SECURITY CONTROL SYSTEM

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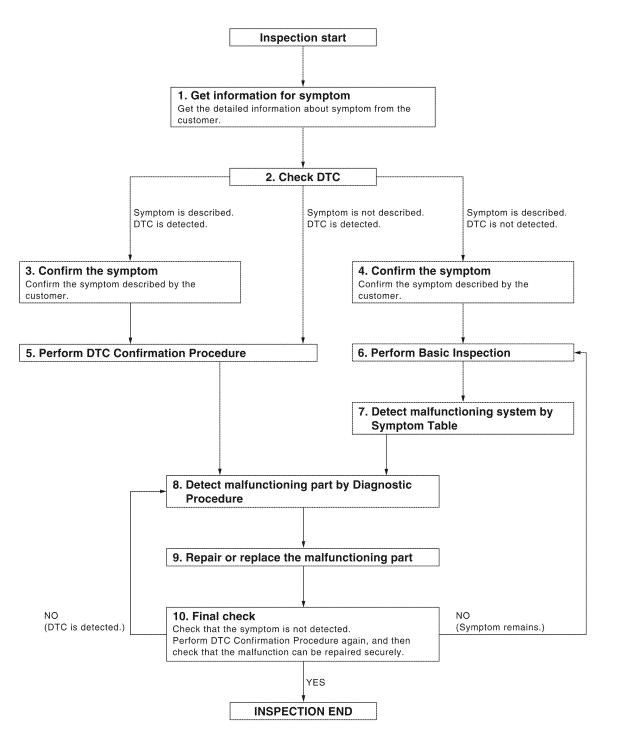
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000004917271 В

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

Is any symptom described and any DTC detected?

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

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

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

3.confirm the symptom

Confirm the symptom described by the customer.

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

>> GO TO 5.

4. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

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

>> GO TO 6.

5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. If two or more DTCs are detected, refer to <u>SEC-103</u>, "<u>DTC Inspection Priority Chart</u>" (Intelligent Key unit), SEC-86, "DTC Inspection Priority Chart" (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 8.

NO >> Refer to GI-38, "Intermittent Incident".

6.PERFORM BASIC INSPECTION

Perform Basic Inspection. Refer to SEC-8, "Basic Inspection".

>> GO TO 7.

7.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

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

>> GO TO 8

8. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

NOTE:

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

>> GO TO 9.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

$9.\mathsf{REPAIR}$ OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 10.

10. FINAL CHECK

When DTC was detected in step 9, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunctions have been fully repaired.

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

Does the symptom reappear?

YES (DTC is detected)>>GO TO 8.

YES (Symptom remains)>>GO TO 6.

NO >> Inspection End.

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[WITH INTELLIGENT KEY SYSTEM]

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection INFOID:0000000004917357

The engine start function, door lock function, power distribution system and NATS-IVIS/NMS in the Intelligent Key system are closely related to each other regarding control. Narrow down the functional area in question by performing basic inspection to identify which function is malfunctioning. The vehicle security function can operate only when the door lock and power distribution system are operating normally. Therefore, it is easy to identify any factor unique to the vehicle security system by performing the vehicle security operation check after basic inspection.

1. CHECK DOOR LOCK OPERATION

- Check the door lock for normal operation with the Intelligent Key controller and door request switch.
- Successful door lock operation with the Intelligent Key and request SW indicates that the remote keyless entry receiver and inside key antenna required for engine start are functioning normally.
- Identify the malfunctioning point by referring to the DLK section if the door cannot be unlocked.

Can the door be locked with the Intelligent Key and door request switch?

YES >> GO TO 2.

NO >> Refer to DLK-208, "Symptom Table".

2.CHECK ENGINE STARTING

Checks that the engine starts when operating the Intelligent Key.

Does the engine start?

YFS >> GO TO 3.

NO >> Refer to SEC-112, "Symptom Table".

3.check steering locking

- Does the steering lock when operating door switch after switching the power supply from ON position (or ACC position) to LOCK position?
- If door switch is malfunctioning, BCM cannot lock the steering. If BCM does not detect DTC, steering lock solenoid is normal.

Does steering lock?

YES >> GO TO 4.

>> Refer to DLK-100, "Diagnosis Procedure". NO

f 4.CHECK IGNITION KNOB SWITCH OPERATION

Press ignition knob switch to check switch operation.

Does the combination meter display any message?

YES >> GO TO 5.

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

${f 5.}$ CHECK VEHICLE SECURITY SYSTEM

- Check the vehicle security system for normal operation.
- The vehicle security function can operate only when the door lock and power distribution functions are operating normally. Therefore, it is easy to identify any factor unique to the vehicle security by performing the vehicle security operation check after this basic inspection.
 - >> Go to SEC-8, "Vehicle Security Operation Check".

Vehicle Security Operation Check

INFOID:0000000004917358

1.INSPECTION START

Turn ignition switch "OFF".

NOTE:

Before starting operation check, open front windows.

>> GO TO 2

PRE-INSPECTION FOR DIAGNOSTIC

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

2. CHECK SECURITY INDICATOR LAMP

1. Lock doors using Intelligent Key or mechanical key.

2. Check that security indicator lamp illuminates for 30 seconds.

Security indicator lamp should illuminate.

YES >> GO TO 3

NO >> Perform diagnosis and repair. Refer to <u>SEC-56</u>, "<u>Diagnosis Procedure</u>".

3. CHECK ALARM FUNCTION

1. After 30 seconds, security indicator lamp will start to blink.

2. Open any door before unlocking with Intelligent Key or mechanical key, or open back door or glass hatch without the presence of Intelligent Key.

Does the alarm function properly?

YES >> GO TO 4

NO >> Check the following.

- The vehicle security system does not phase in alarm mode. Refer to <u>SEC-112, "Symptom Table"</u>.
- Alarm (horn and headlamps) does not operate. Refer to <u>SEC-112, "Symptom Table"</u>.

4. CHECK ALARM CANCEL OPERATION

Unlock any door using Intelligent Key or mechanical key.

Alarm (horn and headlamps) should stop.

YES >> Inspection End.

NO >> Check door lock function. Refer to <u>SEC-113</u>, "Symptom Table".

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

INSPECTION AND ADJUSTMENT ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Requirement

Refer to the CONSULT-III Operation Manual-NATS.

ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION: Description

INFOID:0000000004917273

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

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

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

NOTE:

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

ECM RE-COMMUNICATING FUNCTION: Special Repair Requirement

INFOID:0000000004917274

1.PERFORM ECM RE-COMMUNICATING FUNCTION

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

Can engine be started?

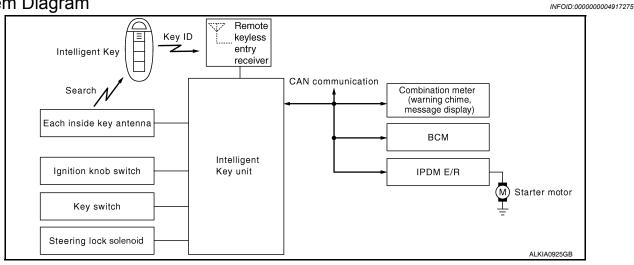
YES >> Procedure is completed.

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

FUNCTION DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram



System Description

INFOID:0000000004917276

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)	Engine start function	KEY warning lamp/buzzer
Ignition knob switch	Ignition knob (push/release)		Steering lock unit Starter relay request (to IPDM E/R)
Steering lock unit	Steering lock (lock/unlock)		Inside key antenna (Front and rear center console, overhead console, luggage area)
Inside key antenna (Front and rear center console, over- head console, luggage area)	Intelligent key (inside antenna detection area or not.)		Key interlock solenoid
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
BCM			
Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal

SYSTEM DESCRIPTION

Key switch

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:

Engine start function

The driver should carry the Intelligent Key at all times.

Brake

(press/release)

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Inside key antenna

(Front and rear center console, over-

head console, luggage area)

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- Intelligent Key has 2 IDs (for Intelligent Key and for NATS). It can perform the door lock/unlock operation and the engine start operation when the registered Intelligent Key is carried.
- 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 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-22, "COMMON ITEM: CONSULT-III Function (BCM COMMON ITEM)"</u> for any functions
 other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

• For vehicles equipped with the Intelligent Key system, the transponder [the chip for NATS ID verification] is integrated into the Intelligent Key. Therefore, the Intelligent Key alone is capable of providing security clearance for the engine to start. Also, when the mechanical key alone is inserted into the key cylinder, performs the NATS ID verification to allow the engine to start. For vehicles without Intelligent Key system, the transponder is integrated into the mechanical key which must be inserted into the key cylinder to perform the NATS ID verification to allow the engine to start.

OPERATION WHEN INTELLIGENT KEY IS CARRIED

- 1. When the ignition knob switch is ON, the Intelligent Key unit transmits the request signal to the Intelligent Key.
- 2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the Intelligent Key unit.
- 3. The Intelligent Key unit receives the Intelligent Key ID signal and verifies it with the registered ID.
- 4. Intelligent Key unit transmits the steering lock/unlock signal to steering lock unit if the verification results are OK. For detail of key warning lamp operation, refer to <u>DLK-116</u>, "<u>Diagnosis Procedure</u>".
- 5. 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.
- 8. 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 "NO KEY" warning message will be displayed in the combination meter. 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 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 LOCK position (the ignition knob is released) and key switch is OFF (key is removed from ignition key cylinder).

Component Parts Location

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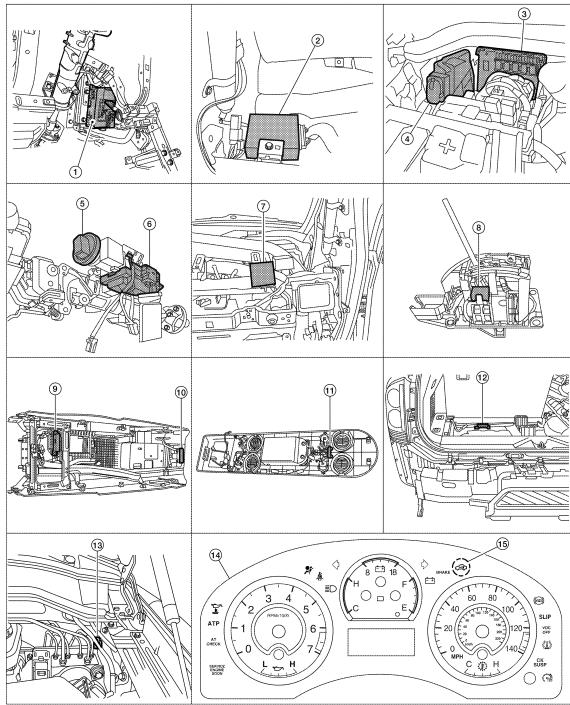
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- BCM M18, M20 (view with instrument panel LH removed)
- 4. ECM E16
- Remote keyless entry receiver M25 (view with instrument panel RH removed)
- Intelligent Key unit M70 (view with instrument panel LH removed)
- Key switch and ignition knob switch M12 6. (view with steering column removed)
- A/T shift selector (park position switch)
 M203
 (view with center console removed)
- 3. IPDM E/R E119, E120, E122, E124
 - Steering lock solenoid M15
- Center console area antenna (front) M210 (view with center console removed)

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

- 10. Center console area antenna (rear)
 - M209 (view with center console removed)
- 13. Intelligent Key warning buzzer E25
- 11. Overhead console area antenna R210 (view with overhead console removed)
- 12. Luggage area B76 (view with rear carpet removed)
- 14. Combination meter M24 15. Vehicle security indicator lamp

Component Description

INFOID:0000000004917278

Item	Function
Intelligent Key unit	Receives lock/unlock signal from remote keyless entry receiver, and then transmits to BCM.
BCM	Verifies the received signal from Intelligent Key, then informs ECM whether to allow engine start.
Remote keyless entry receiver	Receives lock/unlock signal from the Intelligent Key, and then transmits to Intelligent Key unit.
Intelligent Key	Transmits button operation to remote keyless entry receiver.
Steering lock solenoid	Locks the steering wheel when the ignition key is off and the Intelligent Key is outside the vehicle.
Inside key antenna	Detects if Intelligent Key is inside the vehicle.
Intelligent Key warning buzzer	Warns the user of the lock/unlock condition and inappropriate operations with the buzzer sound.
A/T shift selector (park position switch)	Detects whether the shift lever is in park.

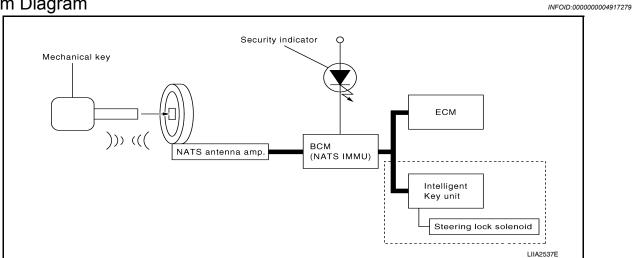
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< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram



System Description

INFOID:0000000004917280

INPUT/OUTPUT SIGNAL CHART

Intelligent Key Unit

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal
Ignition knob switch	Ignition knob (push/release)	NATS	
Key switch	Mechanical key (Insert/remove)		Steering lock solenoid
Steering lock solenoid	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	NATS	Security indicator lamp
ECM	Engine status signal		Starter request

SYSTEM DESCRIPTION

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

- Engine immobilizer shows high anti-theft performance to prevent engine from starting by other than the
- Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- · Security indicator always flashes with mechanical key removed condition (key switch: OFF) and ignition knob released condition on LOCK position (ignition knob switch: OFF).
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system. Refer to SEC-19. "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 4 keys.
- During trouble diagnosis or when the following parts have been replaced, and if mechanical key is added, registration* is required.
 - *1: All keys kept by the owner of the vehicle should be registered with mechanical key.
- ECM
- BCM

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- Mechanical key
- Intelligent Key unit
- Remote keyless entry receiver
- Steering lock solenoid
- NATS trouble diagnosis, system initialization and additional registration of other mechanical key IDs must be carried out using CONSULT-III.
 - When NATS initialization has been completed, the ID of the inserted mechanical key or mechanical key IDs can be carried out.
- Possible symptom of NATS malfunction is "Engine cannot start". Identify the possible causes according to "Work Flow", Refer to <u>SEC-5</u>, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-10, "ECM RE-COMMUNICATING FUNCTION: Description".

PRECAUTIONS FOR KEY REGISTRATION

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

SECURITY INDICATOR

- Always flashes with ignition knob released (ignition knob switch: LOCK) condition on ignition knob LOCK position.
- Always flashes with ignition knob released (ignition knob switch: LOCK) condition on mechanical key removed position.

MAINTENANCE INFORMATION

CAUTION:

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

- · Intelligent Key unit
- BCM
- ECM
- Mechanical key
- Steering lock solenoid
- NATS antenna amp.

Component Parts Location

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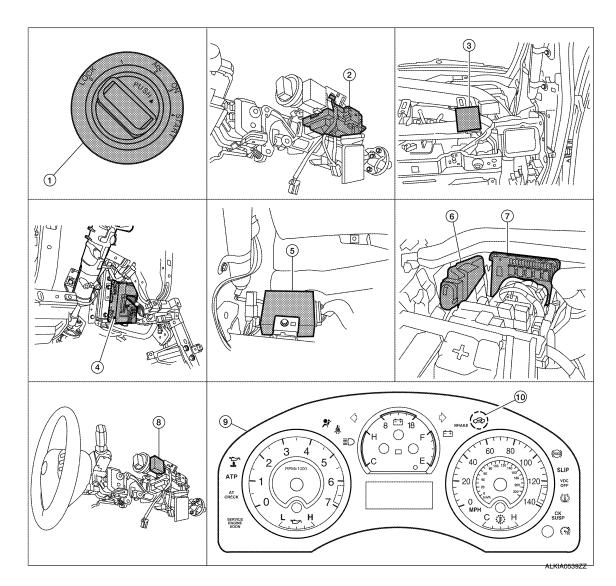
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- 1. Key switch and ignition knob switch M12
- Steering lock solenoid M15 (view with steering column removed)
- Remote keyless entry receiver M25 (view with instrument panel RH removed)

- 4. BCM M18, M20 (view with instrument panel LH removed)
- Intelligent Key unit M70 (view with instrument panel LH removed)

NATS antenna amp. M21

9. Combination meter M24

ECM E16

- IPDM E/R E119, E120, E121, E122, E124 8. (view with cover removed)
- 10. Security indicator lamp

Component Description

INFOID:0000000004917282

Item	Function
Intelligent Key unit	Receives lock/unlock signal from remote keyless entry receiver, and then transmits to BCM.
BCM	Controls the door lock function and room lamp function.
Remote keyless entry receiver	Receives lock/unlock signal from the Intelligent Key, and then transmits to Intelligent Key unit.
Intelligent Key	Transmits button operation to remote keyless entry receiver.
Steering lock solenoid	Locks the steering wheel when the ignition key is off and the Intelligent Key is outside the vehicle.

