system

^{*2:} With front fog lamp system

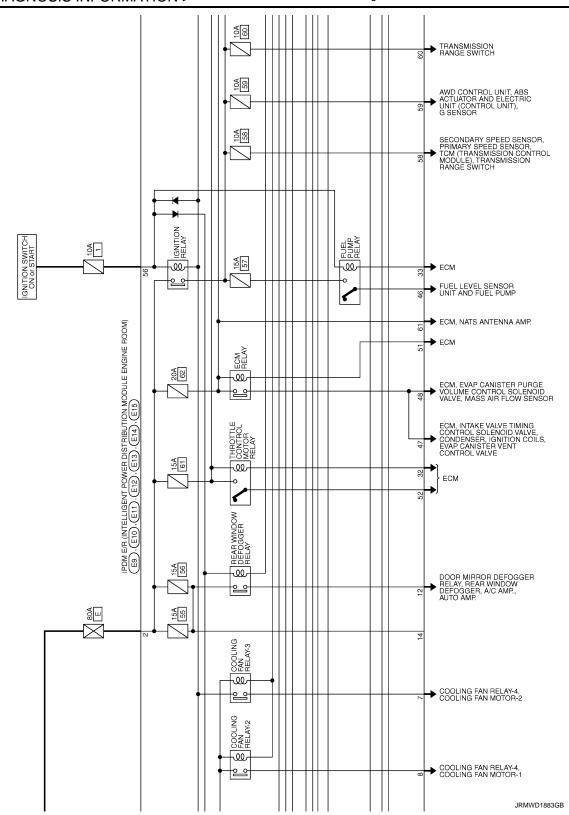
^{*3:} For Mexico

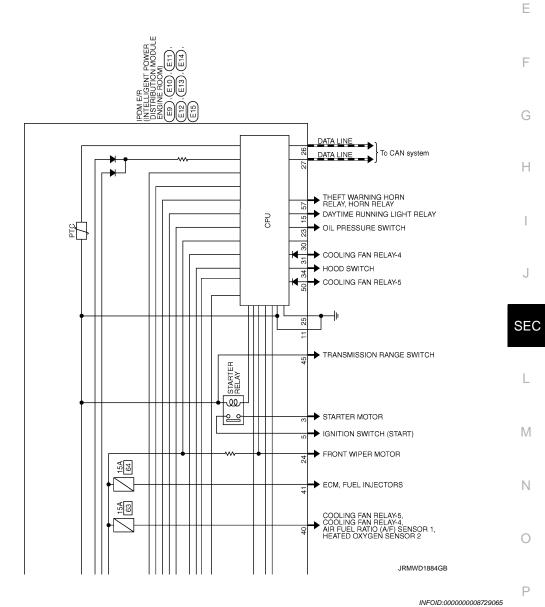
< ECU DIAGNOSIS INFORMATION >

Wiring Diagram - IPDM E/R -INFOID:0000000008729064 Α For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information" В COOLING FAN RELAY-1 W COOLING FAN MOTOR-1 D 10A 51 ىلە Е COMPRESSOR F 30A 48 W ھ FRONT WIPER MOTOR PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

(E9) (E10) (E11) (E12) (E13) (E14) (E15) FRONT COMBINATION LAMP RH (PARKING, SIDE MARKER) 10A Н FRONT COMBINATION LAMP LH (PARKING, SIDE MARKER) യ TAIL / SIDE MARKER / LICENSE PLATE / ILLUMINATION LAMPS HEADLAMP LOW RH ۵۵ ► HEADLAMP LOW LH SEC 10A HEADLAMP HIGH RH M Ν <u>w</u> → HEADLAMP HIGH LH യ FRONT FOG LAMP RH 2012/05/23 FRONT FOG LAMP LH Ρ

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Fail-safe

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

CAN COMMUNICATION CONTROL

SEC-109 2013 ROGUE Revision: 2013 December

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe in operation
Cooling fan	 The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn ON when the ignition switch is turned ON The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn OFF when the ignition switch is turned OFF Cooling fan relay-4 OFF
A/C compressor	A/C relay OFF

If no CAN communication is available with BCM

Control part	Fail-safe in operation	
Headlamp	 The headlamp low relay turns ON when the ignition switch is turned ON The headlamp low relay turns OFF when the ignition switch is turned OFF Headlamp high relay OFF 	
Parking lampsLicense plate lampsTail lampsIlluminations	 The tail lamp relay and the daytime running light relay* turn ON when the ignition switch is turned ON The tail lamp relay and the daytime running light relay* turn OFF when the ignition switch is turned OFF 	
Front wiper	 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. The front 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. 	
Front fog lamps	Front fog lamp relay OFF	
Starter motor	Starter relay OFF	
Rear window defogger	Rear window defogger relay OFF	
Horn	Horn relay OFF	

NOTE:

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors status of ignition relay by the voltage at ignition relay contact circuit inside it.
- IPDM E/R judges that the ignition relay is error, if status of the ignition relay and ignition switch ON signal
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay and daytime running light relay* for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Detection		IDDM E/D judgment	Operation	
Ignition switch ON signal	Ignition relay	- IPDM E/R judgment	Operation	
ON	ON	Ignition relay normal	_	
OFF	OFF	Ignition relay normal	_	
OFF	ON	Ignition relay ON stuck	Turn on the tail lamp relay and daytime running light relay* for 10 minutes	
ON	OFF	Ignition relay OFF stuck	Detect DTC "B2099: IGN RELAY OFF"	

NOTE:

FRONT WIPER CONTROL

IPDM E/R detects the front wiper stop position with the front wiper stop position signal.

When the front wiper stop position signal is in the conditions listed below, IPDM E/R repeats a front wiper 10 seconds operation and 20 seconds stop five times.

^{*:} With daytime running light system

^{*:} With daytime running light system

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS INFORMATION >

Ignition switch	Front wiper switch	Front wiper stop position signal
211	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.

DTC Index INFOID:0000000008729066

CONSULT display	Fail-safe	Timing ^{NOTE}		Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	PAST	PCS-13
B2099: IGN RELAY OFF	_	CRNT	PAST	PCS-14

NOTE:

The details of time display are as follows.

- CRNT: The malfunctions that are detected now.
- · PAST: The number is indicated when it is normal at present and a malfunction was detected in the past.

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SEC-111 Revision: 2013 December **2013 ROGUE**

SECURITY CONTROL SYSTEM

SYMPTOM DIAGNOSIS SECURITY CONTROL SYSTEM

Symptom Table

Use the chart below to help you find the cause of the symptom. The numbers indicate the order of the inspection.

No.	Function	Operation condition	Symptom	Diagnosis Item	Reference page
		EY SYSTEM/ Ignition switch turn ON IGINE START		KEY warning lamp (GREEN) illuminates	SEC-113
1	INTELLIGENT KEY SYSTEM/		Ignition switch does not turn ON	KEY warning lamp does not illuminate	SEC-113
	FUNCTION			KEY warning lamp (RED) illuminates	SEC-114
		Engine start	Engine can not start	_	SEC-115
		Lock all doors with Intelligent Key or door request switch	Vehicle security system can not be set	_	SEC-117
		Lock all doors with Intelligent Key or request switch.	Security indicator does not turn ON or flash	_	SEC-116
2	VEHICLE SECURITY SYSTEM	In the armed phase, open the door	Vehicle security system does not active	_	SEC-118
		When alarm sound, press Intelligent Key button	Vehicle security system can	_	SEC-119
		When alarm sound, press door request switch	not be canceled	_	SEC-120

IGNITION KNOB SWITCH DOES NOT TURN ON

SYMPTOM DIAGNOSIS > [WITH INTELLIGENT K	(EY SYSTEM)
IGNITION KNOB SWITCH DOES NOT TURN ON	
KEY WARNING LAMP (GREEN) ILLUMINATES	
KEY WARNING LAMP (GREEN) ILLUMINATES : Description	INFOID:0000000008279948
NOTE: • Before performing the diagnosis, check "Work Flow". Refer to SEC-6 , "Work Flow".	
KEY WARNING LAMP (GREEN) ILLUMINATES : Diagnosis Procedure	
	INFOID:0000000008279949
1. CHECK STEERING LOCK UNIT	
Check steering lock unit. Refer to SEC-91, "DTC Index".	
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-46, "Intermittent Incident". NO >> GO TO 1.	
KEY WARNING LAMP DOES NOT ILLUMINATE	
KEY WARNING LAMP DOES NOT ILLUMINATE : Description	INFOID:0000000008279950
NOTE:	
 Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-6. "Work Flow"</u>. 	
KEY WARNING LAMP DOES NOT ILLUMINATE: Diagnosis Procedure	INFOID:0000000008279951
1. CHECK INTELLIGENT KEY UNIT POWER SUPPLY AND GROUND CIRCUIT	
Check Intelligent Key unit power supply and ground circuit. Refer to SEC-45, "INTELLIGENT KEY UNIT: Diagnosis Procedure".	
Is the inspection result normal?	
YES >> GO TO 2.	
NO >> Repair or replace the malfunctioning parts.	
2.CHECK IGNITION KNOB SWITCH Check ignition knob switch	
Check ignition knob switch. Refer to SEC-53, "Component Function Check".	
Is the inspection result normal?	
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.	
3. CHECK KEY SWITCH	
Check key switch.	
Refer to <u>ŠEC-51</u> , "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-46, "Intermittent Incident". NO >> GO TO 1.	

Revision: 2013 December SEC-113 2013 ROGUE

IGNITION KNOB SWITCH DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

KEY WARNING LAMP (RED) ILLUMINATES

KEY WARNING LAMP (RED) ILLUMINATES: Description

INFOID:0000000008279952

NOTE:

• Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-6, "Work Flow".</u>

KEY WARNING LAMP (RED) ILLUMINATES: Diagnosis Procedure

INFOID:0000000008279953

1. CHECK INSIDE KEY ANTENNA

Check inside key antenna.

Refer to SEC-57, "INSTRUMENT CENTER: 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-46, "Intermittent Incident".

NO >> GO TO 1.

ENGINE CAN NOT START WITH INTELLIGENT KEY

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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ENGINE CAN NOT START WITH INTELLIGENT KEY Α Description INFOID:0000000008279954 NOTE: В • Before performing the diagnosis, check "Work Flow". Refer to SEC-6, "Work Flow". Diagnosis Procedure INFOID:0000000008279955 C 1. CHECK KEY SWITCH Check key switch. D Refer to SEC-51, "Component Function Check". Is the inspection result normal? YES >> GO TO 2. Е NO >> Repair or replace the malfunctioning parts. 2.CONFIRM THE OPERATION Confirm the operation again. F Is the result normal? YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident". NO >> GO TO 1. Н J SEC M Ν

SEC-115 Revision: 2013 December **2013 ROGUE**

SECURITY INDICATOR LAMP DOES NOT TURN ON OR FLASH

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

SECURITY INDICATOR LAMP DOES NOT TURN ON OR FLASH

Description INFOID.000000008279956

NOTE:

• Before performing the diagnosis, check "Work Flow". Refer to SEC-6, "Work Flow".

Diagnosis Procedure

INFOID:0000000008279957

1. CHECK VEHICLE SECURITY INDICATOR LAMP

Check vehicle security indicator lamp.

Refer to <u>SEC-64</u>, "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-46, "Intermittent Incident".

NO >> GO TO 1.

VEHICLE SECURITY SYSTEM CAN NOT BE SET

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM CAN NOT BE SET Α Description INFOID:0000000008279958 NOTE: В Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-6, "Work Flow".</u> Diagnosis Procedure INFOID:0000000008279959 1. CHECK DOOR LOCK FUNCTION Check door lock function. D Refer to DLK-23, "DOOR LOCK FUNCTION: System Description". s the inspection result normal? YES >> GO TO 2. Е NO >> Refer to <u>SEC-6</u>, "Work Flow". 2. CHECK HOOD SWITCH Check hood switch. F Refer to SEC-55, "Component Function Check". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. 3.CONFIRM THE OPERATION Confirm the operation again. Is the result normal? YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident". NO >> GO TO 1.

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VEHICLE SECURITY ALARM DOES NOT ACTIVATE

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description INFOID.000000008279960

NOTE:

Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-6, "Work Flow".</u>

Diagnosis Procedure

INFOID:0000000008279961

1. CHECK DOOR SWITCH

Check door switch.

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

Is the inspection results normal?

YES >> GO TO 2.

NO >> Repair or replace malfunction part.

2.check horn

Check horn.

Refer to SEC-62, "EXCEPT FOR MEXICO: Component Function Check". (Except for Mexico)

Refer to SEC-62, "FOR MEXICO: Component Function Check". (For Mexico)

Is the inspection results normal?

YES >> GO TO 3.

NO >> Repair or replace malfunction part.

3. CHECK HEADLAMP OPERATION

Check headlamp operation by lighting switch.

Does headlamp come on when turning switch ON?

YES >> GO TO 4.

NO >> Check headlamp system. Refer to <u>EXL-6, "Work Flow"</u>. (XENON type), Refer to <u>EXL-122, "Work Flow"</u>. (HALOGEN type)

4. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

NO >> GO TO 1.

VEHICLE SECURITY SYSTEM CAN NOT BE CANCELED WITH INTELLIGENT

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM CAN NOT BE CANCELED WITH INTELLI-Α **GENT KEY** Description INFOID:0000000008279962 В NOTE: Before performing the diagnosis, check "Work Flow". Refer to SEC-6, "Work Flow". Diagnosis Procedure INFOID:0000000008279963 1. CHECK INTELLIGENT KEY SYSTEM D Check Intelligent Key system. Refer to DLK-20, "INTELLIGENT KEY SYSTEM: System Description". Is the inspection result normal? Е YES >> GO TO 2. NO >> Refer to <u>SEC-6, "Work Flow"</u>. 2.CONFIRM THE OPERATION F Confirm the operation again. Is the result normal? YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident". NO >> GO TO 1. Н J SEC

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VEHICLE SECURITY SYSTEM CAN NOT BE CANCELED WITH DOOR REQUEST SWITCH

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM CAN NOT BE CANCELED WITH DOOR REQUEST SWITCH

Description INFOID:000000008279964

NOTE:

• Before performing the diagnosis, check "Work Flow". Refer to SEC-6, "Work Flow".

Diagnosis Procedure

INFOID:0000000008279965

1. CHECK INTELLIGENT KEY SYSTEM

Check Intelligent Key system.

Refer to DLK-20, "INTELLIGENT KEY SYSTEM: System Description".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to SEC-6, "Work Flow".

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

NO >> GO TO 1.

PRECAUTION

PRECAUTIONS FOR USA AND CANADA

FOR USA AND CANADA: Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" INFOID:0000000008279966

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:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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.

FOR MEXICO

FOR MEXICO: Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" INFOID:0000000008279967

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

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:

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PRECAUTIONS

< PRECAUTION >

[WITH INTELLIGENT KEY SYSTEM]

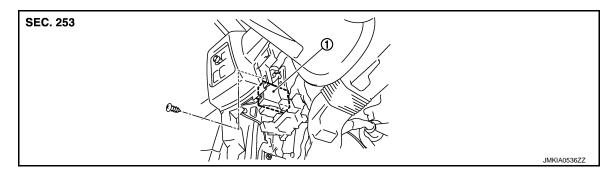
Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the
 ignition ON or engine running, never 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.

REMOVAL AND INSTALLATION

INTELLIGENT KEY UNIT

Exploded View



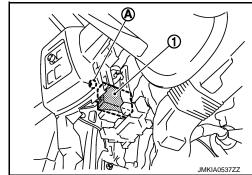
1. Intelligent Key unit M40

Removal and Installation

REMOVAL

1. Remove lower instrument panel (driver side) and mirror switch finisher. Refer to IP-13, "Exploded View" and IP-14, "Removal And Installation".

2. Remove the Intelligent Key unit mounting screw (A), and then remove Intelligent Key unit (1).



INSTALLATION

Install in the reverse order of removal.

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INFOID:0000000008279968

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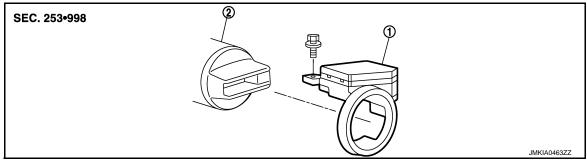
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NATS ANTENNA AMP.

Exploded View

INFOID:0000000008279970



1. NATS antenna amp.

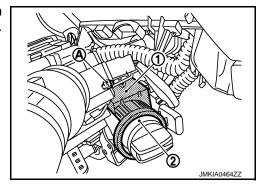
2. Steering lock assembly

Removal and Installation

INFOID:0000000008279971

REMOVAL

- Remove the steering column cover. Refer to <u>IP-14</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.

[WITH INTELLIGENT KEY SYSTEM]

HOOD SWITCH

Exploded View

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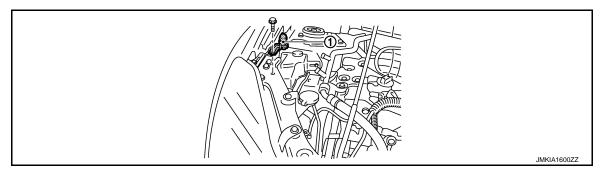
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HOOD SWITCH



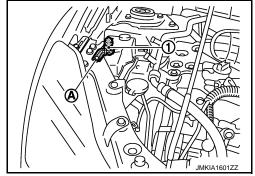
Hood switch

Removal and Installation

INFOID:0000000008279973

REMOVAL

1. Remove the hood switch mounting bolt (A), and then remove hood switch (1).



INSTALLATION

Install in the reverse order of removal.

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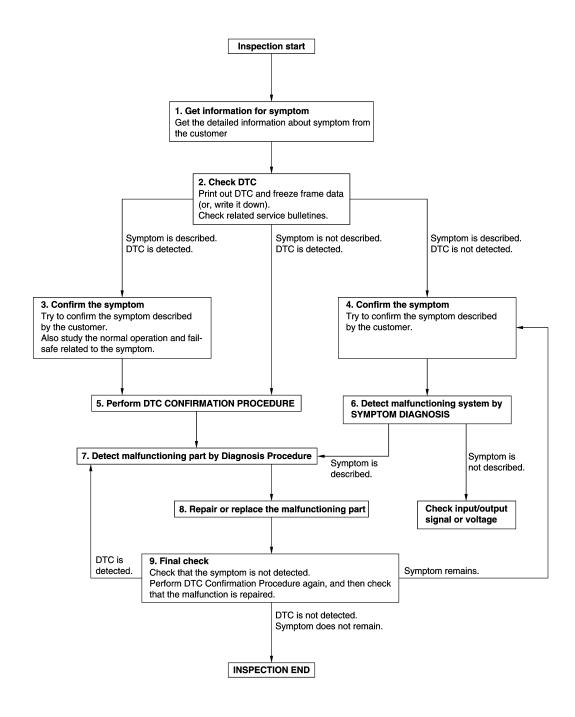
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

OVERALL SEQUENCE



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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2. CHECK DTC

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

Are any symptoms described and any DTC detected?

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

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

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

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to SEC-180, "DTC Inspection Priority Chart" and determine trouble diagnosis order.

NOTE:

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

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

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to GI-46, "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.

Is the symptom described?

YES >> GO TO 7.

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

SEC-127

7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

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DIAGNOSIS AND REPAIR WORK FLOW

[WITHOUT INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to GI-46, "Intermittent Incident".

8.repair or replace the malfunctioning part

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

>> GO TO 9.

9. FINAL CHECK

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

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

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

YES-2 >> Symptom remains: GO TO 4.

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

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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INSPECTION AND ADJUSTMENT Α ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Description INFOID:0000000008279975 Perform the system initialization when replacing BCM or ECM with a used parts or registering an additional ignition key. ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement INFOID:0000000008279976 D Refer to the CONSULT Operation Manual-NATS. ECM RE-COMMUNICATING FUNCTION Е ECM RE-COMMUNICATING FUNCTION: Description INFOID:0000000008279977 Performing following procedure can automatically perform re-communication of ECM and BCM, but only when F the ECM has been replaced with a new one (*1). *1: New one means a virgin ECM which has never been energized on-board. (In this step, initialization procedure by CONSULT is not necessary) NOTE: When registering new Key IDs or replacing the ECM that is not brand new, refer to CONSULT Operation Manual NATS-IVIS/NVIS. If multiple keys are attached to the key holder, separate them before work. Н • Distinguish keys with unregistered key ID from those with registered ID. ECM RE-COMMUNICATING FUNCTION: Special Repair Requirement INFOID:0000000008279978 1.PERFORM ECM RE-COMMUNICATING FUNCTION 1 Install ECM. Using a registered key (*2), turn ignition switch to "ON". *2: To perform this step, use the key that has been used before performing ECM replacement. Maintain ignition switch in "ON" position for at least 5 seconds. 4. Turn ignition switch to "OFF". SEC 5. Start engine. Can engine be started? YES >> Procedure is completed. NO >> Initialize control unit. Refer to CONSULT Operation Manual NATS-IVIS/NVIS. N

SEC-129 Revision: 2013 December **2013 ROGUE**

SYSTEM DESCRIPTION

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

NATS ignition key

NATS security indicator

NATS antenna amp.

System Description

INFOID:0000000008279980

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INPUT/OUTPUT SIGNAL CHART

BCM

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

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.
- Therefore, NVIS/NATS warns outsiders that the vehicle is equipped with the anti-theft system. Refer to <u>SEC-134</u>, "System Description".
- If system detects malfunction, security indicator illuminate when ignition switch is turned to ON position.
- 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.
 - *1: All keys kept by the owner of the vehicle should be registered with ignition key.
- ECM
- BCM
- Ignition key
- EPS control unit
- IPDM E/R
- Combination meter
- NVIS/NATS trouble diagnosis, system initialization and additional registration of other Ignition key IDs must be carried out using CONSULT 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 <u>SEC-126</u>, "Work Flow".

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

 If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-129, "ECM RE-COMMUNICATING FUNCTION: Description".

PRECAUTIONS FOR KEY REGISTRATION

- The key registration is a procedure that erases the current NVIS/NATS ID once, and then re-registers 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
- The 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.
- The security indicator lamp always blinks, when the ignition switch is in the except ON position.
- The security indicator turns OFF, when the ignition switch is in ON position.
- When NVIS/NATS detects trouble, the security indicator lamp lights up while ignition key is in the "ON" position

MAINTENANCE INFORMATION

CAUTION:

- During trouble diagnosis or when the following parts have been replaced with a used parts, and if ignition key is added, registration* is required. A new part (except ignition key) should register automatically after the ignition switch is turned ON. New one means a virgin control unit that has never been energized on-board
 - : 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 hardware and SECURITY CARD. When NVIS/NATS initialization has been completed, the ID of the inserted ignition key IDs can be car-
- If ECM other than Genuine NISSAN is installed, the engine cannot be started.

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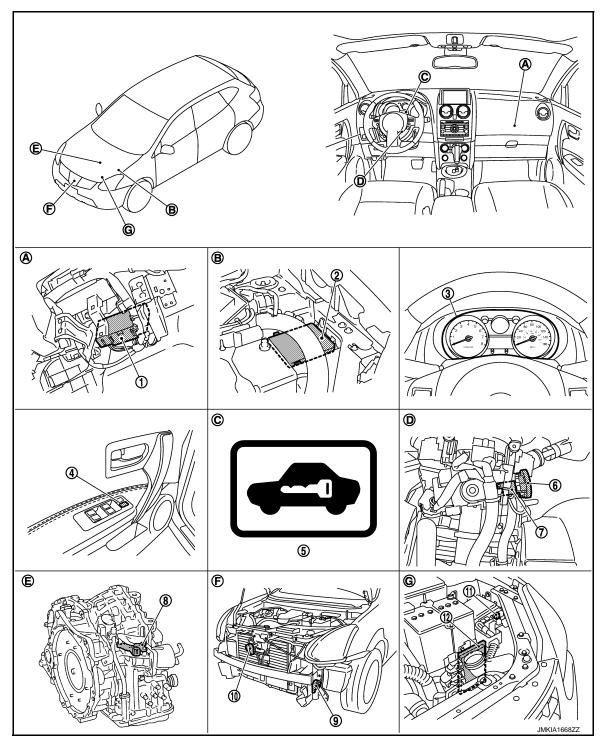
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- 1. BCM M65, M66, M67
- 4. Door lock and unlock switch D5, D6
- 7. Key switch M24
- 10. Horn (low) E80, E81
- A. Over the glove box

- 2. IPDM E/R E10, E11, E13, E14, E15
- 5. Security indicator lamp (combination meter M34)
- 8. Transmission range switch F21
- 11. Horn relay E5
- B. Engine room (LH)