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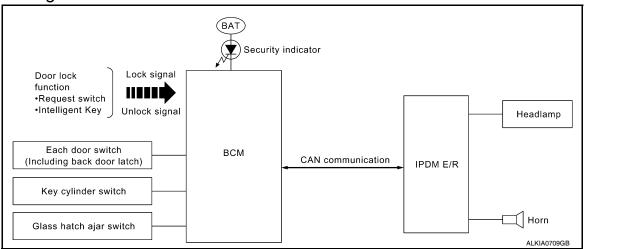
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) OIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

< FUNCTION DIAGNOSIS >

Item	Function
Inside key antenna	Detects if Intelligent Key is inside the vehicle.
Intelligent Key warning buzzer	Warns the user of the lock/unlock condition and inappropriate operations with the buzzer sound.
Ignition knob switch	Monitors the status of the ignition knob switch.
NATS antenna amp.	Detects the mechanical key presence in the ignition key cylinder.
Security indicator	Indicates the status of the security system.
IPDM E/R	Monitors the ignition switch and the park switch signal from the TCM.

VEHICLE SECURITY SYSTEM

System Diagram



System Description

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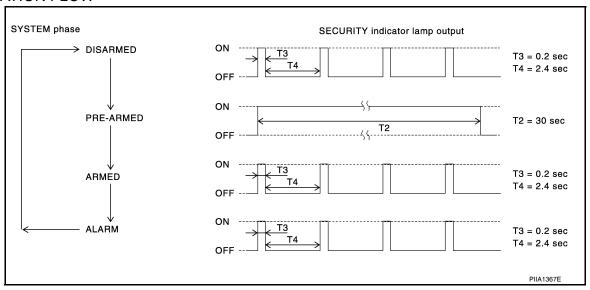
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DESCRIPTION

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

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

OPERATION FLOW



Disarmed Phase

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

Pre-Armed Phase And Armed Phase

The vehicle security system turns into the pre-armed phase when ignition switch is in OFF position, all doors are closed and locked (using Intelligent Key, door request switch or auto relock function). The system automatically shifts into the armed phase.

Condition of Activating The System

When the following condition is performed in armed phase, the system sounds the horns and flashes the headlamps for about 45 seconds.

· Any door is opened.

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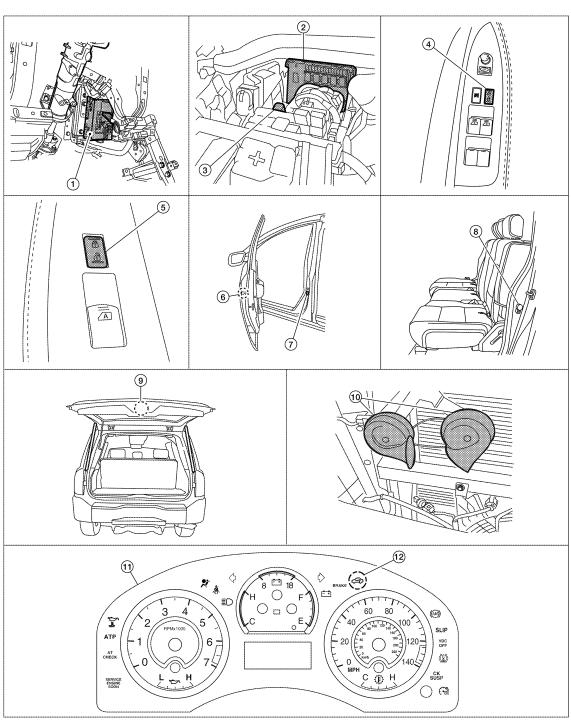
Condition of Deactivating The System

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

- Unlock the doors with Intelligent Key or door request switch.
- Use the mechanical key to unlock the driver door using the door key cylinder.

Component Parts Location

INFOID:0000000004917285



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- BCM M18, M19, M20 (view with instrument panel LH removed)
- 4. Main power window and door lock/ unlock switch D7, D8
- 2. IPDM E/R E122, E124 (view with cover removed)
- Power window and door lock/unlock switch RH D105
- 3. Horn relay H-1
- Front door lock assembly LH (key cylinder switch) D14

VEHICLE SECURITY SYSTEM

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- 7. Front door switch LH B8 RH B108
- 10. Horn E3 (view with front grille removed)
- 8. Rear door switch LH B18 RH B116
- 11. Combination meter M24
- 9. Back door latch (door ajar switch) D503 Glass hatch ajar switch D707
- 12. Security indicator lamp

Component Description

INFOID:0000000004917286

Item	Function
BCM	Controls the door lock function and room lamp function.
Door switch	Provides the BCM with the status of each monitored door.
Security indicator	Indicates the status of the security system.
IPDM E/R	Controls the horn and headlamp operation.
Horn	Sounds when the vehicle security system is triggered.

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DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000005215825

APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to BCS-55, "DTC Index".
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	 Enables to read and save the vehicle specification. Enables to write the vehicle specification when replacing 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.

System	Sub system selection item	Diagnosis mode		
System		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
BCM	BCM	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system*	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
RAP (retained accessory power)	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
TPMS (tire pressure monitoring system)	AIR PRESSURE MONITOR	×	×	×
Vehicle security system	THEFT ALM	×	×	×
Panic alarm system	PANIC ALARM			×

^{*:} With Intelligent Key

IMMU

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

IMMU: CONSULT-III Function (BCM - IMMU)

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DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [ON/OFF]	Indicates 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-III Function (BCM - PANIC ALARM)

INFOID:0000000005215827

ACTIVE TEST

Test Item	Description
HEAD LAMP (HI)	This test is able to check head lamp (HI) operation.
PANIC ALARM	This test is able to check panic alarm operation.

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DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

CONSULT-III Function (INTELLIGENT KEY)

INFOID:0000000005280043

APPLICATION ITEM

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

Diagnosis mode	Function Description	
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.	

SELF-DIAG RESULT

Refer to DLK-194, "DTC Index".

DATA MONITOR

Monitor Item	Condition
PUSH SW	Indicates [ON (pushed)/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	This item is shown but not monitored.
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] position of shift lever park position switch.
BD OPEN SW	This item is shown but not monitored.
TR CANCEL SW	This item is shown 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 shown but not monitored.
KEYLESS PANIC	Indicates [ON (pressed)/OFF (released)] condition of Intelligent Key panic button.
KEYLS PSD LH	This item is shown but not monitored.
KEYLS PSD RH	This item is shown but not monitored.
KEYLS PBD SIG	Indicates [ON (pressed)/OFF (released)] condition of Intelligent Key back door button.
DOOR SW DR	Indicates [OPEN/CLOSE] condition of front door switch (driver side) from BCM via CAN 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 communication.
TRUNK SW	This item is shown but not monitored.
VEHICLE SPEED	Displays the vehicle speed signal received from combination meter by numerical value [km/h].

ACTIVE TEST

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Test item	Description	Δ
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.	В
ANITENNA	 This test is able to check Intelligent Key antenna operation. When the following condition are met, hazard warning lamps flash. ROOM ANT1: Center console area antenna (rear) and luggage area antenna detect Intelligent Key, when "ROOM ANT1" is selected. ROOM ANT2: Center console area antenna (front) and overhead console area antenna detect Intelligent 	С
ANTENNA	 Key, when "ROOM ANT2" is selected. LUG ANT: This selection is not used. DR ANT: Outside key antenna (driver side) detects Intelligent Key, when "DR ANT" is selected. AS ANT: Outside key antenna (passenger side) detects Intelligent Key, when "AS ANT" is selected. BK DR ANT: Outside key antenna (rear bumper) detects Intelligent Key, when "BK DR ANT" is selected. 	E
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. ON OFF	F
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.	G

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U1000 CAN COMM CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000004917291

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

DTC Logic (INFOID:000000004917292

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When Intelligent Key unit cannot communicate CAN communication signal continuously for 2 seconds or more.	In CAN communication system, any item (or items) of the following listed below is malfunctioning. Transmission Receiving (BCM) Receiving (ECM) Receiving (METER/M&A)

Diagnosis Procedure

INFOID:0000000004917293

1.PERFORM SELF DIAGNOSTIC

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

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-5, "CAN Communication Control Circuit".

NO >> Refer to GI-38, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

U1010 CONTROL UNIT (CAN)

Description INFOID:0000000004917294

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-46, "CAN Communication Signal Chart".

D DTC Logic INFOID:0000000004917295

DTC DETECTION LOGIC

DTC	CONSULT-III 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	F

Diagnosis Procedure

1. REPLACE INTELLIGENT KEY UNIT

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

>> Replace Intelligent Key unit. Refer to SEC-117, "Removal and Installation".

Special Repair Requirement

1. REQUIRED WORK WHEN REPLACING INTELLIGENT KEY UNIT

Initialize control unit. Refer to CONSULT-III Operation Manual.

>> Inspection End.

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B2013 STRG COMM 1

Description INFOID:000000004917298

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

DTC Logic INFOID:000000004917299

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.	Steering lock solenoid

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- Press the ignition knob switch.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

YES >> Refer to <u>SEC-28, "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>SEC-91, "Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -"</u>.

1. PERFORM INITIALIZATION

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

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

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

YES >> Steering lock solenoid was unregistered.

NO >> GO TO 2

2.CHECK STEERING LOCK SOLENOID POWER SUPPLY-1

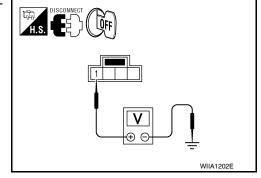
- Turn ignition switch OFF.
- Disconnect steering lock solenoid connector.
- Check voltage between steering lock solenoid harness connector and ground.

Ter			
(+)			Voltage (V)
Steering lock solenoid con- nector	(–)	(Approx.)	
M15	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.



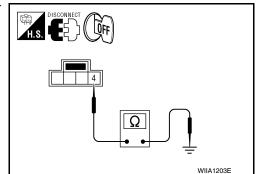
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< COMPONENT DIAGNOSIS >

$\overline{3}$.check steering lock solenoid ground circuit

Check continuity between steering lock solenoid harness connector and ground.

Ter			
(+)		Continuity	
Steering lock solenoid con- nector Terminal		(–)	, , ,
M15 4		Ground	Yes



Is the inspection result normal?

YES >> GO TO 4

>> Repair or replace harness. NO

f 4.CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUITS

Disconnect Intelligent Key unit connector.

2. Check continuity between steering lock solenoid connector (A) M15 terminals 2, 3 and Intelligent Key unit connector (B) M70 terminals 1, 32.

	Term	inals		
Steering lock sole- noid connector	Terminal	Intelligent Key unit connector	Terminal	Continuity
M15	2	M70	1	Yes
WITO	3	IVI7O	32	163

В 2,3 WIIA1206E

Check continuity between steering lock solenoid connector (A) M15 terminals 2, 3 and ground.

Terminals			Continuity	
Steering lock solenoid connector	Terminals		Continuity	
M15	2	Ground	No	
WITS	3	Ground	NO	

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.

${f 5}$.CHECK INTELLIGENT KEY UNIT POWER SUPPLY-2

Connect Intelligent Key unit connector.

Check voltage between Intelligent Key unit harness connector and ground.

Terr	V 14 0.0		
(+)	(-)	Voltage (V) (Approx.)	
Intelligent Key unit connector		, , ,	
M70	1	Ground	5

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Is the inspection result normal?

YES >> GO TO 6

NO >> Replace Intelligent Key unit. Refer to <u>SEC-117</u>, "Removal and Installation".

6.check steering lock solenoid communication circuit

Connect steering lock solenoid connector.

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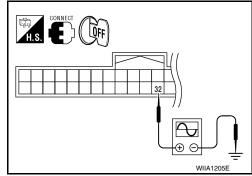
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[WITH INTELLIGENT KEY SYSTEM]

2. Using an oscilloscope, check voltage between Intelligent Key unit connector and ground.



	Terminals				
(+)				Condition	Voltage (V)
Intelligent Key unit connector	Terminal	(-)			(Approx.)
				Ignition knob is pushed	(V) 6 4 2 0 2 ms
				LOCK status	5
M70	32	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 >> Replace Steering lock solenoid.

NO >> Replace Intelligent Key unit. Refer to <u>SEC-117</u>, "Removal and Installation".

B2190 NATS ANTENNA AMP.

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[WITH INTELLIGENT KEY SYSTEM]

B2190 NATS ANTENNA AMP.

Description INFOID:0000000004917301

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 mechanical key is used.

DTC Logic INFOID:0000000004917302

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190	NATS ANTENNA AMP	Inactive communication between NATS antenna amp. and BCM. Mechanical key is malfunctioning.	 Harness or connectors (The NATS antenna amp. circuit is open or shorted) Mechanical key NATS antenna amp. BCM

DTC CONFIRMATION PROCEDURE

${f 1}$.PERFORM DTC CONFIRMATION PROCEDURE

- Insert mechanical key into the key cylinder.
- Press the ignition knob switch.
- Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-78, "Wiring Diagram - NVIS".

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-17, "Component Parts Location".

Is the inspection result normal?

YES >> GO TO 2

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

YES >> • Ignition key ID chip is malfunctioning.

- Replace the ignition key.
- · Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

NO >> GO TO 3

3.CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

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

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B2190 NATS ANTENNA AMP.

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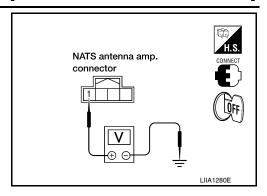
[WITH INTELLIGENT KEY SYSTEM]

1 - Ground : Battery voltage

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace fuse or harness.



4. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

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

3 - Ground : Continuity should exist.

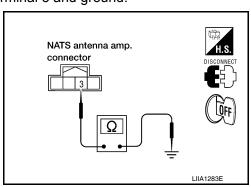
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

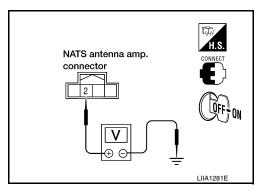
NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60</u>, <u>"Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".



5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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



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

Is the inspection result normal?

YES >> GO TO 6

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60, "Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

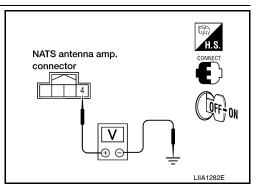
B2190 NATS ANTENNA AMP.

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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



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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to BCS-60, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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B2191 DIFFERENCE OF KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2191 DIFFERENCE OF KEY

Description INFOID:000000004917304

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
B2191	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 the key cylinder.
- 2. Press the ignition knob switch.
- 3. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004917306

1.PERFORM INITIALIZATION

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

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

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

YES >> Mechanical key was unregistered.

NO >> BCM is malfunctioning.

- Replace BCM. Refer to BCS-60, "Removal and Installation".
- · Perform initialization again

B2192 ID DISCORD, IMMU-ECM

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2192 ID DISCORD. IMMU-ECM

Description INFOID:0000000004917307

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:0000000004917308

DTC DETECTION LOGIC

NOTE:

 If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26. "DTC Logic".