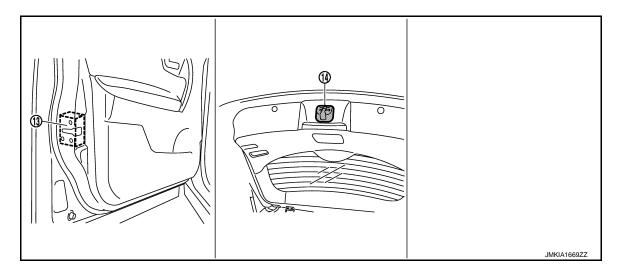
- Combination meter (security indicator lamp)
 M34
- 6. NATS antenna amp. M26
- 9. Horn (high) E78, E79
- 12. ECM E16
- C. Built in combination meter

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) [WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

- View with steering column cover removed
- E. Transaxle assembly
- F. View with front bumper removed

G. Engine room (LH)



- Front door lock assembly (driver side) D9
- Back door switch (back door lock assembly D190)

Component Description

 Component
 Reference

 BCM
 BCS-7

 NATS antenna amp.
 SEC-146

 Security indicator
 SEC-155

 IPDM E/R
 PCS-2

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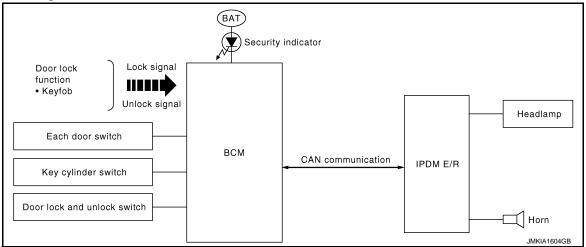
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Revision: 2013 December SEC-133 2013 ROGUE

VEHICLE SECURITY SYSTEM

System Diagram

INFOID:0000000008279983



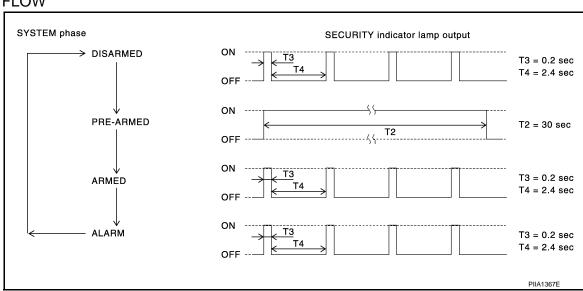
System Description

INFOID:0000000008279984

INPUT/OUTPUT SIGNAL CHART

Switch	Input signal to BCM	BCM system	Actuator	
All door switch	Open or close			
Door key cylinder switch	Lock or unlock		IPDM E/R Head lamp Horn	
Door lock and unlock switch	LOCK OF UTILOCK	Vehicle security system		
Keyfob	Lock or unlock		Security indicator lamp	
Reylob	Panic alarm			

OPERATION FLOW



SETTING THE VEHICLE SECURITY SYSTEM

Initial Condition

• Ignition switch is in OFF position.

Disarmed Phase

When doors or back 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 >

[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. (The security indicator lamp illuminates for approx. 30 seconds. Then, the system automatically shifts into the "armed" phase.)

- BCM receives LOCK signal from front door key cylinder switch or keyfob, after back door and all doors are closed.
- 2. Back door and all doors are closed after front doors are locked by key or door lock and unlock switch.

CANCELING THE SET VEHICLE SECURITY SYSTEM

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

- 1. Unlock the doors with the key or keyfob.
- 2. Turn ignition switch "ON" or "ACC" position.

CANCELING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

When unlocking the door with the key or keyfob the alarm operation is canceled.

ACTIVATING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

Check that the system is in the armed phase. (The security indicator lamp blinks every 2.4 seconds.) When the following operation 1 or 2 is performed, the system sounds the horns and flashes the headlamps for approx. 50 seconds.

- 1. Any door is opened during armed phase.
- 2. Disconnecting and connecting the battery connector before canceling armed phase.

PANIC ALARM OPERATION

Remote keyless entry system may or may not operate vehicle security system (horn and headlamps) as required.

When the remote keyless entry system is triggered, 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 (LH and RH) and horns (HIGH and LOW).

The headlamp flashes and the horn sounds intermittently.

The alarm automatically turns off after 50 seconds or when BCM receives any signal from keyfob.

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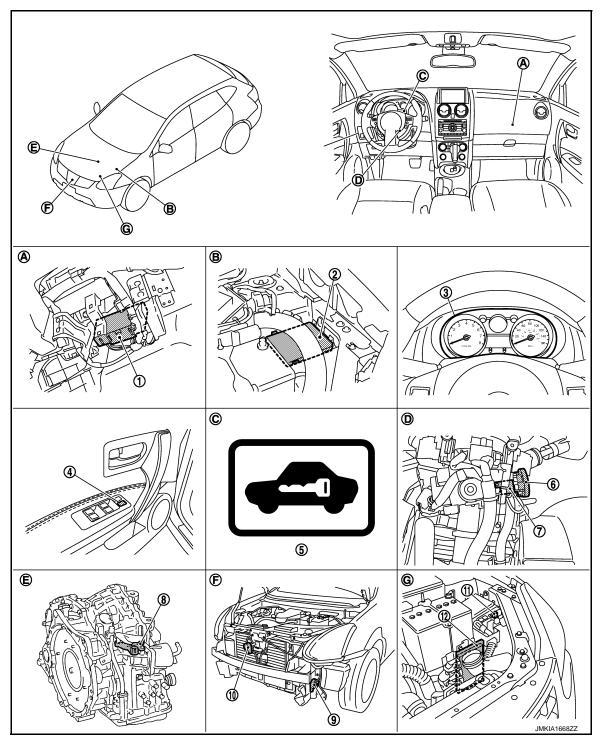
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Component Parts Location





- 1. BCM M65, M66, M67
- 4. Door lock and unlock switch D5, D6
- 7. Key switch M24
- 10. Horn (low) E80, E81
- A. Over the glove box

- 2. IPDM E/R E10, E11, E13, E14, E15
- 5. Security indicator lamp (combination meter M34)
- 8. Transmission range switch F21
- 11. Horn relay E5
- B. Engine room (LH)

- Combination meter (security indicator lamp)
 M34
- 6. NATS antenna amp. M26
- 9. Horn (high) E78, E79
- 12. ECM E16
- C. Built in combination meter

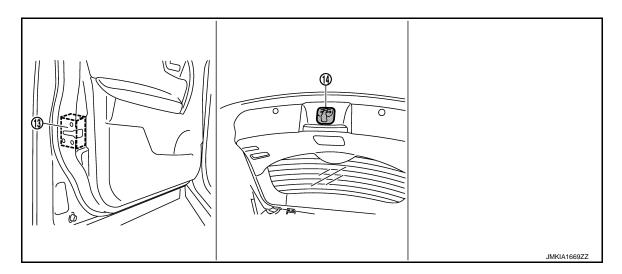
VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

- View with steering column cover removed
- E. Transaxle assembly
- F. View with front bumper removed

G. Engine room (LH)



- Front door lock assembly (driver side) D9
- 14. Back door switch (back door lock assembly D190)

Component Description

 Component
 Reference

 BCM
 BCS-7

 Horn
 SEC-154

 Security indicator
 SEC-155

 Door switch
 DLK-276

 NATS antenna amp.
 SEC-146

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INFOID:0000000008279986

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DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000008279987

APPLICATION ITEM

CONSULT can display each diagnostic item using the diagnostic test modes shown following.

Diagnosis mode	Function description	
ECU Identification	BCM part number is displayed.	
Self-Diagnostic Result	hisplays the diagnosis results judged by BCM. Refer to SEC-180, "DTC Index".	
Data Monitor	BCM input/output signals are displayed.	
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Work Support	Changes the setting for each system function.	
Configuration	 Read and save the vehicle specification. Write the vehicle specification when replacing BCM. 	
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.	

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	CONSULT sub system selection item	Diagnosis mode		
System		Work Support	Data Monitor	Active Test
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		×	×
Auto air conditioning system Manual air conditioning system	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Body control system	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
_	FUEL LID*			
TPMS	AIR PRESSURE MONITOR	×	×	×
Panic alarm system	PANIC ALARM			×

^{*:} This item is displayed, but is not function.

IMMU

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

IMMU: CONSULT Function (BCM - IMMU)

INFOID:0000000008279988

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APPLICATION ITEM

CONSULT 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 BCM.	

DATA MONITOR

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.

ACTIVE TEST

Test item	Description	
THEFT IND	This test is able to check security indicator operation [ON/OFF].	

THEFT ALM

THEFT ALM: CONSULT Function (BCM - THEFT ALM)

INFOID:0000000008279989

APPLICATION ITEM

CONSULT 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.	
KEY ON SW	Indicates [ON/OFF] condition of key switch.	
KEYLESS LOCK*2	Indicates [ON/OFF] condition of lock signal from key fob.	
KEYLESS UNLOCK*2	Indicates [ON/OFF] condition of unlock signal from key fob.	
I-KEY LOCK*1	Indicates [ON/OFF] condition of lock signal from Intelligent Key.	
I-KEY UNLOCK*1	Indicates [ON/OFF] condition of unlock signal from Intelligent Key.	
TRUNK OPNR SW	Indicates [ON/OFF] condition of back door opener switch.	
TRUNK CYL SW	NOTE: The item is indicated, but not monitored.	
TRNK OPNR MNTR	NOTE: The item is indicated, but not monitored.	
HOOD SW	Indicates [ON/OFF] condition of hood 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.	
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.	

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	
KEY CYL LK-SW	Indicates [ON/OFF] condition of key cylinder switch.	
KEY CYL UN-SW	Indicates [ON/OFF] condition of key cylinder switch.	
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.	

^{*1:} For vehicle equipped with Intelligent Key.

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].	
HEAD LAMP(HI)	This test is able to check head lamp (HI) operation [ON/OFF].	

WORK SUPPORT

Test item	Description	
SECURITY ALARM SET	Vehicle security function mode can be changed in this mode. ON: Vehicle security function is ON. OFF: Vehicle security function is OFF.	
THEFT ALM TRG The switch which triggered vehicle security system is recorded. This mode can be and erase the record of vehicle security system.		

 $^{^{\}star 2}\!\!:$ For the vehicle equipped with remote key less entry system.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

BCM

BCM : Description

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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-26. "CAN Communication Signal Chart".

BCM : DTC Logic

INFOID:0000000008279991

DTC DETECTION LOGIC

DTC	DTC Detection Condition	Possible cause
U1000: CAN COMM CIRCUIT	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

BCM: Diagnosis Procedure

INFOID:0000000008279992

1.PERFORM SELF DIAGNOSTIC

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

Is DTC "U1000" displayed?

YES >> Refer to <u>LAN-16</u>, "Trouble <u>Diagnosis Flow Chart"</u>.

NO >> Refer to GI-46, "Intermittent Incident".

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

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

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, CAN-L) 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-26, "CAN Communication Signal Chart".

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

DTC DETECTION LOGIC

DTC	CONSULT display de- scription	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

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

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

agnosis Procedure

INFOID:0000000008279995

1.PERFORM SELF DIAGNOSTIC

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

Is DTC "U1000" displayed?

YES >> Refer to LAN-16, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-46, "Intermittent Incident".

P1610 LOCK MODE

[WITHOUT INTELLIGENT KEY SYSTEM] < DTC/CIRCUIT DIAGNOSIS > P1610 LOCK MODE Α Description INFOID:0000000008279996 When the starting operation is carried more than 10 times consecutively under the following conditions, NVIS/ В NATS will shift to the mode which prevents the engine from being started. Unregistered ignition key is used. BCM or ECM's malfunctioning. DTC Logic INFOID:0000000008279997 DTC DETECTION LOGIC D Trouble diagnosis DTC No. DTC detecting condition Possible cause name Е When the starting operation is carried out 10 or more times consecutively under the P1610 LOCK MODE following conditions. · Unregistered ignition key F · BCM or ECM's malfunctioning. DTC CONFIRMATION PROCEDURE 1. PERFORM DTC CONFIRMATION PROCEDURE Turn ignition switch ON. Check "Self Diagnostic Result" with CONSULT. Н Is DTC detected? YES >> Refer to SEC-143, "Diagnosis Procedure". >> INSPECTION END NO Diagnosis Procedure INFOID:0000000008279998 1. CHECK ENGINE START FUNCTION Perform the check for DTC except DTC P1610. Use CONSULT to erase DTC after fixing. Check that engine can start with registered ignition key. Does the engine start? YES >> INSPECTION END NO >> GO TO 2.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

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SEC-143 Revision: 2013 December **2013 ROGUE**

P1611 ID DISCORD, IMMU-ECM

Description

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

DTC Logic

DTC DETECTION LOGIC

NOTE:

• If DTC P1611 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-143, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to <u>SEC-144</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008280001

1. PERFORM INITIALIZATION

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

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

YES >> INSPECTION END (ID was unregistered.)