 If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

${f 1}$. PERFORM INITIALIZATION

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

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

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

>> ID was unregistered. YES

NO >> GO TO 2

2.PEPLACE BCM

- Replace BCM. Refer to BCS-60, "Removal and Installation".
- Perform initialization with CONSULT-III. Re-register all mechanical keys. For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

>> BCM is malfunctioning. YES

NO >> GO TO 3

3.PEPLACE ECM

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

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

YES >> ECM is malfunctioning.

NO >> GO TO 4

4.CHECK INTERMITENT INCIDENT

Refer to GI-38, "Intermittent Incident".

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B2192 ID DISCORD, IMMU-ECM

[WITH INTELLIGENT KEY SYSTEM]

>> Inspection End

B2193 CHAIN OF ECM-IMMU

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2193 CHAIN OF ECM-IMMU

Description INFOID:0000000004917310

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:0000000004917311

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

NO >> Inspection End

Diagnosis Procedure

INFOID:0000000004917312

1.REPLACE BCM

- Replace BCM. Refer to BCS-60, "Removal and Installation".
- Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

Does the engine start?

YES >> BCM was malfunctioning.

>> ECM is malfunctioning. NO

- Replace ECM.
- Perform ECM re-communicating function.

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SEC-37 2010 Armada Revision: April 2009

B2194 ID DISCORD IMMU-I-KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2194 ID DISCORD IMMU-I-KEY

Description INFOID:0000000004917313

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

DTC Logic INFOID:0000000004917314

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2194	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

${f 1}$.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

>> Inspection End. NO

Diagnosis Procedure

INFOID:0000000004917315

1.PERFORM INITIALIZATION

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

Is DTC detected?

YES >> GO TO 2

NO >> ID was unregistered.

2.REPLACE BCM

- Turn ignition switch OFF.
- Replace BCM. Refer to <u>BCS-60</u>, "Removal and Installation". Perform initialization with CONSULT-III. Re-register all mechanical keys. For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

Can the system be initialized and can the engine be started?

YES >> BCM is malfunctioning.

NO >> GO TO 3

3.check intermittent incident

Refer to GI-38, "Intermittent Incident".

>> Inspection End.

B2552 INTELLIGENT KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2552 INTELLIGENT KEY

Description INFOID:0000000004917316

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

DTC Logic INFOID:0000000004917317

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2552	INTELLIGENT KEY UNIT	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-III.

Is DTC detected?

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

>> Inspection End. NO

Diagnosis Procedure

1. REPLACE INTELLIGENT KEY UNIT

- Replace Intelligent Key unit. Refer to SEC-117, "Removal and Installation".
- Perform initialization with CONSULT-III. Re-register all mechanical keys. Refer to "CONSULT-III Operation Manual".
- Start the engine.

Does the engine start?

YES >> Inspection End.

NO >> Perform "DTC confirmation procedure". Refer to SEC-39, "DTC Logic".

Special Repair Requirement

1. REQUIRED WORK WHEN REPLACING INTELLIGENT KEY UNIT

Initialize control unit. Refer to CONSULT-III Operation Manual.

>> Inspection End.

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B2590 ID DISCORD BCM-I-KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2590 ID DISCORD BCM-I-KEY

Description INFOID:000000004917320

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-26, "DTC Logic".
- If DTC B2590 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-27</u>, "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-III.

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004917322

1.PERFORM INITIALIZATION

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

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

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

YES >> ID was unregistered.

NO

- >> BCM is malfunctioning.
 - Replace BCM. Refer to BCS-60, "Removal and Installation".
 - · Perform initialization again

P1610 LOCK MODE

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1610 LOCK MODE

Description INFOID:0000000004917323

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

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

DTC Logic INFOID:0000000004917324

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
P1610	LOCK MODE	When the starting operation is carried out five or more times consecutively under the following conditions. Unregistered mechanical key BCM or ECM's malfunctioning.	_	

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

1. CHECK ENGINE START FUNCTION

- Perform the check for DTC except DTC P1610.
- Use CONSULT-III to erase DTC after fixing.
- 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-38, "Intermittent Incident".

>> Inspection End.

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[WITH INTELLIGENT KEY SYSTEM]

P1611 ID DISCORD, IMMU-ECM

Description INFOID:000000005190299

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-132, "DTC Logic".
- If DTC P1611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-133, "DTC Logic"</u>.

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-III.

Is DTC detected?

YES >> Refer to <u>SEC-42</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000005190301

1.PERFORM INITIALIZATION

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

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

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

YES >> ID was unregistered.

NO >> GO TO 2

2.PEPLACE BCM

- 1. Replace BCM. Refer to BCS-60, "Removal and Installation".
- Perform initialization with CONSULT-III. Re-register all mechanical keys.For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

YES >> BCM is malfunctioning.

NO >> GO TO 3

3.PEPLACE ECM

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

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

YES >> ECM is malfunctioning.

NO >> GO TO 4

4. CHECK INTERMITENT INCIDENT

Refer to GI-38, "Intermittent Incident".

P1611 ID DISCORD, IMMU-ECM

[WITH INTELLIGENT KEY SYSTEM]

Α >> Inspection End. В С D Е F G Н SEC L \mathbb{N} Ν

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P1612 CHAIN OF ECM-IMMU

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1612 CHAIN OF ECM-IMMU

Description INFOID:000000005190302

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 <u>SEC-132, "DTC Logic"</u>.
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-133, "DTC Logic"</u>.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000005190304

1.REPLACE BCM

- 1. Replace BCM. Refer to BCS-60, "Removal and Installation".
- Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

Does the engine start?

YES >> BCM was malfunctioning.

NO >> ECM is malfunctioning.

- · Replace ECM.
- · Perform ECM re-communicating function.

P1614 CHAIN OF IMMU-KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1614 CHAIN OF IMMU-KEY

Description INFOID:000000005190291

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 mechanical key is used.

DTC Logic INFOID:0000000005190292

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1614	CHAIN OF IMMU- KEY	Inactive communication between NATS antenna amp. and BCM. Mechanical key is malfunctioning.	Harness or connectors (The NATS antenna amp. circuit is open or shorted) Mechanical key NATS antenna amp. BCM

DTC CONFIRMATION PROCEDURE

${f 1}$.PERFORM DTC CONFIRMATION PROCEDURE

- Insert mechanical key into the key cylinder.
- Press the ignition knob switch.
- Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-78, "Wiring Diagram - NVIS".

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-17, "Component Parts Location".

Is the inspection result normal?

YES >> GO TO 2

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

YES >> • Ignition key ID chip is malfunctioning.

- Replace the ignition key.
- · Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

NO >> GO TO 3

3.CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

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

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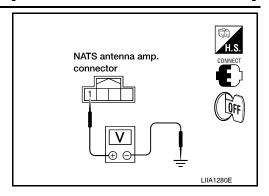
[WITH INTELLIGENT KEY SYSTEM]

1 - Ground : Battery voltage

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace fuse or harness.



4. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

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

3 - Ground : Continuity should exist.

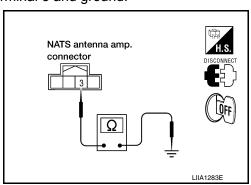
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

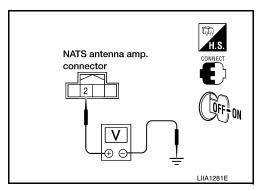
NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60</u>, <u>"Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".



5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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



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

Is the inspection result normal?

YES >> GO TO 6

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60, "Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

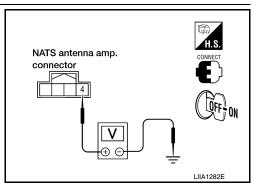
P1614 CHAIN OF IMMU-KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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



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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to BCS-60, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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P1615 DIFFRENCE OF KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1615 DIFFRENCE OF KEY

Description INFOID:000000005190308

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 the key cylinder.
- 2. Press the ignition knob switch.
- 3. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

YES >> Refer to <u>SEC-48</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000005190307

1.PERFORM INITIALIZATION

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

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

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

YES >> Mechanical key was unregistered.

NO >> BCM is malfunctioning.

- Replace BCM. Refer to BCS-60, "Removal and Installation".
- · Perform initialization again

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT INTELLIGENT KEY UNIT

INTELLIGENT KEY UNIT: Diagnosis Procedure

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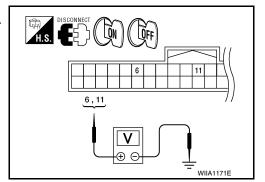
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Regarding Wiring Diagram information, refer to <u>SEC-91, "Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -"</u>.

1. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect Intelligent Key unit connector.
- Check voltage between Intelligent Key unit harness connector M70 terminals 6, 11 and ground.

Connector	Terminals		Ignition sw	tch position
	(+)	(-)	OFF	ON
M70	6	Ground	0V	Battery voltage
	11	Giodila	Battery voltage	Battery voltage



Is the inspection result normal?

YES >> GO TO 2

NO >> Repair or replace Intelligent Key power supply circuit.

2.CHECK GROUND CIRCUIT

Check continuity between Intelligent Key unit harness connector M70 terminal 12 and ground.

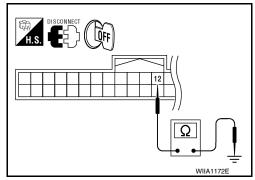
12 - Ground

: Continuity should exist.

Is the inspection result normal?

YES >> Power supply and ground circuits are OK.

NO >> Repair or replace the Intelligent Key unit ground circuit.



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INFOID:0000000005229915

BCM

BCM: Diagnosis Procedure

Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
57	Pattony nower cupply	22 (15A)
70	Battery power supply	F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

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POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

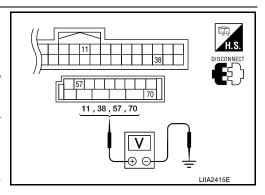
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

	Terminals		Power	0	Voltage (V) (Ap-	
Connector	(+)	(-)	source	Condition	prox.)	
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage	
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage	
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage	
IVIZU	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage	



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

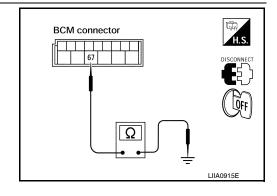
Check continuity between BCM harness connector and ground.

В	BCM		Continuity
Connector Terminal		Ground	Continuity
M20	67		Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



KEY CYLINDER SWITCH

Description INFOID:0000000004917328

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

Component Function Check

INFOID:0000000004917329

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1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

Monitor item	Con	dition
KEY CYL LK-SW	Lock	: ON
RET CTL LN-SW	Neutral / Unlock	: OFF
KEN CALTIN CIM	Unlock	: ON
KEY CYL UN-SW	Neutral / Lock	: OFF

Is the inspection result normal?

YES >> Key cylinder switch is OK.

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

Diagnosis Procedure

INFOID:0000000004917330

Regarding Wiring Diagram information, refer to <u>SEC-67, "Wiring Diagram - VEHICLE SECURITY SYSTEM"</u>.

1. CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-III

Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode with CONSULT-III.

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

KEY CYL LK-SW: ON

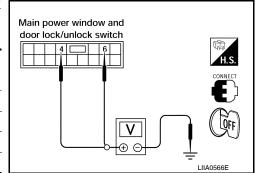
When key inserted in left front key cylinder is turned to UNLOCK:

KEY CYL UN-SW : ON

Without CONSULT-III

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

Connector	ninals	Condition of left front key cylinder	Voltage (V)		
00111100101	(+)		condition of lost mont key symmetr	(Approx.)	
	4	4		Neutral/Unlock	5
D.=	7		Lock	0	
D7	D7 6	Ground	Neutral/Lock	5	
			Unlock	0	



Is the inspection result normal?

YES >> Key cylinder switch signal is OK.

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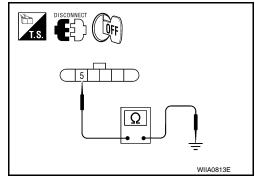
< COMPONENT DIAGNOSIS >

NO >> GO TO 2

2.check door key cylinder switch LH ground Harness

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

Connector	Terminals	Continuity
D14	5 – Ground	Yes



Is the inspection result normal?

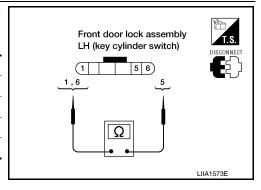
YES >> GO TO 3

NO >> Repair or replace harness.

3.CHECK DOOR KEY CYLINDER SWITCH LH

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

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



Is the inspection result normal?

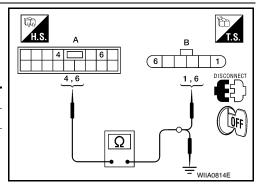
YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-239</u>, "Removal and Installation".

4. CHECK DOOR KEY CYLINDER HARNESS

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

Connector	Terminals	Connector	Terminals	Continuity
A: Main	4	B: Front	1	Yes
power win- dow and door lock/ unlock switch	6	door lock assembly LH (key cylinder switch)	6	Yes
SWILCH	4, 6	Gi	round	No



Is the inspection result normal?

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

NO >> Repair or replace harness.

IGNITION KNOB SWITCH

Diagnosis Procedure

INFOID:0000000004917331

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Regarding Wiring Diagram information, refer to <u>SEC-91, "Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -".</u>

1. CHECK IGNITION KNOB SWITCH

(P)With CONSULT-III

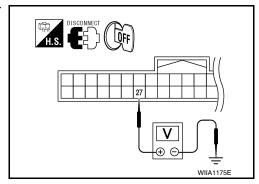
Display "PUSH SW" on DATA MONITOR screen, and check if ON/OFF display is linked to ignition switch operation.

Monitor item		Condition	
PUSH SW		Ignition switch is pushed: ON	
1 0011 000		Ignition switch is released: OFF	

Without CONSULT-III

- Turn ignition switch OFF.
- 2. Disconnect Intelligent Key unit connector.
- Check voltage between Intelligent Key unit harness connector M70 terminal 27 and ground.

Connector (+)	Tern	ninals	Condition	Voltage (V) (Approx.)
	(+)	(-)		
M70 27	Ground	Ignition switch is pushed	Battery voltage	
		Ignition switch is re- leased	0	



Is the inspection result normal?

YES >> Ignition knob switch is OK.

NO >> GO TO 2

2.CHECK IGNITION KNOB SWITCH POWER SUPPLY CIRCUIT

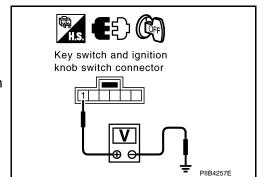
- Turn ignition switch OFF.
- 2. Disconnect key switch and ignition knob switch connector.
- 3. Check voltage between key switch and ignition knob switch harness connector M12 terminal 1 and ground.

1 - Ground : Battery voltage

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace key switch and ignition knob switch power supply circuit.



3. CHECK IGNITION KNOB SWITCH OPERATION

Check continuity between key switch and ignition knob switch terminals 1 and 2.

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IGNITION KNOB SWITCH

< COMPONENT DIAGNOSIS >

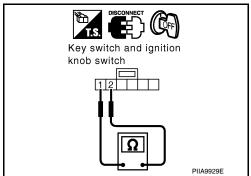
[WITH INTELLIGENT KEY SYSTEM]

Component	Term	inals	Condition	Continuity
Ignition	1	2	Ignition switch is pushed	Yes
knob switch	1 1 7	2	Ignition switch is released	No

Is the inspection result normal?

YES >> GO TO 4

NO >> Replace key switch and ignition knob switch.



4. CHECK IGNITION KNOB SWITCH CIRCUIT

1. Check continuity between Intelligent Key unit harness connector M70 (A) terminal 27 and key switch and ignition knob switch harness connector M12 (B) terminal 2.

27 - 2 : Continuity should exist.

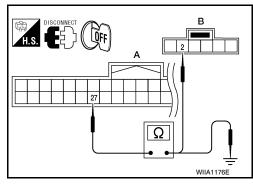
2. Check continuity between Intelligent Key unit harness connector M70 (A) terminal 27 and ground.

27 - Ground : Continuity should not exist.

Is the inspection result normal?

YES >> Check the condition of harness and harness connector. NO >> Repair or replace harness between Intelligent Key unit

>> Repair or replace harness between Intelligent Key unit and key switch and ignition knob switch.