NO >> GO TO 2.

2.REPLACE BCM

- 1. Replace BCM. Refer to BCS-65, "Removal and Installation".
- Perform initialization with CONSULT. Re-register all ignition keys.

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

YES >> INSPECTION END (BCM was malfunctioning.)

NO >> GO TO 3.

3. REPLACE ECM

- Replace ECM. Refer to the following page.
- Refer to EC-20, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".
- 2. Perform initialization with CONSULT. Re-register all ignition keys.

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

YES >> INSPECTION END (ECM was malfunctioning.)

NO >> GO TO 4.

4. CHECK INTERMITENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1612 CHAIN OF ECM-IMMU

Description

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

DTC Logic

DTC DETECTION LOGIC

NOTE

• If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-141, "BCM: DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	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 Diagnostic Result" with CONSULT.

Is DTC detected?

YES >> Refer to <u>SEC-145</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1. Replace BCM. Refer to BCS-65, "Removal and Installation".

Perform initialization with CONSULT.

Does the engine start?

1.REPLACE BCM

YES >> INSPECTION END (BCM was malfunctioning.)

NO >> ECM is malfunctioning.

- Replace ECM. Refer to the following page.
- Except for Mexico: Refer to EC-20, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement".
- For Mexico: Refer to <u>EC-472</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : <u>Special Repair Requirement"</u>.

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P1614 CHAIN OF IMMU-KEY

Description INFOID:0000000008280005

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

DTC Logic INFOID:0000000008280006

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 key cylinder.
- Turn ignition knob switch.
- Check "Self Diagnostic Result" with CONSULT.

Is DTC detected?

YES >> Refer to SEC-146, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID-0000000008280007

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-198, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK IGNITION KEY

Start engine with another registered ignition key.

Does the engine start?

YES >> Replace ignition key. Perform initialization and registration of ignition key.

NO >> GO TO 3.

3.CHECK NATS ANTENNA AMP. POWER SUPPLY

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

(NATS ant	+) enna amp.	(-)	Voltage (V) (Approx.)	
Connector	Terminal			
M26	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

4. CHECK NATS ANTENNA AMP. GROUND CIRCUIT

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

NATS ant	tenna amp.		Continuity	
Connector	Connector Terminal		Continuity	
M26	M26 3		Existed	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace circuit.

5.CHECK NATS ANTENNA AMP. SIGNAL CIRCUIT

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

(+)		(–) Condition		Voltage (V)	
NATS antenna amp.				(Approx.)	
Connector	Terminal			(· + - - - - - - - - -	
	2		Just after inserting ignition key in key cylinder.	Pointer of tester should move.	
M26		Ground	Other than above.	0	
IVI26	4	Giouna	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 6.

NO >> Repair or replace circuit.

6. CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

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P1615 DIFFRENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1615 DIFFRENCE OF KEY

Description INFOID:000000008280008

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 ignition 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. The registration is necessary.	Ignition key

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- Insert ignition key into key cylinder.
- 2. Turn ignition knob switch.
- 3. Check "Self Diagnostic Result" with CONSULT.

Is DTC detected?

YES >> Refer to SEC-148, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000008280010

1. PERFORM INITIALIZATION

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

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

YES >> INSPECTION END (Ignition key was unregistered.)

NO >> BCM is malfunctioning.

- Replace BCM. Refer to BCS-65, "Removal and Installation".
- Perform initialization again.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:0000000008280011

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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.
Pottony nowor gunnly	10
Battery power supply	J
ACC power supply	20
Ignition power supply	1

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.

Disconnect BCM connectors.

3. Check voltage between BCM harness connector and the ground.

'	Terminals		- Ignition switch position		
(-	+)				
В	CM	(–)	OFF	ACC	ON
Connector	Terminal				
M67	70		Battery	Battery	Battery
IVIO7	57		voltage	voltage	voltage
M65	11	Ground	Approx. 0 V	Battery voltage	Battery voltage
IVIOS	38		Approx. 0 V	Approx. 0 V	Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and the ground.

В	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M67	67		Existed	

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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DOOR SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

DOOR SWITCH

Description INFOID:000000008280012

Detects door open/closed condition.

Component Function Check

INFOID:0000000008280013

1. CHECK FUNCTION

(I) With CONSULT

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RL", "DOOR SW-RR", "BACK DOOR SW") in "Data Monitor" mode with CONSULT.

Monitor item	Door condition	Display
DOOR SW-DR		
DOOR SW-AS		
DOOR SW-RL	$CLOSE \to OPEN$	$OFF \to ON$
DOOR SW-RR		
BACK DOOR		

Is the inspection result normal?

YES >> Door switch is OK.

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

Diagnosis Procedure

INFOID:0000000008280014

1. CHECK DOOR SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect door switch connectors.
- 3. Check signal between door switch harness connector and ground with oscilloscope.

[WITHOUT INTELLIGENT KEY SYSTEM]

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	oor switch			Valle (V)
(+) connector Terminal			(–)	Voltage (V) (Approx.)
Front door switch (passenger side)	B93			(V) ₁₅ 10 5 0 ++10ms JPMIA0586GB
Front door switch (driver side)	B92			(V) 15 10 5 0 + + 10ms JPMIA0587GB
Rear door switch RH	B95	3	Ground	(V) 15 10 5 0 + 10ms JPMIA0587GB
Rear door switch LH	B94			(V) ₁₅ 10 5 0 ++10ms JPMIA0594GB
Back door lock assembly (back door switch)	D190			(V) ₁₅ 10 5 0 + 10ms JPMIA0593GB

Is the inspection result normal?

YES >> • Back door switch : GO TO 3.

• Door switch : GO TO 4.

NO >> GO TO 2.

2.CHECK DOOR SWITCH CIRCUIT

1. Disconnect BCM connectors.

2. Check continuity between BCM harness connector and door switch harness connector.

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[WITHOUT INTELLIGENT KEY SYSTEM]

ВСМ		Door switch	Continuity	
connector Terminal		connector	Terminal	Continuity
M65	12	B93	2	
IVIOS	13	B95	2	
	43	D190	3	Exists
M66	47	B92	2	
	48	B94	2	

3. Check continuity between BCM harness connector and ground.

BCM connector	Terminal	Ground	Continuity
M65	12		
WOS	13		
M66	43	Ground	Does not exist
	47		
	48		

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-65, "Exploded View".

NO >> Repair or replace harness.

3. CHECK BACK DOOR GROUND CIRCUIT

Check continuity between back door lock assembly harness connector and ground.

Back door lock assembly			Continuity
connector	Terminal	Ground	Continuity
D190	4		Exist

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK DOOR SWITCH

Check door switch.

Refer to SEC-152, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace door switch. Refer to <u>DLK-241, "Removal and Installation"</u>.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-46, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000008280015

1. CHECK DOOR SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect door switch connector.
- Check door switch .

DOOR SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

	Terminal		Condition	Continuity
Each door		Ground	Door switch pressed	Exists
Each door	3	Ground	Door switch released	Does not exist
Back door	3	4	Back door open	Exists
Back door		4	Back door close	Does not exist

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace door switch . Refer to <u>DLK-241, "Removal and Installation"</u>.

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[WITHOUT INTELLIGENT KEY SYSTEM]

HORN

Description INFOID:0000000008280016

Horn (high/low) is located inside of front bumper and operates when vehicle security system is in alarm phase.

Component Function Check

INFOID:0000000008280017

1. CHECK FUNCTION

- Select "HORN" in "Active Test" mode with CONSULT.
- 2. Check the horn (high/low) operation.

Test	item	Desc	ription
HORN	ON	Horn (high/low)	ON (for 20 ms)

Is the operation normal?

YES >> INSPECTION END

NO >> Refer to SEC-154, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000008280018

1. CHECK HORN FUNCTION

Check horn function with horn switch

Do the horns sound?

YES >> GO TO 2.

NO >> Refer to HRN-2, "EXCEPT FOR MEXICO: Wiring Diagram - HORN -".

2. CHECK HORN RELAY CIRCUIT

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

IPDM E/R		Horn relay		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E15	57	E5	1	Existed

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E15	57		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-28, "Removal and Installation".

NO >> Repair or replace harness.

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY INDICATOR

Description INFOID:0000000008280019

· Vehicle security indicator is built in combination meter.

 NVIS/NATS and vehicle security system conditions are indicated by blink or illumination of vehicle security indicator.

Component Function Check

1. CHECK FUNCTION

1. Perform "THEFT IND" in the "Active Test" mode with CONSULT.

2. Check vehicle security indicator operation.

Test item		Description	
THEFT IND	ON	Vahiala cogurity indicator	ON
ITIEFT IND	OFF	Vehicle security indicator	OFF

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to <u>SEC-155</u>, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

Turn ignition switch OFF.

Disconnect combination meter connector.

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

(+) Combination meter		(–)	Voltage (V) (Approx.)	
Connector	Terminal		(
M34	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK SECURITY INDICATOR LAMP SIGNAL CIRCUIT

Disconnect BCM connector.

2. Check continuity between BCM harness connector and combination meter harness connector.

BCM		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M65	23	M34	28	Existed

Check continuity between combination meter harness connector and ground.

Combination meter			Continuity
Connector	Terminal	Ground	Continuity
M34	28		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK BCM OUTPUT SIGNAL

1. Connect combination meter connector.

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VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

Check voltage between BCM harness connector and ground.

(+) BCM		(-)	Voltage (V) (Approx.)
Connector	Terminal		(11 - 7
M65	23	Ground	Battery voltage

Is the inspection result normal?

YES

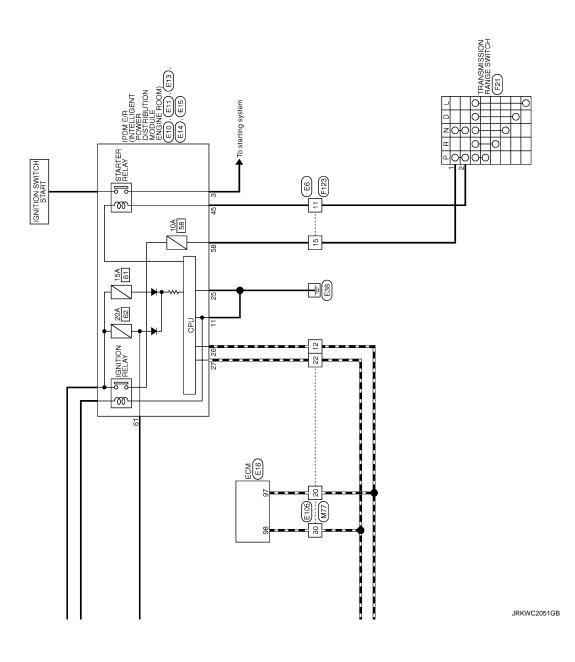
>> Replace BCM. Refer to <u>BCS-65</u>, "Removal and Installation".
>> Replace combination meter. Refer to <u>MWI-69</u>, "Removal and Installation". NO

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram - NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS -

INFOID:0000000008280022 For connector terminal arrangements, harness layouts, and alphabets in a 🔘 (option abbreviation; if not В described in wiring diagram), refer to GI-12, "Connector Information". C D Е F M77 W33 Н NATS (NISSAN ANTI-THEFT SYSTEM) / WITHOUT INTELLIGENT KEY BCM (BODY CONTROL MODULE) (M65), (M67) SEC M Ν IGNITION SWITCH ON or START 0 Р 2012/05/23 50A BATTERY JRKWC2050GB



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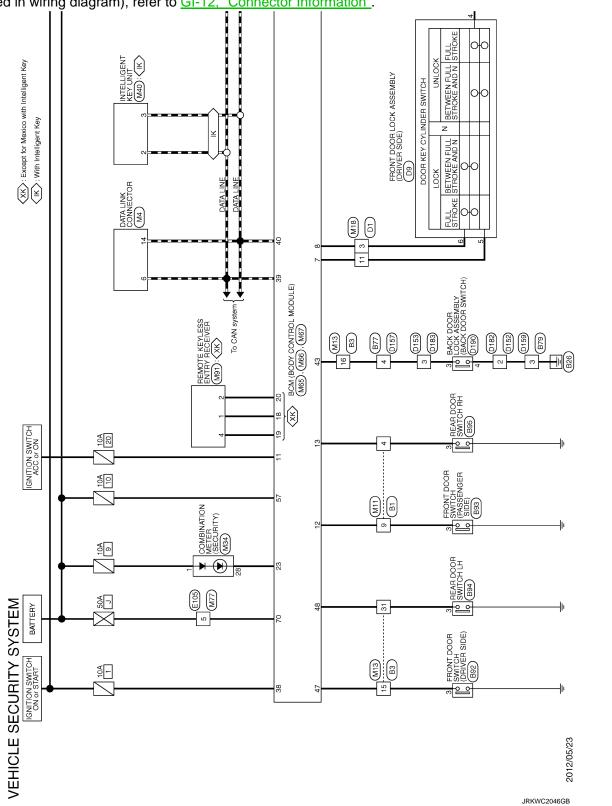
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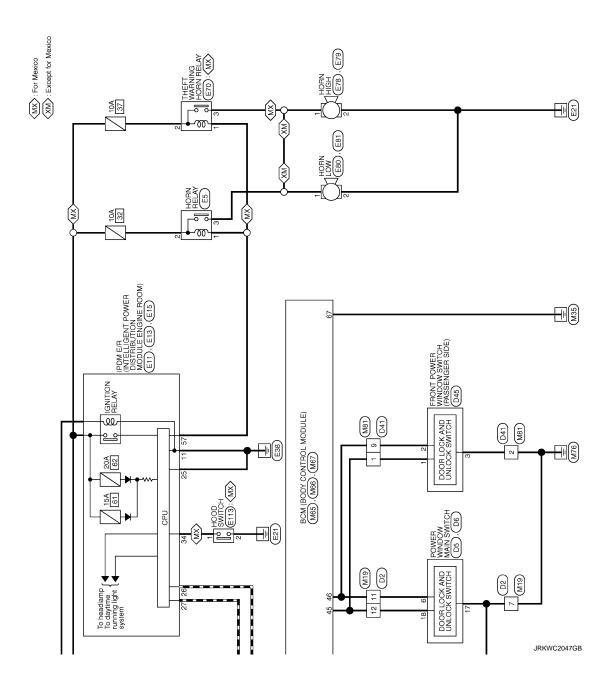
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VEHICLE SECURITY SYSTEM

Wiring Diagram - VEHICLE SECURITY SYSTEM -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".





< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	Off
IGIN OIN 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 SW	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
JOOK 3W-A3	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
DOOK SW-KK	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
DOOK SW-KL	Rear LH door opened	On
BACK DOOR SW	Back door closed	Off
	Back door opened	On
1/E)/ 0)/ 1 / 0)//	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
NET CTL ON-SW	Driver door key cylinder UNLOCK position	On
KEYLESS LOCK	"LOCK" button of key fob is not pressed	Off
KETLESS LOCK	"LOCK" button of key fob is pressed	On
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	Off
RETLESS UNLOCK	"UNLOCK" button of key fob is pressed	On
I-KEY LOCK	"LOCK" button of Intelligent Key or door request switch are not pressed	Off
	"LOCK" button of Intelligent Key or door request switch are pressed	On
	"UNLOCK" button of Intelligent Key or door request switch are not pressed	Off
I-KEY UNLOCK	"UNLOCK" button of Intelligent Key or door request switch are pressed	On
ACC ON CV4	Ignition switch OFF	Off
ACC ON SW	Ignition switch ACC or ON	On
	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On

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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
LIGHT SW 1ST	Lighting switch OFF	Off
LIGITI OW 101	Lighting switch 1ST	On
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	Off
DOOKEE OW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	On
KEYLESS PANIC	PANIC button of key fob is not pressed	Off
RETEESS FAINIC	PANIC button of key fob is pressed	On
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	Off
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	Off
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	Off
TALL LON-ONLON	LOCK/UNLOCK button of key fob is pressed and held simultaneously	On
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	Off
AND INDEP UNITY	UNLOCK button of key fob is pressed and held	On
HI BEAM SW	Lighting switch OFF	Off
HI BEAIN SW	Lighting switch HI	On
HEAD LAMP SW 1	Lighting switch OFF	Off
TEAD LAIVIP SVV I	Lighting switch 2ND	On
IEAD LAMB CW 2	Lighting switch OFF	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
NUTO LICUT OW	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
PASSING SW	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
-D - COC - CW	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
FLIDNI CIONIAL D	Turn signal switch OFF	Off
ΓURN SIGNAL R	Turn signal switch RH	On
FLIDAL CICALAL I	Turn signal switch OFF	Off
ΓURN SIGNAL L	Turn signal switch LH	On
ENGINE RUN	Engine stopped	Off
ENGINE RUN	Engine running	On
PKB SW	Parking brake switch is OFF	Off
-VD 944	Parking brake switch is ON	On
CARGO LAMP SW	NOTE: The item is indicated, but not monitored.	Off
ODTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0 V
IONI CIM CANI	Ignition switch OFF or ACC	Off
IGN SW CAN	Ignition switch ON	On

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
FR WIPER HI	Front wiper switch OFF	Off
FR WIPER FI	Front wiper switch HI	On
FR WIPER LOW	Front wiper switch OFF	Off
FR WIPER LOW	Front wiper switch LO	On
FR WIPER INT	Front wiper switch OFF	Off
FR WIPER IN	Front wiper switch INT	On
ED WACHED CW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
ED WIDED STOD	Any position other than front wiper stop position	Off
FR WIPER STOP	Front wiper stop position	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
DD WIDED ON	Rear wiper switch OFF	Off
RR WIPER ON	Rear wiper switch ON	On
DD WIDED INT	Rear wiper switch OFF	Off
RR WIPER INT	Rear wiper switch INT	On
	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
	Rear wiper stop position	Off
RR WIPER STOP	Other than rear wiper stop position	On
RR WIPER STP2	NOTE: The item is indicated, but not monitored.	Off
H/L WASH SW	NOTE: The item is indicated, but not monitored.	Off
114.74.D.D. O.W.	Hazard switch OFF	Off
HAZARD SW	Hazard switch ON	On
DDAKE OW	Brake pedal is not depressed	Off
BRAKE SW	Brake pedal is depressed	On
EAN ON 010	Blower fan motor switch OFF	Off
FAN ON SIG	Blower fan motor switch ON (other than OFF)	On
	 A/C conditioner OFF (A/C switch indicator OFF) (Automatic air conditioner) A/C switch OFF (Manual air conditioner) 	Off
AIR COND SW	A/C conditioner ON (A/C switch indicator ON) (Automatic air conditioner) A/C switch ON (Manual air conditioner)	On
I-KEY TRUNK	NOTE: The item is indicated, but not monitored.	Off
LIZEN DIM DIMM	UNLOCK button of Intelligent Key is not pressed	Off
I-KEY PW DWN	UNLOCK button of Intelligent Key is pressed and held	On
L KEY DANIO	PANIC button of Intelligent Key is not pressed	Off
I-KEY PANIC	PANIC button of Intelligent Key is pressed	On
DUOLLOW/	Return to ignition switch to "LOCK" position	Off
PUSH SW	Press ignition switch	On
TDAIK ODAIS SW	When back door opener switch is not pressed	Off
TRNK OPNR SW	When back door opener switch is pressed	On

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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
TRUNK CYL SW	NOTE: The item is indicated, but not monitored.	Off
HOOD SW	Close the hood NOTE: Vehicles of except for Mexico are OFF-fixed	Off
	Open the hood	On
OIL PRESS SW	Ignition switch OFF or ACC Engine running	Off
	Ignition switch ON	On
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 REGST FL1	ID of front LH tire transmitter is registered	Done
ID REGGI FLI	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
ID NEGOT I KT	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
ID REGGI KKI	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
ID NEGOT KLI	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
WAINING LAWF	Tire pressure indicator ON	On
DUZZED	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

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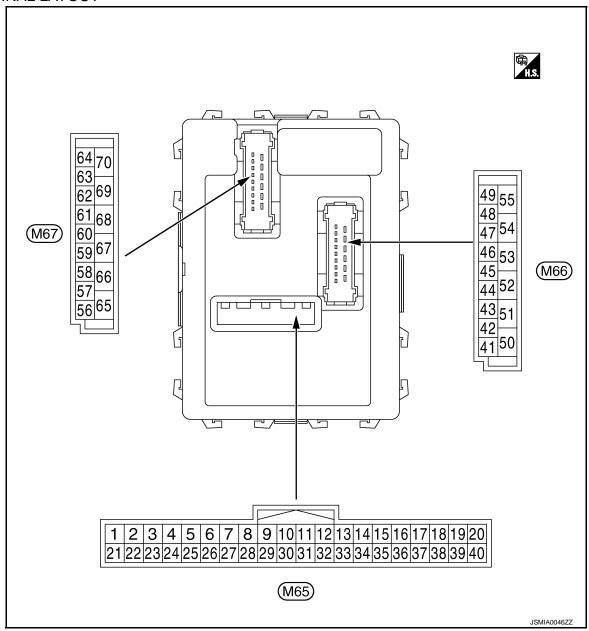
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TERMINAL LAYOUT



PHYSICAL VALUES

CAUTION:

 Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.

Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT. Refer to BCS-26, "COMB SW : CONSULT Function (BCM - COMB SW)".

• BCM reads the status of the combination switch at 10 ms internal normally. Refer to <u>BCS-9, "System Diagram"</u>.

	nal No.	Description				Value	
(Wire color)		Signal name	Input/	Condition		(Approx.)	
+	_	Signal flame	Output			, ,	
1	Ground	Ignition key hole illu-	Output	Ignition key hole	OFF	Battery voltage	
(V)	Giodila	mination control	Output	illumination	ON	0 V	

< ECU DIAGNOSIS INFORMATION >

	nal No.	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 PKIB4959J 1.0 V			
(G)	Clound	INPUT 5	три	(Wiper intermittent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 PKIB4953J 2.0 V			
					All switch OFF	0 V			
					Turn signal switch LH				
					Lighting switch PASS	(V) 15			
3 (Y)	Ground	Combination switch INPUT 4	Input	Input	Input	Input	Combination switch (Wiper intermit-	Lighting switch 2ND	10 5 0 → +10ms PKIB4959J 1.0 V
(')		IIVI 01 4		tent dial 4)	Front fog lamp switch ON	(V) 15 10 5 0 +10ms PKIB4955J 0.8 V			
					All switch OFF	0 V			
					Lighting switch AUTO				
					Front wiper switch LO	(V) 15			
4 (W)		Ground Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch MIST	15 10 5 0			
					Front wiper switch INT	PKIB4959J			

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	Λ
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)	А
5 (R)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4) Front washer switch (Wiper intermittent dial 4) Rear washer ON (Wiper intermittent dial 4) Any of the condition below with all switch OFF Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6	0 V (V) 15 10 5 0 PKIB4959J 1.0 V	B C D
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 +-10ms PKIB4955J 0.8 V	F
					All switch OFF (Wiper intermittent dial 4) Front wiper switch HI (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4) Wiper intermittent dial 3 (All switch OFF)	0 V (V) 15 10 5 0 PKIB4959J 1.0 V	H I J
6 (BG)	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 +-10ms PKIB4952J 1.7 V	L
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 ++10ms PKIB4955J 0.8 V	N O P

	nal No.	Description				Value
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
7 (V)	Ground	Door key cylinder switch UNLOCK sig- nal	Input	Door key cylin- der switch	NEUTRAL position	(V) ₁₅ 10 5 0 +-10ms JPMIA0587GB 8.0 - 8.5 V
					UNLOCK position	0 V
8 (R)	Ground	Door key cylinder switch LOCK signal	Input	Door key cylin- der switch	NEUTRAL position	(V) 10 5 0 → 10ms JPMIA0587GB 8.0 - 8.5 V
					LOCK position	0 V
9	Ground	Stop lamp switch	Input	Stop lamp	OFF (Brake pedal is not depressed)	0 V
(R)	Ground	Stop lamp switch	Input	switch	ON (Brake pedal is depressed)	Battery voltage
10 (SB)	Ground	Rear window defog- ger switch	Input	Rear window defogger switch	Not pressed	Battery voltage
-		ger switch			Pressed	0 V
11 (SB)	Ground	Ignition switch ACC	Input	Ignition switch O		0 V Battery voltage
12 (BG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) ₁₅ 10 5 0 → 10ms JPMIA0586GB 7.5 - 8.0 V
					ON (When passenger door opened)	0 V
13 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	(V) ₁₅ 10 5 0 → 10ms JPMIA0587GB 8.0 - 8.5 V
					ON (When rear door RH opened)	0 V