[WITH INTELLIGENT KEY SYSTEM]

HORN FUNCTION

Symptom Table

HAZARD AND HORN REMINDER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check "Work flow". Refer to DLK-8, "Work Flow".
- If the following symptoms" are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

Conditions of Vehicle (Operating Conditions)

- "ANSWER BACK FUNCTION" is ON when setting on CONSULT-III.
- · Ignition switch is in OFF position.
- All doors are closed.

Symptom		Diagnosis/service procedure	Reference page
Hazard reminder does not operate by request switch.		Check "HAZARD ANSWER BACK" setting in "WORK SUPPORT".	DLK-58
(Horn reminder operate.)	2.	Check hazard function.	DLK-113
	3.	Check Intermittent Incident.	<u>GI-38</u>
Hazard reminder does not operate by Intelligent Key.	1.	Check "HAZARD ANSWER BACK" setting in "WORK SUPPORT".	DLK-58
(Horn reminder operate.)	2.	Check hazard function.	DLK-113
	3.	Check Intelligent Key battery inspection.	DLK-107
Horn reminder does not operate by request switch.		Check "ANSWER BACK WITH I-KEY LOCK" or "ANSWER BACK WITH I-KEY UNLOCK" setting in "WORK SUPPORT".	DLK-58
(Hazard reminder operate.)	2.	Check Intelligent Key warning buzzer.	DLK-96
	3.	Check Intermittent Incident.	<u>GI-38</u>
Horn reminder does not operate by Intelligent Key.		Check "HORN WITH KEYLESS LOCK" setting in "WORK SUPPORT".	DLK-58
(Hazard reminder operate.)	2.	Check horn function.	DLK-109
	3.	Check Intermittent Incident.	<u>GI-38</u>

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VEHICLE SECURITY INDICATOR

Description INFOID:000000004917333

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

Component Function Check

INFOID:0000000004917334

1. CHECK FUNCTION

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

Test it	em	Descript	ion
THEFT IND	ON	Vehicle security indicator	ON
HILL I IND	OFF	verlice security indicator	OFF

Is the inspection result normal?

YES >> Inspection End.

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

Diagnosis Procedure

INFOID:0000000004917335

Regarding Wiring Diagram information, refer to <u>SEC-91, "Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -".</u>

1. SECURITY INDICATOR LAMP ACTIVE TEST

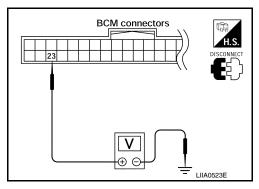
(P)With CONSULT-III

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

®Without CONSULT-III

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

Connector	Term	ninals	Condition	Voltage (V)
Connector	(+)	(-)	Condition	(Approx.)
M18	23	Ground	ON	0
IVITO	23	Giodila	OFF	Battery voltage



Is the inspection result normal?

YES >> Security indicator lamp is OK.

NO >> GO TO 2

$2.\mathsf{security}$ indicator Lamp Check

Check security indicator lamp condition.

Is the inspection result normal?

YES >> GO TO 3

NO >> Replace security indicator lamp.

3.CHECK HARNESS CONTINUITY

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

VEHICLE SECURITY INDICATOR

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

23 - 28 : Continuity should exist.

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

23 - Ground : Continuity should not exist.

Is the inspection result normal?

- YES >> Check the following:
 - 10A fuse [No. 19, located in fuse block (J/B)]
 - · Harness for open or short between security indicator lamp and fuse
- NO >> Repair or replace harness.

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ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
AIR COND SW	A/C switch OFF	OFF
AIR COND 3W	A/C switch ON	ON
ALIT LICUT CVC	Outside of the room is dark	OFF
AUT LIGHT SYS	Outside of the room is bright	ON
ALITO LIGHT OW	Lighting switch OFF	OFF
AUTO LIGHT SW	Lighting switch AUTO	ON
DACK DOOD CM	Back door closed	OFF
BACK DOOR SW	Back door opened	ON
OADOO LAMB OW	Cargo lamp switch OFF	OFF
CARGO LAMP SW	Cargo lamp switch ON	ON
	Door lock/unlock switch does not operate	OFF
CDL LOCK SW	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 OW 40	Front door RH closed	OFF
DOOR SW-AS	Front door RH opened	ON
D00D0WDD	Front door LH closed	OFF
DOOR SW-DR	Front door LH opened	ON
	Rear door LH closed	OFF
DOOR SW-RL	Rear door LH opened	ON
D00D0WDD	Rear door RH closed	OFF
DOOR SW-RR	Rear door RH opened	ON
ENOINE DUN	Engine stopped	OFF
ENGINE RUN	Engine running	ON
ED 500 0M	Front fog lamp switch OFF	OFF
FR FOG SW	Front fog lamp switch ON	ON
ED 14/4 OUED OW	Front washer switch OFF	OFF
FR WASHER SW	Front washer switch ON	ON
ED MIDED LOW	Front wiper switch OFF	OFF
FR WIPER LOW	Front wiper switch LO	ON
50 W/D50 III	Front wiper switch OFF	OFF
FR WIPER HI	Front wiper switch HI	ON
ED MUDED IN IT	Front wiper switch OFF	OFF
FR WIPER INT	Front wiper switch INT	ON
ED MUDED OTOD	Any position other than front wiper stop position	OFF
FR WIPER STOP	Front wiper stop position	ON
	When hazard switch is not pressed	OFF
HAZARD SW	When hazard switch is pressed	ON

< ECU DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
LIGHT SW 1ST	Lighting switch OFF	OFF
LIGITI SW 131	Lighting switch 1st	ON
HEAD LAMP SW1	Headlamp switch OFF	OFF
TILAD LAWIF SWI	Headlamp switch 1st	ON
HEAD LAMP SW2	Headlamp switch OFF	OFF
TILAD LAWF SW2	Headlamp switch 1st	ON
HI BEAM SW	High beam switch OFF	OFF
TII BEAIN SW	High beam switch HI	ON
IGN ON SW	Ignition switch OFF or ACC	OFF
IGN ON SW	Ignition switch ON	ON
IGN SW CAN	Ignition switch OFF or ACC	OFF
IGN SW CAN	Ignition switch ON	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
LIKEVI COK ¹	LOCK button of Intelligent Key is not pressed	OFF
I-KEY LOCK ¹	LOCK button of Intelligent Key is pressed	ON
	UNLOCK button of Intelligent Key is not pressed	OFF
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is pressed	ON
KEY OVELIK OW	Door key cylinder LOCK position	ON
KEY CYL LK-SW	Door key cylinder other than LOCK position	OF
KEV OVI LIN OW	Door key cylinder UNLOCK position	ON
KEY CYL UN-SW	Door key cylinder other than UNLOCK position	ON
KEY ON SW	Mechanical key is removed from key cylinder	OFF
KLI ON SW	Mechanical key is inserted to key cylinder	ON
KEYLESS LOCK ²	LOCK button of key fob is not pressed	OFF
KETLESS LOCK-	LOCK button of key fob is pressed	ON
KEYLESS UNLOCK ²	UNLOCK button of key fob is not pressed	OFF
KEYLESS UNLOCK-	UNLOCK button of key fob is pressed	ON
OIL PRESS SW	Ignition switch OFF or ACC Engine running	OFF
	Ignition switch ON	ON
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5V
OF HOAL SENSON	Dark outside of the vehicle	Close to 0V
PASSING SW	Other than lighting switch PASS	OFF
FASSING SW	Lighting switch PASS	ON
PUSH SW ¹	Return to ignition switch to LOCK position	OFF
POSH SW	Press ignition switch	ON
REAR DEF SW	Rear window defogger switch OFF	OFF
REAR DEF SW	Rear window defogger switch ON	ON
DKE LCK TIMI CK	LOCK/UNLOCK buttons of key fob not pressed at same time	OFF
RKE LCK-UNLCK	LOCK/UNLOCK buttons of key fob pressed at same time	ON
DKE KEED HWI K	UNLOCK button of key fob is not pressed	OFF
RKE KEEP UNLK	UNLOCK button of key fob is pressed	ON
RR WASHER SW	Rear washer switch OFF	OFF
TALL MACHICIN OW	Rear washer switch ON	ON

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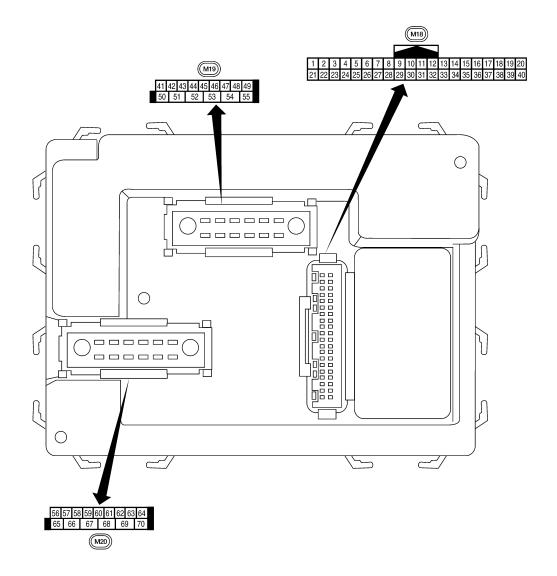
[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
RR WIPER INT	Rear wiper switch OFF	OFF
RR WIPER IN I	Rear wiper switch INT	ON
RR WIPER ON	Rear wiper switch OFF	OFF
RR WIFER ON	Rear wiper switch ON	ON
RR WIPER STOP	Rear wiper stop position	OFF
RR WIPER STOP	Other than rear wiper stop position	ON
RR WIPER STP2	Rear wiper stop position	OFF
RR WIPER 51P2	Other than rear wiper stop position	ON
TRNK OPNR SW	When back door opener switch is not pressed	OFF
TRINK OPINK SW	When back door opener switch is pressed	ON
TURN SIGNAL L	Turn signal switch OFF	OFF
TURN SIGNAL L	Turn signal switch LH	ON
TURN SIGNAL R	Turn signal switch OFF	OFF
IURIN SIGNAL K	Turn signal switch RH	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

^{1:} With Intelligent Key

^{2:} With remote keyless entry system

Terminal Layout



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Physical Values

[WITH INTELLIGENT KEY SYSTEM]

	\A/:		Signal		Measuring condition	Deference value as week
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
1	BR/W	Ignition keyhole illumi-	Output	OFF	Door is locked (SW OFF)	Battery voltage
	BIOTO	nation	Output	011	Door is unlocked (SW ON)	0V
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms SKIA5291E
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 64 2 0 ***5ms SKIA5292E
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 4 2 0
5	G/B	Combination switch				
6	V	Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 → 5ms SKIA5292E
					Rear window defogger switch ON	0V
9	GR/R	Rear window defogger switch	Input	ON	Rear window defogger switch OFF	5V
10	G	Hazard lamp flash	Input	OFF	ON (opening or closing)	0V
		•	•		OFF (other than above)	Battery voltage
11	0	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH	Input	OFF	ON (open) OFF (closed)	0V Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open) OFF (closed)	0V Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	_	5V
18	Р	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	_	0V

[WITH INTELLIGENT KEY SYSTEM]

	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
19	V/W	Remote keyless entry receiver (power sup- ply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 *********************************
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	(V) 6 4 2 0 ++50 ms
		(og)			When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 -1
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF \rightarrow ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	W/V	BUS	_	_	Ignition switch ON or power window timer operates	(V) 15 10 5 0 200 ms
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF \rightarrow ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
26	Y/L	Rear wiper auto stop switch 2	Input	ON	Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclock- wise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Fluctuating
27	W/R	Compressor ON sig-	Input	ON	A/C switch OFF	5V
		nal	1 44		A/C switch ON	0V

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[WITH INTELLIGENT KEY SYSTEM]

			Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
20	L/K	From blower monitor	Input	ON	Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
29	VV/D	Hazaru Switch	Input	OFF	OFF	5V
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 +-5ms SKIA5291E
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 4 2 0 +5ms SKIA5292E
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0
35	O/B	Combination switch				
36	R/W	Combination switch output 1	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 +
37 ¹	B/R	Key switch and igni-	Input	OFF	Intelligent Key inserted	Battery voltage
	5,11	tion knob switch	put	J. 1	Intelligent Key inserted	0V
37 ²	B/R	Key switch and key	Input	OFF	Key inserted	Battery voltage
		lock solenoid		<u> </u>	Key inserted	0V
38	W/L	Ignition switch (ON)	Input	ON	_	Battery voltage
39	L	CAN-H	<u> </u>	_	_	_
40	Р	CAN-L	_		_	_
42	GR	Glass hatch ajar	Input	ON	Glass hatch open	0
		switch	F-2		Glass hatch closed	Battery
43	R/B	Back door switch (without power back door) or back door latch (door ajar switch) (with power back door)	Input	OFF	ON (open) OFF (closed)	0V Battery voltage

< ECU DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

			Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
44	0	Rear wiper auto stop switch 1	Input	ON	Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating
47	SB	Front door switch LH	Input	OFF	ON (open)	0V
77	ם	Tront door switch Err	iiipat	OIT	OFF (closed)	Battery voltage
48	R/Y	Rear door switch LH	Input	OFF	ON (open)	0V
-1 U	1 1 1	Noai door switch Life	input		OFF (closed)	Battery voltage
49	R	Cargo lamp	Output	OFF	Any door open (ON)	0V
43	IX	Cargo lamp	Output	011	All doors closed (OFF)	Battery voltage
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	(V) 15 10 5 0 500 ms
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	(V) 15 10 5 0 500 ms
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
54	Υ	Rear wiper output cir- cuit 2	Input	ON	Forward sweep (counterclockwise direction)	0V
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Battery voltage
55	SB	Rear wiper output circuit 1	Output	ON	OFF ON	0 Battery voltage
56	R/G	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON		Battery voltage
57	Y/R	Battery power supply	Input	OFF	_	Battery voltage

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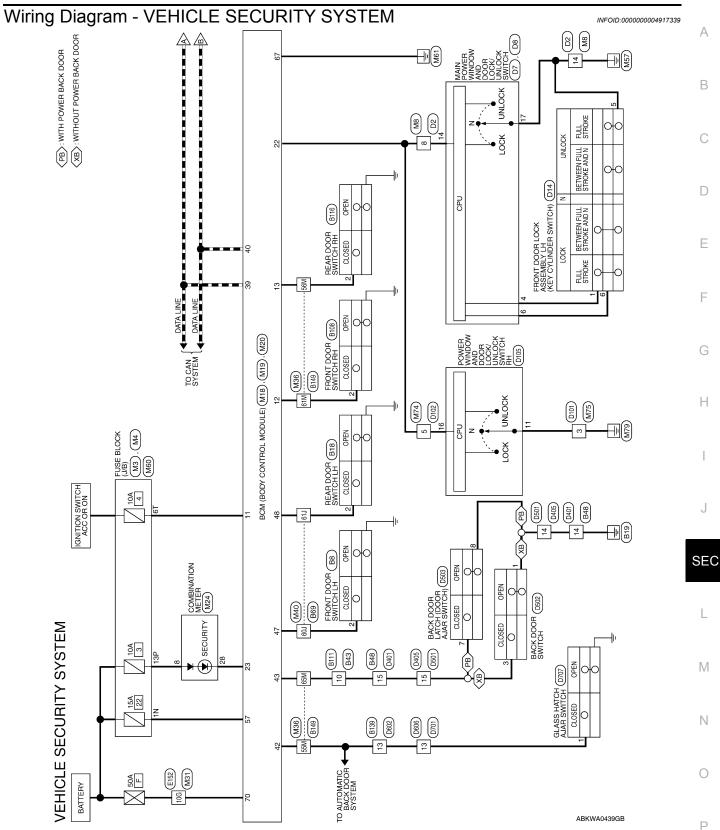
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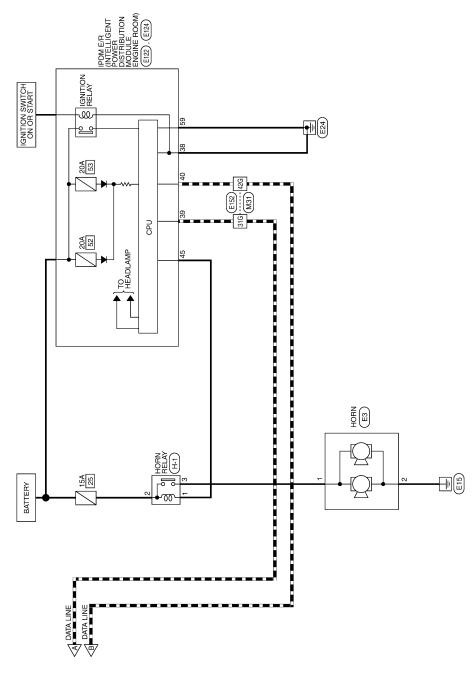
[WITH INTELLIGENT KEY SYSTEM]

	14.0		Signal		Measuring con	dition	D. ()
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation	or condition	Reference value or waveform (Approx.)
58	W/R	Optical sensor	Input	ON	When optical s	sensor is illumi-	3.1V or more
50	VV/IX	Optical serisor	прис	ON	When optical s minated	sensor is not illu-	0.6V or less
		Front door lock as-	_		OFF (neutral)		0V
59	G	sembly LH actuator (unlock)	Output	OFF	ON (unlock)		Battery voltage
60	G/B	Turn signal (left)	Output	ON	Tum left ON		(V) 15 10 500 ms SKIA3009J
61	G/Y	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 500 ms SKIA3009J
62	D/M/	Cton James III and DII	Output	OFF	ON (any door	open)	0V
02	R/W	Step lamp LH and RH	Output	OFF	OFF (all doors	s closed)	Battery voltage
63	L	Interior room/map	Output	OFF	Any door	ON (open)	0V
03	L	lamp	Output	OH	switch	OFF (closed)	Battery voltage
65	V	All door lock actuators	Output	OFF	OFF (neutral)		0V
00	V	(lock)	Output	011	ON (lock)		Battery voltage
66	G/Y	Front door lock actua- tor RH, rear door lock actuators LH/RH and back door lock actua- tor (unlock)	Output	OFF	OFF (neutral) ON (unlock)		0V Battery voltage
67	В	Ground	Input	ON		_	0V
					Ignition switch	ON	Battery voltage
					Within 45 seco	onds after igni- F	Battery voltage
68	W/L	Power window power supply (RAP)	Output	_	More than 45 s nition switch C	seconds after ig- OFF	0V
						or LH or RH is r window timer	0V
69	W/R	Power window power supply	Output	_		_	Battery voltage
70	W/B	Battery power supply	Input	OFF	-	_	Battery voltage

^{1:} With Intelligent Key system

^{2:} With remote keyless entry system





ABKWA0440GB

Connector Name Connector Color

BCM (BODY CONTROL MODULE)

Connector Name Connector Color

M19

WHITE

Connector No.

BLACK

Connector Name | WIRE TO WIRE

Connector No. M8

Connector Color WHITE

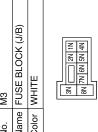
VEHICLE SECURITY SYSTEM CONNECTORS

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

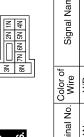
Connector Name FUSE BLOCK (J/B)

Connector No.

Connector Color WHITE







_	Y/R	N.
Signal Nar	Color of Wire	Terminal No.

I	Signal Name	I	
	Color of Wire	Y/R	
	minal No.	1N	

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

Signal Name

Color of Wire

Terminal No. ω 4

Signal Name

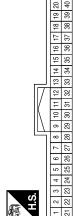
Color of Wire

Terminal No. 13P

//M В

	Connector No.
	~





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20	40		
9	39		_
8	38		
17	37		
16	36		
5	35		
4	34 35		
10 11 12 13 14 15 16 17 18 19 20	33		
2	32		
Ξ	30 31 32		
10	30		
თ	29		Ļ
∞	28		3
7	25 26 27 28		30,000
9	26		Ċ
2	25		Г
4	24		
က	23		
7	21 22		
-	21		
		_	_

Signal Name	ACC SW	DOOR SW (AS)	DOOR SW (RR)	ANTI-PINCH SERIAL LINK (RX,TX)	SECURITY INDICATOR OUTPUT	CAN-H	CAN-L
Color of Wire	0	R/L	GR	W/V	0/0	_	Д
Terminal No. Wire	11	12	13	22	23	39	40

ABKIA1318GB

| 56|57|58|59|60|61|62|63|64 | 65|66|67|68|69|70

Signal Name	BAT(FUSE)	GND (POWER)	BAT (F/L)	
Color of Wire	Y/R	В	W/B	
Terminal No.	22	29	20	

GLASS HATCH SW BACK DOOR SW DOOR SW (DR) DOOR SW (RL)

R/B GR

SB ₽

Signal Name

Color of Wire

Terminal No.

42 43 47 48 Е

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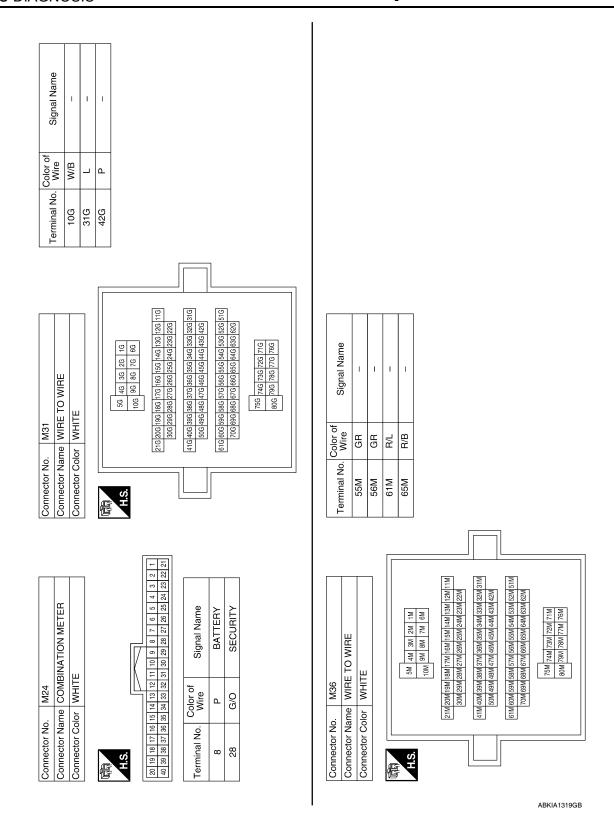
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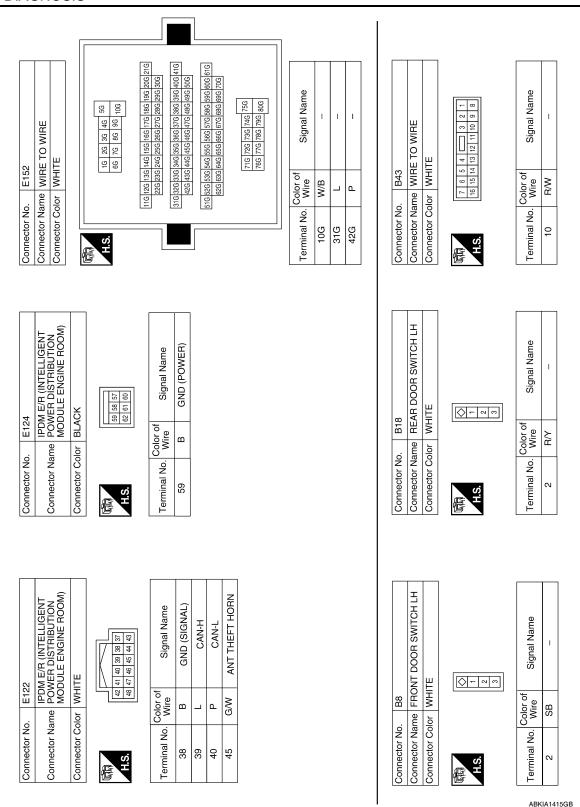


[WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

		Α
OCK (J/B) Signal Name	Signal Name	В
M60 FUSE BLO WHITE Trof For String it in the string it i		С
ector No.	ctor No.	D
Conne Termii	Conne Conne Termin	Е
		F
аше	ame	G
Signal Name	WIRE TO WIRE WHITE WHITE I 0 9 8 7 6 5 Irr of Signal Name	Н
Color of Wire SB SB RYY	1	
Terminal No. C	al No.	1
Tem	Conne Conne Termii	J
		SEC
M40 WIRE TO WIRE Su Au Su Tu Tu Tu Tu Tu Tu T	WIRE	L
WHE TO WIRE WHITE MAINTE	00WN 00WN 00WN 00WN 00WN 00WN 00WN 00WN	M
M40 M40 M40 M1R M40 M1R M11	No. M74 Name WIRE No. No	N
Connector No. Connector Name Connector Color H.S. 41.14	Connector No. Connector Name Connector Color H.S. Solution Colo Terminal No. Will Solution Will Will Will Will Solution Terminal No. Will Te	
	ABKIA0082GB	0
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BCM (BODY CONTROL MODULE)

[WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

r No. E119	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Color WHITE	9 8 7 6 5 4 3	Color of Signal Name Signal Name	L/W IGN SW (IG)		
Connector No.	Connector	Connector	原列 H.S.	Terminal	12		
Connector No. E34	Connector Name WIRE TO WIRE Connector Color WHITE		HAN [110 9 8 7 110 18 17 1		Terminal No. Wire Signal Name	23 P –	24 L –
E16	ECM BLACK		100 100 100 110 111 112 113 119 120 121 121 121 121 121 121 121 121 121		or of Signal Name	CAN-L	CAN-H
Connector No.	Connector Name ECM Connector Color BLACK		H.S. 106 107 11 106 107 10 10 10 10 10 10 10 10 10 10 10 10 10		Color of Wire	86 P	94 L

Connector No.). E122	2
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor WHITE	TE
所 H.S.	42 41 48 47	40 38 37 46 45 44 43
Terminal No.	Color of Wire	Signal Name
38	В	GND (SIGNAL)
39	٦	CAN-H
40	Ъ	CAN-L
48	B/R	INHIBIT SW

1	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	NWC	28 CM 33 22 31 30	Signal Name	ECM BAT
. E121		or BR(36 28	Color of Wire	Μ
Connector No.	Connector Name	Connector Color BROWN	雨 H.S.	Terminal No. Wire	30

Connector No.	. E120	0
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	lor WHITE	TE
H.S.	24 24	22 22
Terminal No. Wire	Color of Wire	Signal Name
19	W/R	STARTER MTR
21	BR	IGN SW (ST)

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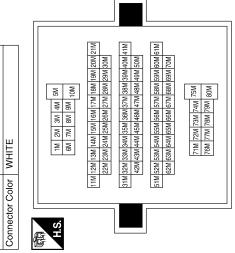
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Signal Name	I	ı	-	_
Color of Wire	GR	GR	B/L	R/W
Terminal No. Wire	25M	26M	61M	65M
Ter				
			Г	

Connector Name WIRE TO WIRE

Connector No. B149



	_	_	,		
9	WIRE TO WIRE	IITE	2 3 m 4 5 6 7 9 10 11 12 13 14 15 16	Signal Name	1
B139	me WII	lor WHITE	8 9 10	Color of Wire	GR
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	13

Connector Name AND DO SWITC Connector Color WHITE	Connector Name AND DOOR LOCK/UNLOCK SWITCH CONNECTOR ON WHITE
Connector Color	VHITE
H.S.	17 18 19
Terminal No. Wire	of Signal Name
17 B	GND

Connector No.). D7	
Connector Na	MAIN ame AND [Connector Name AND DOOR LOCK/UNLOCK SWITCH
Connector Color	olor WHITE	Ш
雨 H.S.	1 2 3 4 8 9 10 11	3 4 5 6 7
Terminal No.	Color of Wire	Signal Name
4	٦	LOCK
9	В	UNLOCK
14	LG/W	ANTI PINCH SERIAL LINK

	WIRE TO WIRE	12	3	Signal Name	I	ı
. D2	me WIR	lor WHI	- 80 - 0 - 0	Color of Wire	LG/W	В
Connector No.	Connector Name	Connector Color WHITE	H.S.	Terminal No.	8	14

ABKIA1321GB

Connector No. D102	WIRE Connector Name WIRE TO WIRE	Connector Color BROWN		1 2 3 4 5 6 7 8 9 9 10 H.S.		Signal Name Cerminal No. Wire Signal Name	- 5 LG/W		
Connector No. D101	Connector Name WIRE TO WIRE	Connector Color WHITE		(所) 1 2 一		Terminal No. Wire	3 B		
	R LOCK	BLY LH	-ACK	3 4 6	·	Signal Name	LOCK	GND	XOO INI I
Connector No. D14	Vame FR	AS.	Connector Color BLACK	1 2		Color of Wire	_	В	۵
ار ا	tor N		ğ			al Nc			

Ω	E TO WIRE	TE	18 17 16 15 14 13 12 11	Signal Name	I	_
. D405	me WIR	lor WHI	10 9 8 7 6	Color of Wire	В	R/W
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	14	15

-	E TO WIRE	ITE	13 14 15 16 77 18 10 17 18	Signal Name	ı	ı
. D401	me WIF	lor WHITE	1 2 3 4	Color of Wire	В	B/W
Connector No.	Connector Name WIRE TO WIRE	Connector Color	原 H.S.	Terminal No.	14	15

Connector Color WHITE	[ue equi	ne er
	3 4 6 7	3 4 6 5 6 0 111 12 13 14 15 Signal Na	0 11 1 1
	8 9 1	9 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No. Color of B
	师 H.S.	ff引 H.S. Terminal	H.S. Terminal

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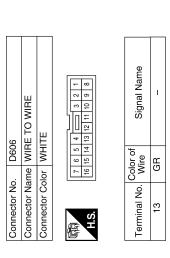
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Revision: April 2009 SEC-75 2010 Armada

				me		
က	Connector Name BACK DOOR LATCH	11	7 8 8	Signal Name	1	ı
. D50	me BAC	lor WHI	<u>- 4</u>	Color of Wire	B/W	В
Connector No. D503	Connector Na	Connector Color WHITE	H.S.	Terminal No. Wire	7	80
	Connector Name BACK DOOR SWITCH			Signal Name	ı	
. D502	me BACK [lor WHITE	<u></u>	Color of Wire	В	R/W
Connector No.	Connector Na	Connector Color WHITE	刷 H.S.	Terminal No. Wire	-	က
	Connector Name WIRE TO WIRE		2 3 4 5	Signal Name		ı
	₹ T	HIE	12 13 14	Terminal No. Wire		>
Connector No. D501	me WII	Connector Color WHITE	1 2 1 1 2 1	SSI	В	₽₩

			-		
н	E TO WIRE	ITE	2 3	Signal Name	ı
. D701	me WIF	lor WH	8 9 10	Color of Wire	GR
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	13



Connector No.). D602	O.
Connector Name WIRE TO WIRE	ame WIR	E TO WIRE
Connector Color WHITE	olor WHI	11
所 H.S.	7 6 15	7 6 5 4 6 7 14 13 12 11 10 9 8
Terminal No.	Color of Wire	Signal Name
13	GR	ı

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	Connector Name FUSE AND FUSIBLE LINK BOX (HORN RELAY)				Signal Name	1	I	ı
<u> </u>	me FUS BO	l l			Color of Wire	B/W	G/B	ഗ
Connector No.	Connector Na	Connector Color		T.S.	Terminal No.	1	2	8

	Signal Name	1
	Color of Wire	GR
H.S.	Terminal No.	F

Connector Name GLASS HATCH AJAR SWITCH Connector Color BLACK

D707

Connector No.