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	Λ
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)	А
14 (G)	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V	В
(G)				ON	When dark outside of the vehicle	Close to 0 V	
17 (W)	Ground	Optical sensor pow- er supply	Output	Ignition switch	OFF, ACC	0 V 5 V	С
18 [*] (R)	Ground	Receiver and sensor ground	Input	Ignition switch O		0 V	D
				Without Intelligent Key system	At any condition	5 V	Е
19 [*] (V)	Ground	Remote keyless en- try receiver power supply	Input	With Intelligent	Ignition switch OFF For 3 seconds after ignition switch OFF to ON	0 V	F
				Key system	3 seconds or later after ig- nition switch OFF to ON	5 V	
				Without Intelligent Key system	At any condition	(V) 15 10 5 0 PMIA0589GB NOTE:	G H
20 [*] (GR)	Ground	Remote keyless entry receiver signal	Input		Ignition switch OFF For 3 seconds after ignition switch OFF to ON	The wave form changes according to signal-receiving condition. 0 V	SE
				With Intelligent Key system	3 seconds or later after ig- nition switch OFF to ON	(V) ₁₅ 10 5 0 4-2ms	L
						NOTE: The wave form changes according to signal-receiving condition.	Ν
21 (G)	Ground	NATS antenna amp.	Input/ Output	Just after insertin	g ignition key in key cylinder	Pointer of tester should move	
					ON	0 V	
23 (B)	Ground	Security indicator signal	Input	Security indicator	Blinking (Ignition switch OFF)	(V) ₁₅ 10 5 0 JPMIA0590GB	F
						12.0 V	
					OFF	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description				Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
25 (BR)	Ground	NATS antenna amp.	Input/ Output	Just after insertir	ng ignition key in key cylinder	Pointer of tester should move
				Ignition switch C	FF	
27 (Y)	Ground	A/C switch	Input	Ignition switch ON	A/C switch OFF	(V) 15 10 5 0 **10ms JPMIA0591GB
					A/C switch ON	0 V
				Ignition switch C	FF	
28 (LG)	Ground	Blower fan switch	Input	Ignition switch ON	Blower fan switch OFF	(V) ₁₅ 10 5 0 ***-10ms JPMIA0592GB 7.0 - 7.5 V
					Blower fan switch ON	0 V
29	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
(W)	Cround	Tiazara owitori	mpat	riazara switori	ON	0 V
30	Ground	Back door opener	Input	Back door	Not pressed	Battery voltage
(G)		switch		opener switch	Pressed	0 V
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.2 V
32 (BR)	Ground	Combination switch OUTPUT 5		Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V)
					Rear wiper switch ON (Wiper intermittent dial 4)	10
					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	5 0 ++10ms PKIB4956J 1.0 V

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Terminal No. Description (Wire color)				Value					
+	e color)	Signal name	Input/ Output		Condition	(Approx.)			
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.2 V			
33 (GR)	Ground	Combination switch OUTPUT 4	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)				
					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10			
								Rear wiper switch INT (Wiper intermittent dial 4)	5 0
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	PKIB4958J 1.2 V			
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 ++10ms PKIB4960J 7.2 V			
34 (SB)	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			

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< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)
35	Cround	Combination switch	Output	Combination switch	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.2 V
(B)	Ground	OUTPUT 2	Output	(Wiper intermit-	Lighting switch 2ND	
				tent dial 4)	Lighting switch PASS	(V) 15
					Front wiper switch INT	10
					Front wiper switch HI	0 → +10ms PKIB4958J
36	Ground	Combination switch	Combination		All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.2 V
(V)	Orouna	OUTPUT 1	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	40
				tont didi 1)	Turn signal switch LH	(V) 15
					Front wiper switch LO (Front wiper switch MIST)	10 5 0
					Front washer switch ON	PKIB4958J
37	0	Mary assistab	lanut	Insert mechanica	al key into ignition key cylin-	Battery voltage
(LG)	Ground	Key switch	Input	Remove mechar cylinder	nical key from ignition key	0 V
38	Ground	Ignition quitch ON	Innut	Ignition switch O	FF or ACC	0 V
(G)	Ground	Ignition switch ON	Input	Ignition switch O	N or START	Battery voltage
39 (L)	Ground	CAN-H	Input/ Output		_	_
40 (P)	Ground	CAN-L	Input/ Output		_	_

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

	inal No. e color)	Description			O Pri	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
43 (V)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) ₁₅ 10 5 0 **10ms JPMIA0593GB 9.5 - 10.0 V
					ON (When back door opened)	0 V
44		Door winer oute eten		Ignition quitab	Rear wiper stop position	0 V
(B)	Ground	Rear wiper auto stop position	Input	Ignition switch ON	Any position other than rear wiper stop position	Battery voltage
45 (P)	Ground	Door lock and unlock switch LOCK signal	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 JPMIA0591GB 1.6 V
					LOCK position	0 V
46 (BR)	Ground	Door lock and unlock switch UNLOCK sig- nal	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 JPMIA0591GB 1.6 V
					UNLOCK position	0 V
47 (W)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 5 0 JPMIA0587GB 8.0 - 8.5 V
					ON (When driver door opened)	0 V

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value
+ (Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)
48 (GR)	Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	(V) ₁₅ 10 5 0 ***10ms JPMIA0594GB 8.5 - 9.0 V
					ON (When rear door LH opened)	0 V
49	Ground	Luggage room lamp control	Output	Luggage room lamp switch DOOR position	Back door is closed (Luggage room lamp turns OFF)	Battery voltage
(L)					Back door is opened (Luggage room lamp turns ON)	0 V
53	Ground	Back door open	Output	Back door opener switch	Not pressed (Back door actuator is activated)	0 V
(V)					Pressed (Back door actuator is activated)	Battery voltage
55	0	Danas vinas anatas	Outrot	Ignition switch	Rear wiper switch OFF	0 V
(SB)	Ground	Rear wiper motor	Output	ON	Rear wiper switch ON	Battery voltage
56	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0 V
(Y)	0.000			Any other time after passing the interior room lamp battery saver operation time		Battery voltage
57 (G)	Ground	Battery power sup- ply	Input	Ignition switch OFF		Battery voltage
59	Ground	Driver door UN- LOCK	Output	Driver door	UNLOCK (Actuator is activated)	Battery voltage
(L)					Other then UNLOCK (Actuator is not activated)	0 V
					Turn signal switch OFF	0 V
60 (BR)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 PKIC6370E 6.0 V

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Terminal No. (Wire color)		Description		Condition		Value
		Signal name Input/ Output				(Approx.)
					Turn signal switch OFF	0 V
61 (GR)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1s
63		Interior room lamp		Interior room	OFF	6.0 V Battery voltage
(R)	Ground	timer control	Output	lamp	ON	0 V
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	Battery voltage
					Other then LOCK (Actuator is not activated)	0 V
66 (G)	Ground	Passenger door and rear door UNLOCK	Output	Passenger door and rear door	UNLOCK (Actuator is activated)	Battery voltage
					Other then UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch ON		0 V
68 (L)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		Battery voltage
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch OFF		Battery voltage

^{*:} Except for Mexico with Intelligent Key

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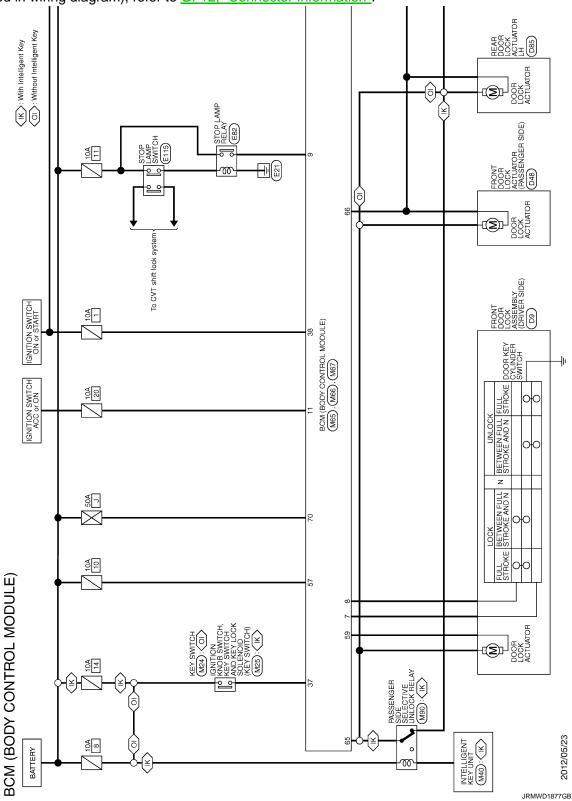
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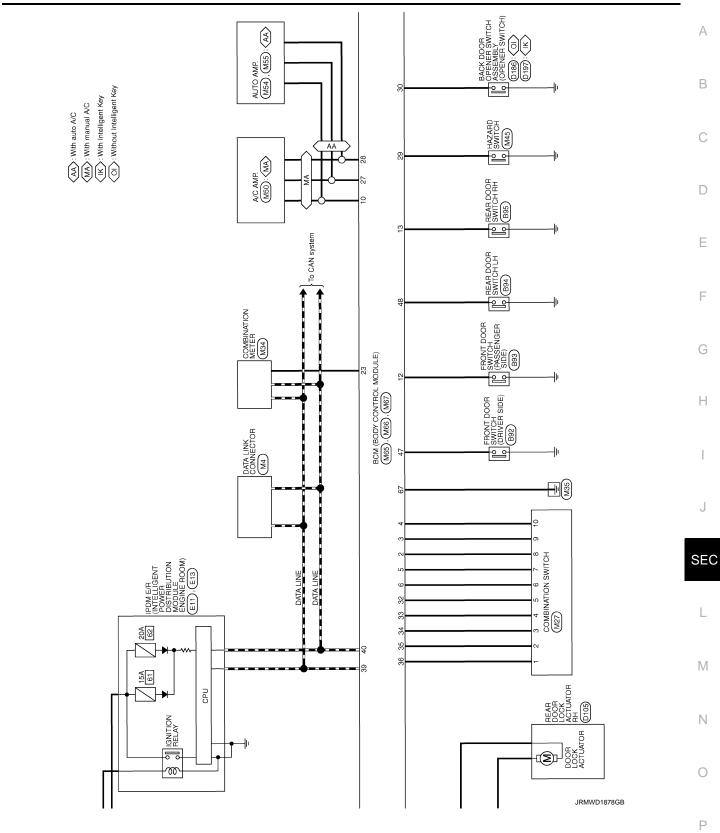
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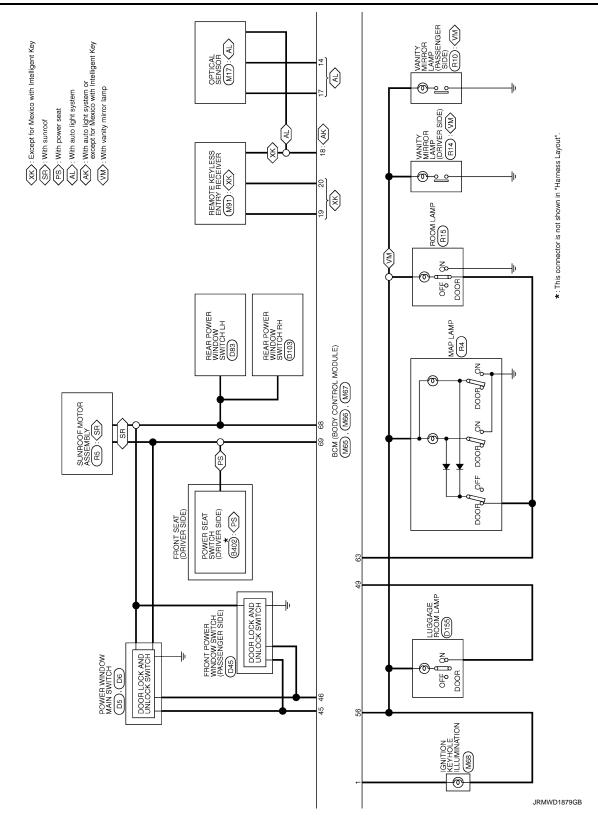
Wiring Diagram - BCM -

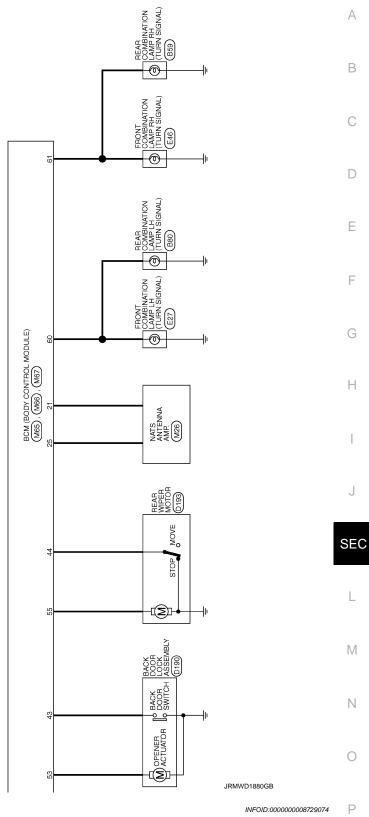
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For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".