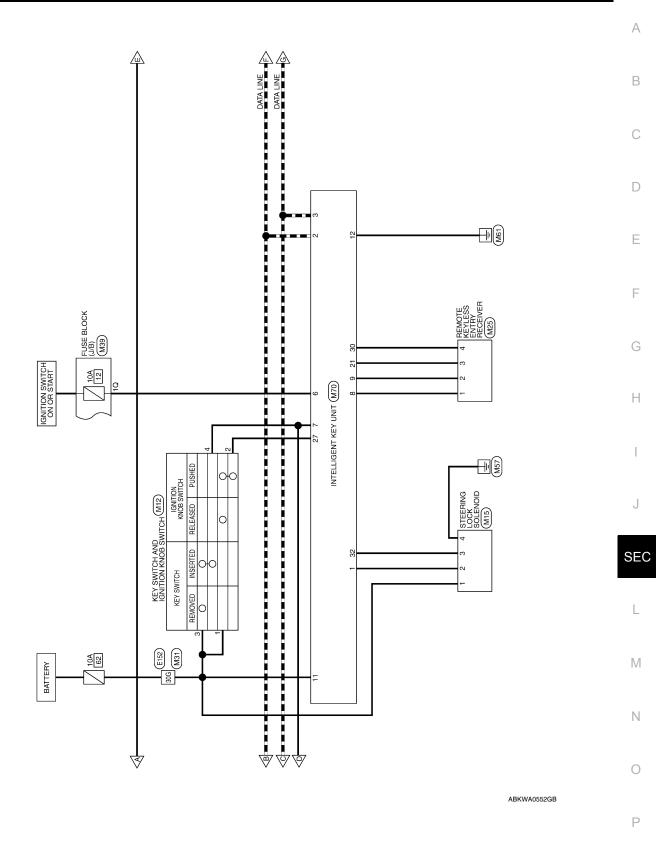
Revision: April 2009 SEC-77 2010 Armada

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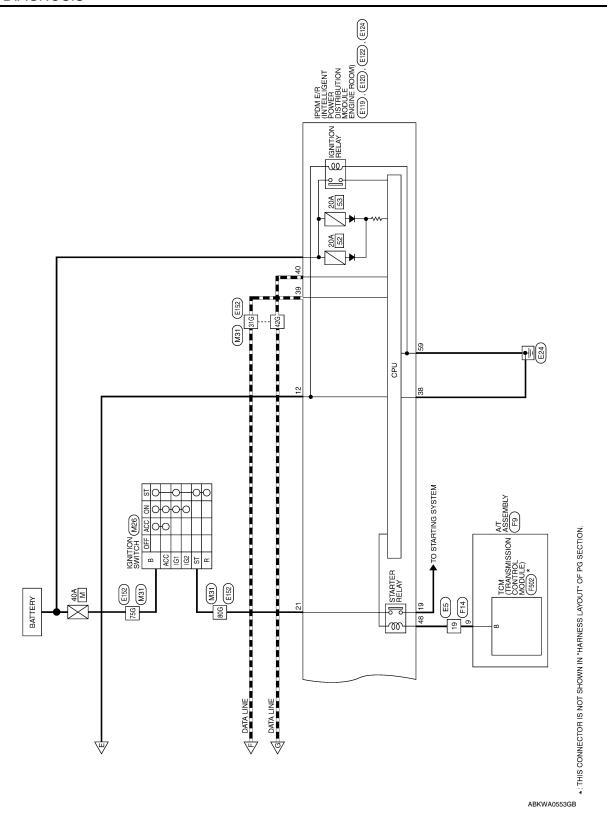
Wiring Diagram - NVIS INFOID:0000000004917340 BCM (BODY CONTROL MODULE) (M18). (M20) IGNITION SWITCH ON OR START 7G E152 M31 10A 59 FUSE BLOCK (J/B) (M3), (M4) SECURITY 10A NVIS - WITH INTELLIGENT KEY SYSTEM 15A NATS ANTENNA AMP. (M21) 10G POWER DISTRIBUTION MODULE ENGINE ROOM) (E121)

61G M31

BATTERY



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NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

M12	Connector Name KEY SWITCH AND	GBAY	1 2 3 4 5 6	r of Signal Name	1	- B	1	- I	
Connector No. M12	Connector Name	Connector Color GBAY	E.S.	Terminal No. Wire	1	2 R/B	3	4 B/R	
14	USE BLOCK (J/B)	HITE	7P (8P (5P 4P () 3P (2P 1P) (1P) (1P) (1P) (1P) (1P) (1P) (1P)	of Signal Name	ı				
Connector No. M4	Connector Name FUSE BLOCK (J/B)	Connector Color WHITE	(本) (10 (10 (10 (10 (10 (10 (10 (10 (10 (10	Terminal No. Wire	13P P	•			
	Connector Name FUSE BLOCK (J/B)	HTE	3N	Signal Name	ı				
Connector No. M3	tor Name FU	Connector Color WHITE		Terminal No. Wire	l Y/R				
Connect	Connect	Connec	H.S.	Termina	N-				

Connector No.). M20	
Connector Name		BCM (BODY CONTROL MODULE)
Connector Color		BLACK
明.	56 57 58	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
Terminal No.	Color of Wire	Signal Name
22	Y/R	BAT (FUSE)
29	В	GND (POWER)
20	M/B	BAT (E/I)

Connector No.). M18	8
Connector Name		BCM (BODY CONTROL MODULE)
Connector Color		WHITE
原 H.S.	<u>[L</u>	
1 2 3 4 5 21 22 23 24 25	4 5 6 7 8 9 10 24 25 26 27 28 29 30	9 10 11 12 13 14 15 16 17 18 19 20 9 30 31 32 33 34 35 36 37 38 39 40
Terminal No.	Color of Wire	Signal Name
21	ŋ	IMMOBILIZER ANTENNA SIGNAL (CLOCK)
23	0/9	SECURITY INDICATOR OUTPUT
25	BB	IMMOBILIZER ANTENNA SIGNAL (RX,TX)
37	B/R	KEY SW
38	M/L	IGN SW
39	7	CAN-H
40	<u>a</u>	CAN-L

Signal Name

Color of Wire G/Y
L/Y
L/O
B

Terminal No.

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Connector Name STEERING LOCK SOLENOID

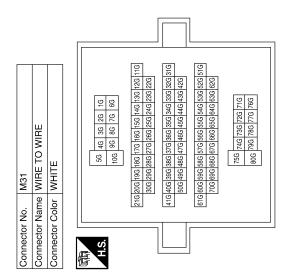
M15

Connector No.

Connector Color WHITE

Sonnector No. M25	Connector Name REMOTE KEYLESS	ENIRY RECEIVER	Connector Color BLACK		1 2 3 4	Terminal No. Wire Signal Name	1 GND	2 GR SIG	3 B/W BSSI	4 G/B 5V
Con	Conr		Conr	E	H.S.	22 21 Term				
24	Connector Name COMBINATION METER	HITE				12 11 10 9 8 7 6 5 4 3 32 31 30 29 28 27 26 25 24 23	7	Signal Name	BATTERY	SECURITY
lo. M24	lame CC	color W				16 15 14 13 36 35 34 33	2000	. Wire	۵	9/0
Connector No.	Connector N	Connector Color WHITE		唇	2	20 19 18 17 1 40 39 38 37 3		Terminal No. Wire	80	28
	or Name NATS ANTENNA AMP.			4		Signal Name	+12V	SCL (CLOCK)	GND	SCL (TX,RX)
	ကြ	ᄩ		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		-				
M21	PA P	r Color WHITE	$\frac{1}{1}$			Color of Wire	≥	മ	В	BR

f Signal Name	ı	1	ı	ı	ı	_	ı	1
Color o Wire	M/L	M/B	>	_	۵	Μ	9	BB
Terminal No. Wire	76	10G	30G	31G	42G	61G	75G	80G



	ON SWITCH		[58]	Signal Name	ſ	I
M26	ne IGNITI	or WHITE	B ST (61	Color of Wire	ŋ	BR
Connector No.	Connector Name IGNITION SWITCH	Connector Color WHITE	H.S.	Terminal No.	В	ST

ABKIA1325GB

BCM (BODY CONTROL MODULE)

[WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

Signal Name	CAN-L	IGN SW INPUT	KEY SW INPUT	RF TUNER GND	RF TUNER SIGNAL	BAT	GND	RF TUNER RSSI	PUSH SW INPUT	RF TUNER 5V OUT	STRG C/U SIG
Color of Wire	۵	G/R	B/R	ŋ	GR	>	В	B/W	B/B	G/B	0/7
Terminal No.	က	9	2	80	6	11	12	21	27	08	35

					19 20	39 40			
	INTELLIGENT KEY UNIT	le			10 11 12 13 14 15 16 17 18 1	30 31 32 33 34 35 36 37 38 3	Signal Name	STRG C/U 5V OUTPUT	CAN-H
		lor WHITE			6 7 8 9	26 27 28 29	Color of Wire	₹	_
Connector No.	Connector Name	Connector Color	管	nio.	1 2 3 4 5	21 22 23 24 25	Terminal No.	-	5

Connector No.	M39	
Connector Name		FUSE BLOCK (J/B)
Connector Color	lor WHITE	щ
原动 H.S.	30 2010	1 20 10 0 50 40
Terminal No.	Color of Wire	Signal Name
10	G/R	-

Connector No.). E120	0
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	olor WH	TE
H.S.	22 45	22 22 22
Ferminal No.	Color of Wire	Signal Name
19	M/R	STARTER MTR
21	BR	IGN SW (ST)

Connector No.	. E119	6
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	lor WH	ТЕ
H.S.	9 8 7 18 17 16	7 6 6 6 8 4 3 16 15 14 13 12 11 10
Terminal No.	Color of Wire	Signal Name
12	Γ/M	IGN SW (IG)

Connector No.	. E5	
Connector Name WIRE TO WIRE	me WIRE	TO WIRE
Connector Color WHITE	lor WHITE	111
H.S.	1 2 3 4 5 6 12 12 13 14 15 16 17 1	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Terminal No.	Color of Wire	Signal Name
19	B/R	1

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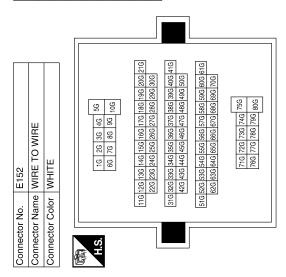
24	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	JOK	29 68 97 62 61 80	Signal Name	GND (POWER)
. E124	me PO	lor BLACK		Color of Wire	В
Connector No.	Connector Na	Connector Color	南 H.S.	Terminal No. Wire	29

2	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	ТЕ	40 39 37 46 45 44 43	Signal Name	GND (SIGNAL)	CAN-H	CAN-L	INHIBIT SW	
. E122		lor WHITE	42 41	Color of Wire	В	٦	۵	B/R	
Connector No.	Connector Name	Connector Color	原 H.S.	Terminal No.	38	39	40	48	

	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	NMC	28 CM 38 32 31 30	Signal Name	ECM BAT
. E121		lor BRC	29 28 36 3	Color of Wire	Μ
Connector No.	Connector Name	Connector Color BROWN	H.S.	Terminal No.	30

Connector No.	. F9	
Connector Name A/T ASSEMBLY	me A/T	ASSEMBLY
Connector Color GREEN	lor GRE	EN
H.S.	(C) (D) (A) (D) (D) (D) (D) (D) (D) (D) (D) (D) (D	(c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d
Terminal No. Wire	Color of Wire	Signal Name
6	B/R	ı

Signal Name	ı	ı	I	I	I	ı	ı	ı
O.	M/L	M/B	>	_	Ь	Μ	9	BR
Terminal No.	76	10G	30G	31G	42G	61G	75G	80G



ABKIA1416GB

TCM (TRANSMISSION CONTROL MODULE)

Connector No. F502

Connector Name

Connector Name WIRE TO WIRE

Connector No. F14

WHITE

Connector Color

GRAY

Signal Name START-RLY

Color of Wire G

Terminal No.

Signal Name

Color of Wire B/R

Terminal No.

Г	١

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ABKIA1457GB

INFOID:000000005378022

Fail Safe

Fail-safe index

BCM performs fail-safe control when any DTC listed below is detected.

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

DTC Inspection Priority Chart

INFOID:0000000005378023

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	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2013: STRG COMM 1 B2552: INTELLIGENT KEY B2590: NATS MALFUNCTION
3	C1729: VHCL SPEED SIG ERR C1735: IGNITION SIGNAL
4	 C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1712: [CODE ERR] FL C1720: [CODE ERR] FR C1721: [CODE ERR] RR C1722: [CODE ERR] RR C1723: [CODE ERR] RR C1724: [BATT VOLT LOW] FL C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL

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	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	BCS-33
B2013: STRG COMM 1	_	_	_	SEC-28

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2190: NATS ANTENNA AMP	_	_	_	SEC-31 (with I- Key), SEC-134 (without I-Key)
B2191: DIFFERENCE OF KEY	_	_	_	SEC-34 (with I- Key), SEC-137 (without I-Key)
B2192: ID DISCORD BCM-ECM	_	_	_	SEC-35 (with I- Key), SEC-138 (without I-Key)
B2193: CHAIN OF BCM-ECM	_	_	_	SEC-37 (with I- Key), SEC-140 (without I-Key)
B2552: INTELLIGENT KEY	_	_	_	SEC-39
B2590: NATS MALFUNCTION	_	_	_	SEC-40
C1708: [NO DATA] FL	_	_	_	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	_	<u>WT-16</u>
C1710: [NO DATA] RR	_	_	_	<u>WT-16</u>
C1711: [NO DATA] RL	_	_	_	<u>WT-16</u>
C1712: [CHECKSUM ERR] FL	_	_	_	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	_	_	_	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	_	_	_	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	_	_	_	<u>WT-16</u>
C1716: [PRESSDATA ERR] FL	_	_	_	<u>WT-18</u>
C1717: [PRESSDATA ERR] FR	_	_	_	<u>WT-16</u>
C1718: [PRESSDATA ERR] RR	_	_	_	<u>WT-16</u>
C1719: [PRESSDATA ERR] RL	_	_	_	<u>WT-16</u>
C1720: [CODE ERR] FL	_	_	_	<u>WT-16</u>
C1721: [CODE ERR] FR	_	_	_	<u>WT-16</u>
C1722: [CODE ERR] RR	_	_	_	<u>WT-16</u>
C1723: [CODE ERR] RL	_		_	<u>WT-16</u>
C1724: [BATT VOLT LOW] FL	_		_	<u>WT-16</u>
C1725: [BATT VOLT LOW] FR	_		_	<u>WT-16</u>
C1726: [BATT VOLT LOW] RR		_	_	<u>WT-16</u>
C1727: [BATT VOLT LOW] RL	_	_	_	<u>WT-16</u>
C1729: VHCL SPEED SIG ERR		_	_	<u>WT-19</u>
C1735: IGN_CIRCUIT_OPEN	_	_	_	_

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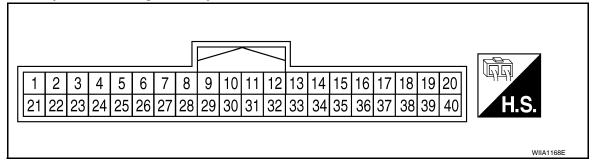
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INTELLIGENT KEY UNIT

Terminal Layout - Intelligent Key Unit

INFOID:0000000005229920



Physical Values - Intelligent Key Unit

INFOID:0000000005229921

				Condition			
Terminal	Wire Color	Item	Ignition Switch Po- sition	Operation or Conditions		Voltage (V) Approx.	
1	L/Y	Steering lock sole- noid power supply	LOCK	_		5	
2	L	CAN-H	_	_		_	
3	Р	CAN-L	_	_		_	
4	GR	Intelligent Key warn- ing buzzer (front of vehicle)	LOCK	Operate door request switch. Buzzer OFF Buzzer ON		Battery voltage 0	
				Press front door request		0	
5	B/W	Front door request switch LH		Press front door request switch LH. Other than above		Battery voltage	
6	G/R	Ignition switch (ON)	ON	Other than above		Battery voltage	
				Insert mechanical key into ignition key cylinder.		Battery voltage	
7	B/R	Key switch	LOCK	Remove mechanical key from ignition key cylinder.		0	
8	G	Remote keyless entry receiver ground	_	_		0	
	0.0	Remote keyless en-		When remote keyless entry receiver receives signal from keyfob. Stand-by		(V) 6 4 2 0	
9	GR	try receiver signal				(V) 6 4 2 0	
11	Υ	Power source (Fuse)	_	_		Battery voltage	
12	В	Ground	_	_		0	

INTELLIGENT KEY UNIT

[WITH INTELLIGENT KEY SYSTEM]

				Condition	
Terminal	Wire Color	Item	Ignition Switch Po- sition	Operation or Conditions	Voltage (V) Approx.
13	B/W	Center console area antenna (front) (+) signal			(V) 10 5
14	W/G	Center console area antenna (front) (-) signal	LOCK	Any door open → all doors closed	10.0µs
15	G	Center console area antenna (rear) (+) signal			(V)
16	L	Center console area antenna (rear) (-) sig- nal	LOCK	Any door open $ ightarrow$ all doors closed	10.0μs
17	W/L	Rear bumper anten- na (+) signal			(V)
18	W/R	Rear bumper antenna (-) signal	LOCK	Lift back door handle (close switch).	15 10 5 0 10 μs
19	Р	Front outside anten- na LH (+) signal			(V) 15
20	V	Front outside antenna LH (-) signal	LOCK	Press front door request switch LH.	10 5 0 10 μs SIIA1910J
21	B/W	Remote keyless en- try receiver RSSI sig- nal	_	_	(V) 15 10 5 0 200 ms
23	L/W	Power back door out-	_	Power liftgate switch ON.	0
		put		Prover liftgate switch OFF.	Battery voltage
25	P/L	Front door request switch RH	_	Press front door request switch RH. Other than above	0 Battery voltage
				Press ignition switch.	Battery voltage
27	R/B	Ignition knob switch	_	Return ignition switch to LOCK position.	0
28	R	Unlock sensor		Door (driver side) is locked.	5
20		(driver side)		Door (driver side) is unlocked.	0
29	LG/W	Back door open		Back door handle switch ON.	0
20	LO/ V V	switch input		Back door handle switch OFF.	Battery voltage

INTELLIGENT KEY UNIT

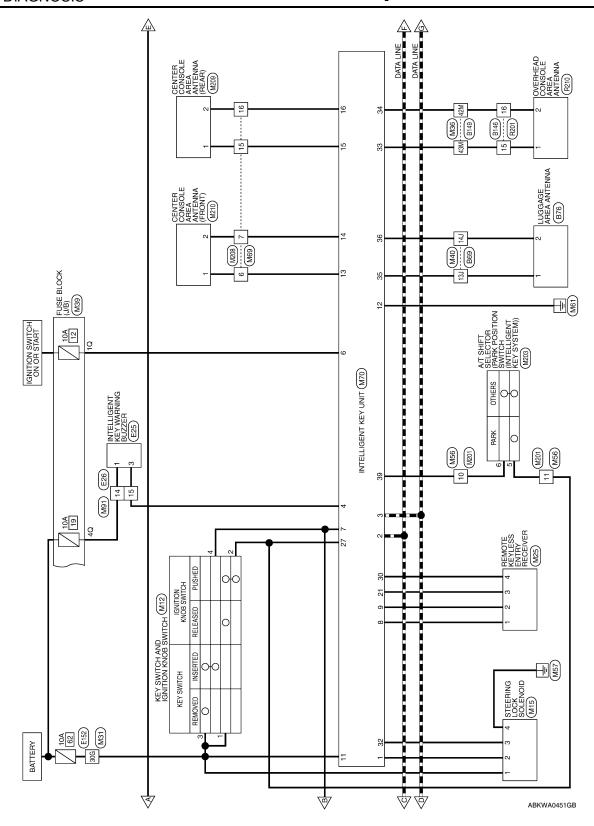
[WITH INTELLIGENT KEY SYSTEM]

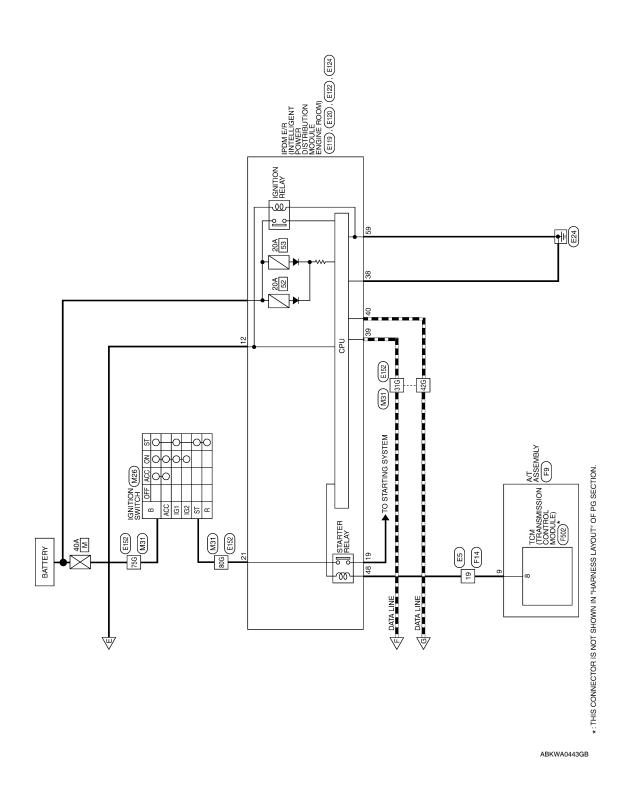
				Condition	
Terminal	Wire Color	Item	Ignition Switch Po- sition	Operation or Conditions	Voltage (V) Approx.
30	G/B	Remote keyless entry receiver power supply	_	_	5
32	L/O	Steering lock sole- noid communication signal	LOCK	When Intelligent Key is inside vehicle, press ignition knob switch.	(V) 6 4 2 0 2 ms SIIA1911J
				Other than above	5
33	W	Overhead console area antenna (+) signal			(V)
34	BR	Overhead console area antenna (-) signal	Press ignition knob switch: ON (Ignition knob switch) 5 0 10.0 10.0 10.0 10.0 10.0 10.0 10.0		10.0μs PIIB7441E
35	0	Luggage area anten- na (+) signal			(V)[::::::]
36	R	Luggage area anten- na (-) signal	LOCK	Back door open $ ightarrow$ all doors closed	10 5 0 10.0μs PIIB7441E
37	LG	Front outside anten- na (+) signal RH			(<u>)</u>
38	B/Y	Front outside anten- na (-) signal RH	LOCK	Press front door request switch RH.	15 10 5 0 10 μs SIIA1910J
39	L/R	P range switch	_	Selector lever is in "P" position.	0
<u></u>	L/K	i range switch		Other than above	Battery voltage
40	V	AS select unlock out-		UNLOCK with rear door locks disabled.	0
10	٧	put		Other than above	Battery voltage

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Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -

В C D Е F 7G (M31) 10A G , M20 BCM (BODY CONTROL MODULE) (M18), FUSE BLOCK (J/B) (M3), (M4) M4 Н UNIFIED METER CONTROL UNI (WITH INFORMATION DISPLAY) - H IGNITION SWITCH ON OR START 10A INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION J 10A SEC 15A 22 10G M31 50A F BATTERY - H M Ν 0 Р ABKWA0442GB





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Connector Name KEY SWITCH AND IGNITION KNOB SWITCH

M12

Connector No.

GRAY

Connector Color

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

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

Connector No. M4
Connector Name FUSE BLOCK (J/B)

Connector Color WHITE

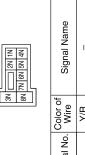
-			,
	Z	4N	
	2N	NS	
	П	N9	
	Ш	Ν	片
L	SS.	8 8	Ш
			_

7P 6P 5P 4P 3P 2P 1P

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



16P 15P 14P 13P 12P 11P 10P 9P 8P	Signal Name	1	_
16P 15P	Color of Wire	O/L	Р
H.S.	Terminal No. Wire	5P	13P

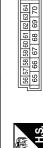
M18

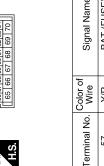
Connector No.

Connector Name STEERING LOCK SOLENOID Connector Color WHITE

M15

Connector No.





Color of Wire 57
Terminal No. 57 67 70

			≃ ∾						
BCM (BODY CONTROL MODULE)	丑		10 11 12 13 14 15 16 17 18 30 31 32 33 34 35 36 37 38	Signal Name	SECURITY INDICATOR OUTPUT	KEY SW	IGN SW	CAN-H	CAN-L
	lor WHITE		6 7 8 26 27 28	Color of Wire	0/9	B/B	M/L	٦	Ь
Connector Name	Connector Color	赋利 H.S.	1 2 3 4 5 21 22 23 24 25	Terminal No.	53	37	38	68	40

Signal Name	B+	5V PWR	SIG	GND	
Color of Wire	G/Y	$\Gamma \mathcal{N}$	0/1	В	
Terminal No.	-	2	က	4	

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	Τ																											Α
	SWITCH			Signal Name	ı	1																						Е
Mod	ne IGNITION SWITCH	or WHITE	B ST (G1 R AOC (G2	Color of Wire	ŋ	BR	-																					C
Connector No	Connector Name	Connector Color WHITE	响 H.S.	Terminal No.	В	ST	-																					
) 0	<u> </u> 0		_ F			J		1											1								Е
	REMOTE KEYLESS	Y RECEIVER	141	Signal Name	GND	SIG	RSSI	5V			Signal Name		1	ı	ı	I	ı	1	ı									F
MOR	<u></u>	_	- C1	Color of Wire	5	GR	B/W	G/B	-		Color of		۷۷/۲	M/B	>	٦	۵	ŋ	BB									-
Connector No	Connector Name	Connector Color	H.S.	Terminal No.	-	2	က	4			Terminal No.	2,	5	10G	30G	31G	42G	75G	80G									
			2 1 2 2 2 2 1						-												7]							J
Г			6 5 4 3 2 26 25 24 23 22			I	1			1]					<u>1</u>		_ L	919					S	SE
	N METER		11 10 9 8 7 31 30 29 28 27	Signal Name	BATTERY	GND	CAN-H	CAN-L	RUN/START			Æ				56 46 36 26 16	10G 9G 7G 6G		21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G	41G 40G 39G 38G 37G 38G 35G 34G 33G 32G 31G	s 45G 44G 43G 42G	61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G 70G 69G 68G 67G 66G 65G 64G 63G 62G	75G 74G 73G 72G 71G	90 / 10 / 10				L
70	Connector Name COMBINATION METER	H	6 15 14 13 12 18 35 34 33 32		B/				J. B.	-	31	Connector Name WIRE TO WIRE	里		[5G 4G 3	10G 9G 8		19G 18G 17G 16G	39G 38G 37G 36G	49G 48G 47G 46C	59G 58G 57G 56C 59G 68G 67G 66C	75G 74G 75	800 / 30				V
M24	· Name CC	Connector Color WHITE	20 19 18 17 16 15 14 40 39 38 37 36 35 34	No. Wire	۵	В	_	۵	O/L	-	No. M31	Name Wi	Connector Color WHITE	-					21G 20G	416 406	500	61G 60G						Ν
Connector No	Connector	Connector	H.S.	Terminal No.	∞	6	Ξ	12	24		Connector No.	Connector	Connector		E	S I	į											С
																							ABKIA	A1327	GB			

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Connector No. M39 Connector Name FUSE BLOCK (J/B)	Connector Color WHITE		(京本) 2010 (8070)6030(40)	Terminal No. Color of Signal Name	1Q G/R –	4Q Y/R –		Connector No. M56 Connector Name WIRE TO WIRE	Connector Color WHITE		H.S. (8 9 10 11 12 13 14 15 16 7	Terminal No. Wire Signal Name	10 L/R –	11 R/B –	
Signal Name	1	I						Signal Name	I	1					
Color of Wire	BB	>						Color of Wire	0	<u>~</u>					
Terminal No.	42M	43M						S	13J	14)					
							1			ſ					
No. M36 Name WIRE TO WIRE			5M 4M 3M 2M 1M 10M 9M 8M 7M 8M	21M 20M 19M 18M 17M 16M 15M 14M 13M 12M 11M	30M 29M 28M 27M 26M 25M 24M 23M 22M	61M 40M 39M 38M 37M 36M 35M 34M 34M 34M 42M 50M 49M 48M 47M 46M 45M 44M 44M 44M 42M 70M 69M 69M 69M 57M 66M 65M 64M 63M 62M 57M 75M 73M 73M 73M 77M 78M 77M 78M		Connector No. M40 Connector Name WIRE TO WIRE	Color WHITE		5.0 4.1 3.3 2.1 1.1 1.0 9.1 8.1 7.1 6.1	21.7 20.2 19.3 18.3 17.7 16.3 15.5 14.4 18.3 12.3 17.3 17.3 18.3 25.3 25.3 25.3 25.3 25.3 25.3 25.3 25	41.0 40.0 39.0 38.0 37.0 36.0 35.0 34.0 33.0 32.0 31.0	50/48/48/47/146/146/146/143/43/42/ 61.1 60.0 59.0 58.0 57.0 56.0 55.0 54.0 53.0 52.0 51.1 70.0 69.0 68.0 67.0 66.0 65.0 64.0 63.0 62.0	75J 74J 72J 77J 75J 75J 76J 80J 76J 76J
Connector No.	Connector Color		H.S.					Connector No. Connector Nan	Connector Color		E.S.				
<u> </u>	10	_							10	 					ABKIA1626

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Signal Name	RF TUNER SIGNAL	BAT	GND	ROOM ANT3 (+)	ROOM ANT3 (-)	HOOM ANT1 (+)	ROOM ANT1 (-)	RF TUNER RSSI	PUSH SW INPUT	RF TUNER 5V OUTPUT	STRG C/U SIG	ROOM ANT4 (+)	ROOM ANT4 (-)	ROOM ANT2 (+)	ROOM ANT2 (-)	P RANGE SW INPUT
Color of Wire	GR	>	В	B/W	M/G	В	٦	B/W	B/B	G/B	0/1	Μ	BR	0	В	L/R
Terminal No.	6	11	12	13	14	15	16	21	27	30	32	33	34	35	36	39

11 Y BAT 12 B GND 13 B/W ROOM ANT3 (+ 14 W/G ROOM ANT3 (+ 15 G ROOM ANT1 (+ 16 L ROOM ANT1 (+ 21 B/W RF TUNER RSS 27 R/B PUSH SW INPU 30 G/B RF TUNER 5V OUT 32 L/O STRG C/U SIG 33 W ROOM ANT4 (+ 34 BR ROOM ANT4 (+ 35 O ROOM ANT2 (+ 36 R ROOM ANT2 (+ 37 R/B ROOM ANT4 (+ 38 L/B ROOM ANT4 (+ 39 L/B ROOM ANT2 (+ 39 L/B RANGE SW INF			
B W//G W//G G G G G G G G G G G G G G G G	11	\	BAT
WWG WWG	12	В	GND
W/G G G BW BW C/B C/B BW W U O O U R BBR BBR C D O U D O U R BBR C D D O U D D D D D D D D D D D D D D D D	13	B/W	ROOM ANT3 (+)
G B/W B/W C/O B/W C/O B/W C/O B/W C/O C/O B/W B/W B/W B/W B/W B/W C/O	14	W/G	ROOM ANT3 (-)
L BW F BW F BW	15	G	ROOM ANT1 (+)
B/W B/B B/C C/O B/C C/O B/C C/O B/C C/O C/O C/O C/O C/O C/O C/O C/O C/O C	16	٦	ROOM ANT1 (-)
M/B BF WW W W W W W W W W W W W W W W W W	21	B/W	RF TUNER RSSI
G/B	27	B/B	PUSH SW INPUT
W W BB BB CO	30	G/B	RF TUNER 5V OUTF
W BB O O N N N N	32	0/1	STRG C/U SIG
9BR O I I	33	W	ROOM ANT4 (+)
O R L/R PI	34	BR	ROOM ANT4 (-)
R L/R PF	35	0	ROOM ANT2 (+)
L/R	36	В	ROOM ANT2 (-)
	39	L/R	P RANGE SW INPL

Connector No.	M203
Connector Name	Connector Name (WITH INTELLIGENT KEY SYSTEM)
Connector Color WHITE	WHITE
H.S.	1 2 3 6 7 8 9 1011112
Terminal No. Wire	Color of Signal Name

Connector Name	. Name		A/T SHIFT SELECTOR (WITH INTELLIGENT SYSTEM)
Connector Color	Color	WHITE	TE
師 H.S.		1 2 3 6 7 8	2 3 4 5 7 8 9 1011 12
Terminal No.		Color of Wire	Signal Name
2	<u> </u>	R/B	ı
u	-	Ó	

13	14	15	16	21	27	30	32	33	34	35	36	39		
		6 8	38 39 40	Г		T5		Γ	T					
			9/		ē	LTPU			7FB	į	5	P	S.	