Fail-safe

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 more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

- Pass more than 1 minute after the rear wiper stop.
- Turn the rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

DTC Inspection Priority Chart

INFOID:0000000008729075

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 CIRCUIT
2	C1735: IGN CIRCUIT OPEN
3	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESS DATA ERR] FL C1717: [PRESS DATA ERR] FR C1718: [PRESS DATA ERR] RR C1719: [PRESS DATA ERR] RR C1719: [PRESS DATA ERR] RL C1729: VHCL SPEED SIG ERR

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.

CONSULT display	Tire pressure monitor warning lamp ON	Reference		
U1000: CAN COMM CIRCUIT	_	BCS-34		
C1704: LOW PRESSURE FL	×			
C1705: LOW PRESSURE FR	×	<u>WT-14</u>		
C1706: LOW PRESSURE RR	×			
C1707: LOW PRESSURE RL	×			
C1708: [NO DATA] FL	×			
C1709: [NO DATA] FR	×	WT 16		
C1710: [NO DATA] RR	×	<u>WT-16</u>		
C1711: [NO DATA] RL	×			
C1716: [PRESS DATA ERR] FL	×			
C1717: [PRESS DATA ERR] FR	×	WT 40		
C1718: [PRESS DATA ERR] RR	×	<u>WT-19</u>		
C1719: [PRESS DATA ERR] RL	×			
C1729: VHCL SPEED SIG ERR	×	<u>WT-21</u>		
C1735: IGN CIRCUIT OPEN	_	BCS-35		

< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000008729068

VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition	Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1 - 4
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
TAIL & CLID DEC	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST or 2N	ND .	On
III 10 PF0	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND		On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI (Light i	is illuminated)	On
FR FOG REQ		Front fog lamp switch OFF	Off
NOTE: This item is monitored only on the vehicle with front fog lamp.	Lighting switch 2ND	Front fog lamp switch ON	On
		Front wiper switch OFF	Stop
ED WID DEO	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
ST RLY REQ NOTE:	When Intelligent Key is of is pushed	Off	
Vehicle without Intelligent Key system indicates only "ON", and it does not change.	When Intelligent Key is in pushed	On	
ION BLV	Ignition switch OFF or AC	CC	Off
IGN RLY	Ignition switch ON		On
		Rear window defogger switch OFF	Off
RR DEF REQ	Ignition switch ON	Rear window defogger switch ON (Rear window defogger is operating)	On
OII D SW	Ignition switch OFF, ACC	Open	
OIL P SW	Ignition switch ON		Close
DTRL REQ	Daytime running light sys	stem is not operated.	Off
NOTE: This item is monitored only on the vehicle with the daytime running light system.	Daytime running light sys	On	

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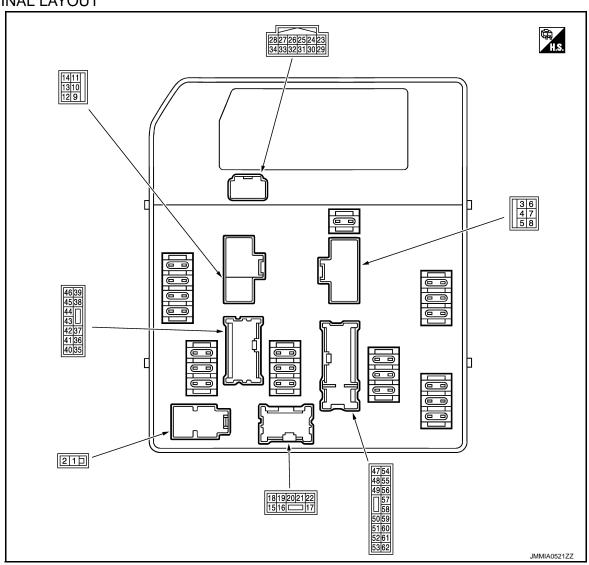
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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
HOOD SW	Close the hood	Off
NOTE: This item is monitored only the vehicle for Mexico.	Open the hood	On
	Not operation	Off
THFT HRN REQ	Horn is activated with vehicle security system or panic alarm system.	On
HORN CHIRP	Not operation	Off
HORN CHIRP	Horn is activated with key fob LOCK operation.	On

TERMINAL LAYOUT



PHYSICAL VALUES

	nal No.				Value
+ (Wire	color)	Signal name	Input/ Output	Condition	(Approx.)
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	nal No. e color)	Description			2 170	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
3	Ground	Starter relay power supply	Output	When engine is clar	When engine is clanking	
(L)	Giodila	Starter relay power supply	Output	When engine is not clanking		0 V
4	Ground	Cooling fan relay-1 power	Output	Cooling fan opera-	OFF	0 V
(W)	Giodila	supply	Output	tion	MID or HI	Battery voltage
5	Ground	Ignition switch START	Input	Ignition switch OFF,	ACC or ON	0 V
(R)	Ground	Ignition switch of Aixi	при	Ignition switch STAF	RT	Battery voltage
6 (BR)	Ground	Battery power supply (Cooling fan relay)	Input	Ignition switch OFF		Battery voltage
7	Ground	Cooling fan motor-2 (HI)		Cooling fan opera-	OFF	Battery voltage
(P)	Giodila	ground	_	tion	HI	0 V
8	Cround	Cooling fan relay-2 power	Output	Cooling fan opera-	OFF	0 V
(G)	Ground	supply	Output	tion	HI	Battery voltage
11 (B)	Ground	Ground	_	Ignition switch ON		0 V
12	Crownd	Rear window defogger re-	Outrut	Lanitian autitah ONI	Rear window defogger switch OFF	0 V
(G)	Ground	lay power supply	Output	ut Ignition switch ON Rear window defogger switch ON		Battery voltage
15 ^{*1}	0	Daytime running light relay	0 1 1	Daytime running	Not operated	Battery voltage
(SB)	Ground	control	Output	light system	Operated	0 V
16 ^{*2}	0	Front for James (LLI)	0	Output Lighting switch 2ND	Front fog lamp switch OFF	0 V
(Y)	Ground	Front fog lamp (LH)	Output		Front fog lamp switch ON	Battery voltage
17 ^{*2}	Cround	Front for James (DLI)	Outout	Lighting switch	Front fog lamp switch OFF	0 V
(W)	Ground	Front fog lamp (RH)	Output	2ND	Front fog lamp switch ON	Battery voltage
18	Ground	Headlamp LO (LH)	Output	Lighting switch OFF		0 V
(L)	Ground	Headiamp LO (LH)	Output	Lighting switch 2ND		Battery voltage
20	Ground	Headlamp LO (RH)	Output	Lighting switch OFF		0 V
(SB)	Ground	riedulamp LO (IVII)	Output	Lighting switch 2ND		Battery voltage
				Lighting switch OFF		0 V
21 (G)	Ground	Headlamp HI (LH)	Output	Lighting switch 2NLighting switch PA		Battery voltage
				Daytime running ligh	nt system Operated*1	7.0 V
				Lighting switch OFF		0 V
22 (LG)	Ground	Headlamp HI (RH)	Output	Lighting switch 2NLighting switch PA		Battery voltage
				Daytime running light system Operated*1		7.0 V
23		0.1			Engine stopped	0 V
(W)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine running	Battery voltage
					Front wiper stop position	0 V
24 (Y)	Ground	Front wiper auto stop	Input	Ignition switch ON		
25 (B)	Ground	Ground	_	Ignition switch ON		0 V
26 (P)	_	CAN-L	Input/ Output		_	_

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< ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description		_	S Be	Value
+	-	Signal name	Input/ Output	Condition		(Approx.)
27 (L)	_	CAN-H	Input/ Output	_		_
31	Ground	Cooling for roley 4 central	Output	Cooling fan opera-	OFF	Battery voltage
(LG)	Ground	Cooling fan relay-4 control	Output	tion	LO	0 - 1.0 V
32		Throttle control motor re-			After passing approximately 2 seconds or more after turning the ignition switch from ON to OFF	
(V)	Ground	lay control	Input	Ignition switch ON For approximately tion switch from C	2 seconds after turning igni-	0 - 1.0 V
				Ignition switch OFF		0 V
33 (GR)	Ground	Fuel pump relay control	Input	1	Engine stopped	Battery voltage
(OIV)				Ignition switch ON	Engine running	0.8 V
34 ^{*3}				Close the hood		Battery voltage
(W)	Ground	Hood switch	Input	Open the hood		0 V
37		Tail, license plate lamps	_	Lighting switch OFF		0 V
(R)	Ground	and illuminations	Output	Lighting switch 1ST		Battery voltag
38				Lighting switch OFF		0 V
(R)	Ground	Parking lamp (LH)	Output	Lighting switch 1ST		Battery voltag
39				Lighting switch OFF		0 V
(GR)	Ground	Parking lamp (RH)	Output	Lighting switch 1ST		Battery voltag
40			_	Ignition switch OFF or ACC		0 V
(BR)	Ground	Ignition relay power supply	Output	Ignition switch ON		Battery voltag
41				Ignition switch OFF or ACC		0 V
(W)	Ground	Ignition relay power supply	Output	Ignition switch ON		Battery voltag
42					Front wiper switch OFF	0 V
(L)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch HI	Battery voltage
43					Front wiper switch OFF	0 V
(G)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch LO	Battery voltag
					Selector lever "P" or "N"	Battery voltage
45 (Y)	Ground	Starter relay power supply	Input	Ignition switch ON	Selector lever in any position other than "P" or "N"	0 V
46	Ground	Fuel pump relay power	Output	Ignition switch OFF or ACC After passing approximately 1 second or more after turning the ignition switch ON		0 V
(W)	Giound	supply	Output	For approximately 1 second after turning the ignition switch ON Engine running		Battery voltag
47				After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF Ignition switch ON For approximately 4 seconds after turning ignition switch from ON to OFF		0 V
(BR)	Ground	ECM relay power supply	Output			Battery voltage
48				after turning the igni	After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF Ignition switch ON For approximately 4 seconds after turning ignition switch from ON to OFF	
48 (R)	Ground	ECM relay power supply	Output	 For approximately 		

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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS INFORMATION > [WITHOUT INTELLIGENT KEY SYSTEM]

	nal No.	Description				Value								
+ (VVire	color)	Signal name	Input/ Output	(Condition	(Approx.)								
50	0	On alian for malay 5 and tall	0	Cooling fan opera- OFF		Battery voltage								
(G)	Ground	Cooling fan relay-5 control	Output	tion	MID or HI	0 - 1.0 V								
51					ximately 4 seconds or more tion switch from ON to OFF	Battery voltage								
(L)	Ground	ECM relay control	Output	Ignition switch ON For approximately tion switch from C	4 seconds after turning igni-	0 - 1.0 V								
52		Throttle control motor re-			ximately 2 seconds or more tion switch from ON to OFF	0 V								
(P)	Ground	lay power supply	Output	Ignition switch ON For approximately tion switch from C	2 seconds after turning igni-	Battery voltage								
				Engine stopped		0 V								
55			Output		A/C switch OFF	0 V								
(BG)	(=round \(\lambda \) (\(\text{relay} \) nower supply	Output		Output	Output	Juipui	Juipui	Juipui	Juipui	Output	Odipui	Output	Engine running	A/C switch ON (A/C compressor is operating)
56	Ground	Ignition switch ON	Input	Ignition switch OFF	or ACC	0 V								
(SB)	Giodila	Ignition switch ON	при	Ignition switch ON		Battery voltage								
57	Ground	Horn relay control	Output	The horn is not active	/ated	Battery voltage								
(V)	Orouna	Tioni relay control	Output	The horn is activated		0 V								
58	Ground	Ignition relay power supply	Output	Ignition switch OFF or ACC		0 V								
(LG)	Ground	igiliadir folay power cappiy	Output	Ignition switch ON		Battery voltage								
59	Ground	Ignition relay power supply	Output	Ignition switch OFF or ACC		0 V								
(BR)	Ground	- Ignition rolely position dapping - Output		Ignition switch ON		Battery voltage								
60	Ground	Ignition relay power supply	Output	Ignition switch OFF or ACC		0 V								
(SB)	2.303	3 pana. suppry		Ignition switch ON	Ignition switch ON									
61 (R)	Ground	ECM power supply	Output	Ignition switch OFF	Ignition switch OFF									

^{*1:} With daytime running light system

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^{*2:} With front fog lamp system

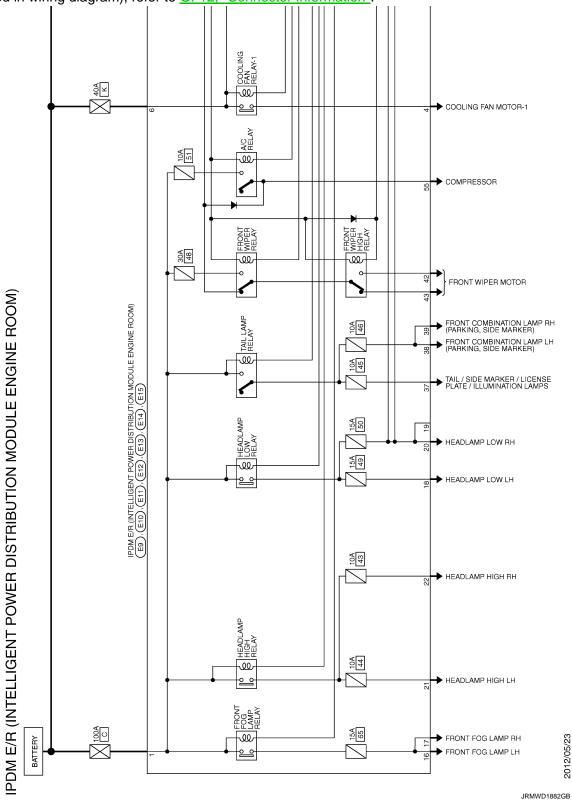
^{*3:} For Mexico

< ECU DIAGNOSIS INFORMATION >

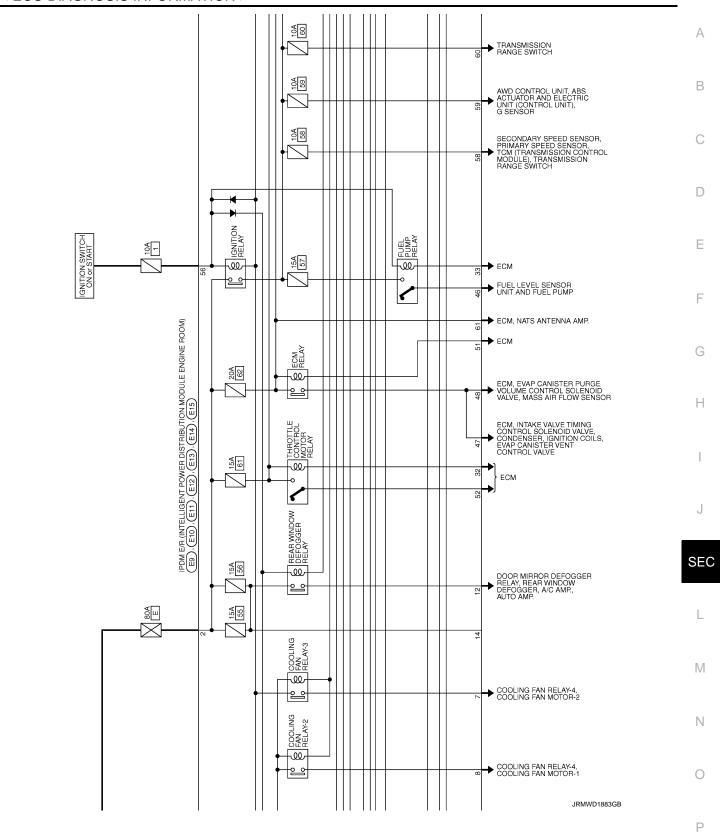
Wiring Diagram - IPDM E/R -

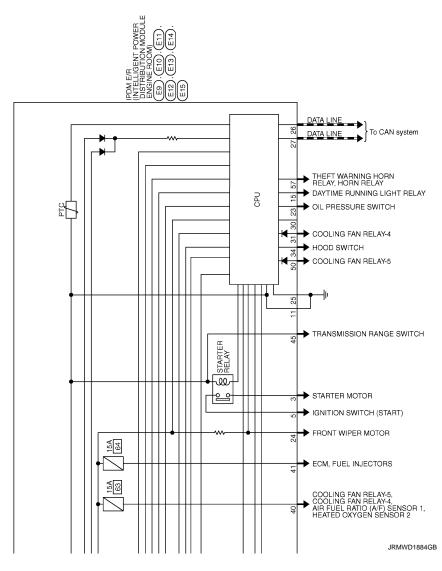
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For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



< ECU DIAGNOSIS INFORMATION >





Fail-safe INFOID:0000000008729070

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

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe in operation
Cooling fan	 The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn ON when the ignition switch is turned ON The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn OFF when the ignition switch is turned OFF Cooling fan relay-4 OFF
A/C compressor	A/C relay OFF

If no CAN communication is available with BCM

Control part	Fail-safe in operation
Headlamp	 The headlamp low relay turns ON when the ignition switch is turned ON The headlamp low relay turns OFF when the ignition switch is turned OFF Headlamp high relay OFF
Parking lampsLicense plate lampsTail lampsIlluminations	 The tail lamp relay and the daytime running light relay* turn ON when the ignition switch is turned ON The tail lamp relay and the daytime running light relay* turn OFF when the ignition switch is turned OFF
Front wiper	 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. The front 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.
Front fog lamps	Front fog lamp relay OFF
Starter motor	Starter relay OFF
Rear window defogger	Rear window defogger relay OFF
Horn	Horn relay OFF

NOTE:

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors status of ignition relay by the voltage at ignition relay contact circuit inside it.
- IPDM E/R judges that the ignition relay is error, if status of the ignition relay and ignition switch ON signal
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay and daytime running light relay* for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Detection		IPDM E/R judgment	Operation	
Ignition switch ON signal	Ignition relay	Tr Divi L/IX juaginient	Ореганоп	
ON	ON	Ignition relay normal	_	
OFF	OFF	Ignition relay normal	_	
OFF	ON	Ignition relay ON stuck	Turn on the tail lamp relay and daytime running light relay* for 10 minutes	
ON	OFF	Ignition relay OFF stuck	Detect DTC "B2099: IGN RELAY OFF"	

NOTE:

FRONT WIPER CONTROL

IPDM E/R detects the front wiper stop position with the front wiper stop position signal.

When the front wiper stop position signal is in the conditions listed below, IPDM E/R repeats a front wiper 10 seconds operation and 20 seconds stop five times.

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^{*:} With daytime running light system

^{*:} With daytime running light system

< 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	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.

DTC Index INFOID:0000000008729071

CONSULT display	Fail-safe	Timin	g ^{NOTE}	Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	PAST	PCS-13
B2099: IGN RELAY OFF	_	CRNT	PAST	PCS-14

NOTE:

The details of time display are as follows.

- CRNT: The malfunctions that are detected now.
- PAST: The number is indicated when it is normal at present and a malfunction was detected in the past.

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SECURITY CONTROL SYSTEM

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

SECURITY CONTROL SYSTEM

Symptom Table

Function	Operation condition	Symptom	Reference page
	Lock all doors with key fob	Vehicle security system can not be set	SEC-193
VEHICLE SECURITY	Ignition switch turn OFF	Security indicator does not turn ON or flash	SEC-192
SYSTEM	In the armed phase, open the door	Vehicle security alarm does not activate	SEC-194
	When alarm sound, press key fob button	Vehicle security system can not be canceled	SEC-195

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SECURITY INDICATOR DOES NOT TURN ON OR FLASH

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

SECURITY INDICATOR DOES NOT TURN ON OR FLASH

Description INFOID:000000008280034

NOTE:

• Before performing the diagnosis, check "Work Flow". Refer to SEC-126, "Work Flow".

Diagnosis Procedure

INFOID:0000000008280035

1. CHECK VEHICLE SECURITY INDICATOR

Check vehicle security indicator.

Refer to SEC-155, "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-46, "Intermittent Incident".

NO >> GO TO 1.

VEHICLE SECURITY SYSTEM CAN NOT BE SET

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

Р

VEHICLE SECURITY SYSTEM CAN NOT BE SET Α Description INFOID:0000000008280036 NOTE: В • Before performing the diagnosis, check "Work Flow". Refer to SEC-126, "Work Flow". Diagnosis Procedure INFOID:0000000008280037 C 1. CHECK DOOR LOCK FUNCTION Check door lock function. D Refer to DLK-254, "System Description". s the inspection result normal? YES >> GO TO 2. Е NO >> Refer to DLK-250, "Work Flow". 2.CONFIRM THE OPERATION Confirm the operation again. F Is the result normal? YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident". NO >> GO TO 1. Н J SEC M Ν

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VEHICLE SECURITY ALARM DOES NOT ACTIVATE

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description INFOID:000000008280038

NOTE:

• Before performing the diagnosis, check "Work Flow". Refer to SEC-126, "Work Flow".

Diagnosis Procedure

INFOID:0000000008280039

1. CHECK DOOR SWITCH

Check door switch.

Refer to SEC-150, "Component Function Check".

Is the inspection results normal?

YES >> GO TO 2.

NO >> Repair or replace malfunction part.

2.check horn

Check horn.

Refer to SEC-154, "Component Function Check".

Is the inspection results normal?

YES >> GO TO 3.

NO >> Repair or replace malfunction part.

3.CHECK HEADLAMP OPERATION

Check headlamp operation by lighting switch.

Does headlamp come on when turning switch ON?

YES >> GO TO 4.

NO >> Check headlamp system. Refer to <u>EXL-6, "Work Flow"</u>. (XENON type), Refer to <u>EXL-122, "Work Flow"</u>. (HALOGEN type)

4. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident".

NO >> GO TO 1.

VEHICLE SECURITY SYSTEM CAN NOT CANCELED

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

Р

VEHICLE SECURITY SYSTEM CAN NOT CANCELED Α Description INFOID:0000000008280040 NOTE: В • Before performing the diagnosis, check "Work Flow". Refer to SEC-126, "Work Flow". Diagnosis Procedure INFOID:0000000008280041 1. CHECK MULTI REMOTE CONTROL SYSTEM Check multi remote control system. D Refer to DLK-259, "System Description". Is the inspection result normal? YFS >> GO TO 2. Е NO >> Check Work Flow. Refer to SEC-126, "Work Flow". 2.CONFIRM THE OPERATION Confirm the operation again. F Is the result normal? YES >> Check intermittent incident. Refer to GI-46, "Intermittent Incident". NO >> GO TO 1. Н J SEC M Ν

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PRECAUTION

PRECAUTIONS FOR USA AND CANADA

FOR USA AND CANADA: 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:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the
 ignition ON or engine running, never 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.

FOR MEXICO

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

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

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:

PRECAUTIONS

< PRECAUTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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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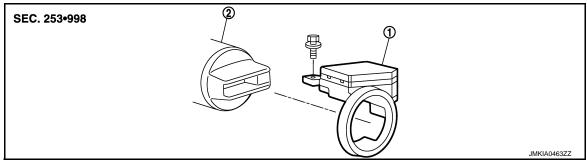
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REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Exploded View

INFOID:0000000008280044



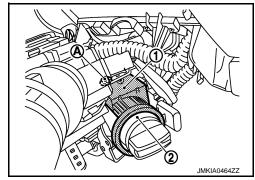
- 1. NATS antenna amp.
- 2. Steering lock assembly

Removal and Installation

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REMOVAL

- Remove the steering column cover. Refer to <u>IP-14</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.