7	10 11 12 13 14 15 16 17 18	30 31 32 33 34 35 36 37 38	Signal Name	STRG C/U 5V OUTPUT	CAN-H	CAN-L	OUTSIDE BUZZER OUTPUT	IGN SW INPUT	KEY SW INPUT	RF TUNER GND	
1	6 7 8 9	26 27 28 29	Color of Wire	$\Gamma \lambda$	٦	Ь	GR	G/R	B/R	g	
	1 2 3 4 5	21 22 23 24 25	Terminal No.	ļ	5	3	4	9	7	8	

-	WIRE TO WIRE	TE .	7 6 5 4 3 2 1 16 15 14 13 12 11 10 9 8	Signal Name	1	1
. M201	me WIR	lor WHI	7 6 5 14 16 15 14	Color of Wire	L/R	a/a
Connector No.	Connector Name	Connector Color WHITE	H.S.	Terminal No.	10	÷

Connector No.	M69
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color BROWN	BROWN
	9876 54321
2	20 19 18 17 16 15 14 13 12 11 10

Connector No. M70
Connector Name INTELLIGENT KEY UNIT

WHITE

Connector Color

Signal Name	-	1	1	-
Color of Wire	B/W	M/G	5	
Terminal No.	9	7	15	16

	WIRE TO WIRE	TE	13 12 11 10 9 8 1 1	Signal Name	ı	1
. M91		lor WHI	7 6 5 4	Color of Wire	Y/R	GR
Connector No.	Connector Name	Connector Color WHITE	用.S.	Terminal No.	14	15

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Connector No.). M210	10
Connector Name		CENTER CONSLOE AREA ANTENNA (FRONT)
Connector Color GRAY	olor GR	АҮ
H.S.	_	(1
Terminal No.	Color of Wire	Signal Name
-	B/W	ı
2	M/G	ı

Connector Name Connector Color GA A Connector Color GA A Color Terminal No. Wire Wire 2 W/GG	CENTE AREA A	GRAY	~	ъ.,		
Connector Na Connector Co H.S. Terminal No.				Color of Wire	B/W	M/G
	Connector Na	Connector Co	H.S.	Terminal No.	1	2

Connector Name CENTE AREA / Connector Color WHITE	ame CEI ARE	CENTER CONSLOE AREA ANTENNA (REAR) WHITE
H.S.		
Terminal No.	Color of Wire	Signal Name
-	9	ı
2	7	ı

0	E TO WIRE	NMC	1 2 3 4 5 6 7 8 9	02 8 0 1 7 1 0 1 6 1 4	Signal Name	ı	1	I	I
. INIZUO	me WIF	lor BRC	1 2 3 4	21 11 10	Color of Wire	B/W	W/G	g	_
COLLINECTOR INC.	Connector Name WIRE TO WIRE	Connector Color BROWN		H.S.	Terminal No.	9	7	15	16

	E TO WIRE	<u> </u>	2 3	Signal Name	_	_
. E26	me WIF	lor WH	8 1 3 3 10 1	Color of Wire	Y/R	GR
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No.	14	15

10	INTELLIGENT KEY WARNING BUZZER	BROWN	2 3 3	Signal Name	_	1
. E25				Color of Wire	Y/R	GR
Connector No.	Connector Name	Connector Color	南 H.S.	Terminal No. Wire	1	3
			<u> </u>			

Connector No.		E5	
Connector Name WIRE TO WIRE	ame	MR	E TO WIRE
Connector Color WHITE	lor	NH.	TE
H.S.	1 2 3 4 5 6 TE 113 14 15 16 17 18	15 16	1 2 3 4 5 6
Terminal No. Wire	Color	r of	Signal Name
19	B/R	~	1

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POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE	42 41 40 39 88 37	Signal Name	GND (SIGNAL)	CAN-H	CAN-L INHIBIT SW	Signal Name	1	1	ı	I	1	
	42 41 40 48 47 46	No. Wire	α -		A B/B	No. Wire	M//B	>		Д.	ŋ	<u>ш</u>
Connector Name Connector Color	H.S.	Terminal No.	88 8	39	48	Terminal No.	10G	30G	31G	42G	75G	508
												21G 61G 61G
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE		Signal Name	STARTER MTR	IGN SW (ST)		VIRE			36 46 56	8G 9G 10G		116 126 136 146 156 156 176 186 196 206 216 226 236 246 256 286 276 286 296 306 226 236 236 236 236 236 236 236 236 326 336 346 356 386 376 386 396 406 416 326 336 346 356 356 356 356 356 366 366 326 336 346 356 356 356 356 356 366 366 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 326 327 328 328 328 328 328 328 327 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 338 339 330 330 338 338 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340
or re	21 20 19 24 23 22	Į.		BB			lor WHITE		16 26	66 76 86		110 120 130 140 150 226 236 246 236 226 236 236 236 336 336 336 336 420 430 440 456 516 526 536 536 536 517 720 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 776 777 777 777 777 777 777 777 777 778 77
Connector Name	所S.H.S.	Terminal No.	19	21		Connector No.	Connector Color		N H			
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE		Signal Name	IGN SW (IG)			E124 IPDM E/R (INTELLIGENT POWER DISTRIBUTION	ILE ENGINE ROOM)		ſ	8 57	1 60	Signal Name GND (POWER)
Connector Name POWEF MODUL	9 8 7 6 18 17 16 15	Oolor of Wire	M					Connector Color BLACK		28 28	62 61	O. Wire B
	H.S.	Terminal No.	12			Connector No.		tor (Terminal No.

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Connector Name TCM (TRANSMISSION Connector Color GRAY Tol 10 9 8 7 6 5 4 3 2 1 1	Terminal No. Wire Signal Name 8 G START-RLY	Connector No. B76 Connector Name LUGGAGE AREA ANTENNA Connector Color GRAY H.S. Terminal No. Wire Signal Name 1 0 - 2 R -
Connector Name WIRE TO WIRE Connector Color WHITE 1110	Terminal No. Color of Signal Name 19 B/R -	Terminal No. Wire Signal Name 13J O - 14J R -
Connector No. F9 Connector Name A/T ASSEMBLY Connector Color GREEN LLS (5 4 3 2 1) (6 4 3 2 1)	Terminal No. Color of Signal Name 9 B/R -	Connector No. B69 Connector Name WIRE TO WIRE Connector Color WHITE 1.1 2.1 3.1 4.1 5.1 1.1 2.1 3.1 4.1 5.1 1.1 2.1 3.1 4.1 5.1 222 [23] [24] [24] [25] [25] [25] [26] [20] [21] 222 [23] [24] [24] [25] [25] [27] [28] [29] [20] 31.1 32.1 [23] [24] [24] [25] [25] [26] [27] [28] [29] [20] [51.1 22] [23] [24] [24] [25] [25] [25] [26] [27] [51.2 [22] [23] [24] [25] [25] [27] [28] [29] [20] [51.2 [23] [24] [24] [25] [25] [27] [28] [29] [20] [51.2 [23] [24] [24] [25] [25] [27] [28] [29] [20] [51.2 [22] [23] [24] [24] [25] [25] [27] [28] [29] [20] [51.2 [23] [24] [24] [25] [25] [27] [28] [29] [20] [51.2 [24] [25] [25] [27] [28] [29] [29] [29] [51.2 [24] [25] [25] [27] [28] [29] [29] [51.2 [25] [25] [27] [27] [27] [28] [29] [29] [51.2 [25] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [27] [28] [29] [29] [51.2 [27] [27] [27] [27] [27] [27] [27] [27

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Signal Name	ı	_											В
Color of Wire	BB	M											С
Š	42M	43M											D
Ľ.				Γ		7							Е
		7		21M	41M	[61M]							F
			1 5M	11M 12M 13M 14M 15M 16M 17M 18M 19M 20M 21M 22M 23M 25M 25M	31M 82M 33M 34M 35M 36M 37M 38M 39M 40M 41M 42M 43M 44M 45M 46M 47M 48M 49M 50M	51M 52M 53M 54M 55M 56M 57M 58M 59M 60M 61M 62M 62M 65M 65M 68M 68M 68M 68M 68M 70M	75M 80M	NSOLE		Signal Name			G
B149 WIRE TO WIRE			1M 2M 3M 4M 5M 6M 7M 8M 9M 10M	14M 15M 16M 1 M 24M 25M 26M 2	M 34M 35M 36M 3 M 44M 45M 46M 4	M 54M 55M 56M 5 M 64M 65M 66M 6	71M 72M 73M 74M 75M 76M 77M 78M 79M 80M	R210 OVERHEAD CONSOLE AREA ANTENNA WHITE					F
		-		11M 12M 13N 22M 23N	31M 32M 33N 42M 43N	51M 52M 53N 62M 63N		Vo. R210 Vame OVERH AREA A	2	Color of Wire	>	BB	I
Connector No. Connector Name	Connector Color		H.S.					Connector No. Connector Name Connector Color	H.S.	Terminal No.	-	α	J
		7										_	SE
-O WIRE			2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Signal Name	1	1		O WIRE	19 18 17 16 15 14 13 12	Signal Name	1	1	L
B146	or BROWN	_	3 14 15 16 17 18	Color of Wire	> 0	בים		R201 ne WIRE TC	11 10 9 8 7 E	Color of Wire	8		
Connector No. B146 Connector Name WIRE TO WIRE	Connector Color		ο; —	Terminal No.	5 4	<u>o</u>		Connector No. R201 Connector Name WIRE TO WIRE Connector Color BROWN	οį	Terminal No.	15	9	N
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SEC-101 Revision: April 2009 2010 Armada Reorder the connector page

R210 Connector No.

Connector Name WIRE TO WIRE Connector Color BROWN

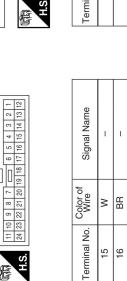
R201

Connector No.

OVE					
NSIDE KEY ANTENNA4 (OVERHEAD CONSOLE AREA)	ш		Signal Name	I	1
	or WHITE	2	Color of Wire	Μ	BR
Connector Name	Connector Color	H.S.	Terminal No.	-	2

Terminal No.	1	2
Signal Name	-	Η.
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[WITH INTELLIGENT KEY SYSTEM]

Fail Safe

Display contents of CONSULT-III	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

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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: INTELLIGENT 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 SEC-26
U1010: CONTROL UNIT (CAN)	Intelligent Key unit detects internal CAN communication circuit malfunction.	_	Replace Intelligent Key unit.
B2013: STRG COMM 1	The ID verification result between Intelligent key unit and steering lock solenoid are NG. Or Intelligent Key unit cannot communicate with steering lock solenoid.	×	Perform steering lock solenoid ID registration with CONSULT-III
B2552: INTELLIGENT KEY	Intelligent Key unit internal malfunction.	×	Replace Intelligent Key unit.
B2590: NATS MALFUNCTION	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-40

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Revision: April 2009 SEC-103 2010 Armada

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

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

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Con	dition	Value/Status					
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %					
A/C COMP DEO	A/C switch OFF	OFF						
A/C COMP REQ	A/C switch ON	A/C switch ON						
TAIL SOLD DEO	Lighting switch OFF		OFF					
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or AU	TO (Light is illuminated)	ON					
III I O DEO	Lighting switch OFF		OFF					
HL LO REQ	Lighting switch 2ND HI or AUTO (Li	ght is illuminated)	ON					
	Lighting switch OFF		OFF					
HL HI REQ	Lighting switch HI		ON					
		Front fog lamp switch OFF	OFF					
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch ON Daytime light activated (Canada only)	ON					
H L WASHER REQ	NOTE: This item is displayed, but cannot be	e monitored.	OFF					
		Front wiper switch OFF	STOP					
	Ignition quitab ON	Front wiper switch INT	1LOW					
FR WIP REQ	Ignition switch ON	Front wiper switch LO	LOW					
		Front wiper switch INT	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					
OT DLV DEO	Ignition switch OFF or ACC	,	OFF					
ST RLY REQ	Ignition switch START	only) Of be monitored. Front wiper switch OFF Front wiper switch INT Front wiper switch LO Front wiper switch HI Front wiper stop position Any position other than front wiper stop position Front wiper operates normally Front wiper stops at fail-safe operation OFF ON OFF ON OFF ON	ON					
ION DIV	Ignition switch OFF or ACC		OFF					
IGN RLY	Ignition switch ON		ON					
	Rear defogger switch OFF		OFF					
RR DEF REQ	Rear defogger switch ON		ON					
OII D CW	Ignition switch OFF, ACC or engine	running	OPEN					
OIL P SW	Ignition switch ON		CLOSE					
DTRL REQ	NOTE: This item is displayed, but cannot be	e monitored.	OFF					
HOOD SW	NOTE: This item is displayed, but cannot be	e monitored.	OFF					

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

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
	Not operated	OFF
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM	ON
HORN CHIRP	Not operated	OFF
HORN OF HILE	Door locking with keyfob or Intelligent Key (if equipped) (horn chirp mode)	ON

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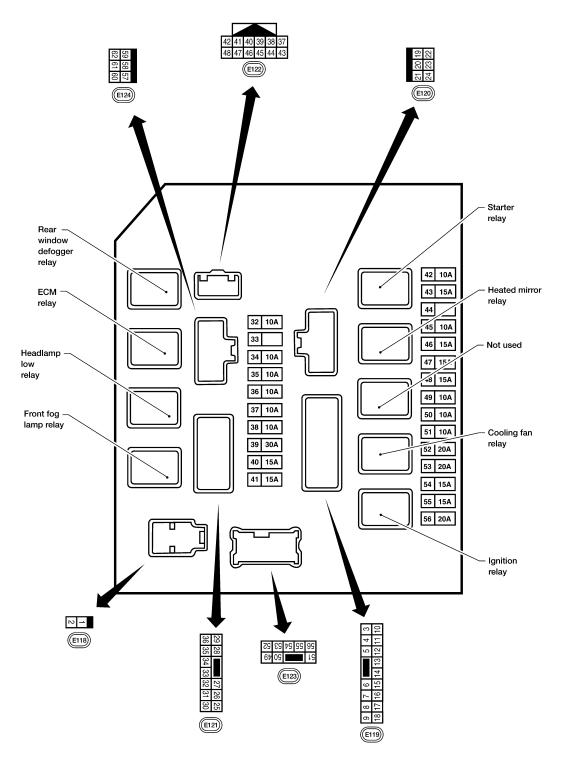
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Terminal Layout INFOID:0000000004917350

TERMINAL LAYOUT



WKIA5852E

Physical Values

INFOID:0000000004917351

PHYSICAL VALUES

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

< ECU DIAGNOSIS >

			Oi ava al		Measuring condition		
Terminal Wire color		Signal name	Signal input/ output	Igni- tion switch	Operation or condition	Reference value (Approx.)	
1	B/Y	Battery power supply	Input	OFF	_	Battery voltage	
2	R	Battery power supply	Input	OFF	_	Battery voltage	
3	BR	ECM rolay	Output		Ignition switch ON or START	Battery voltage	
3	DK	ECM relay	Output		Ignition switch OFF or ACC	0V	
4	W/L	ECM relay	Output		Ignition switch ON or START	Battery voltage	
4	VV/L	ECIVI Telay	Output		Ignition switch OFF or ACC	0V	
C	-	Throttle control motor	Outout		Ignition switch ON or START	Battery voltage	
6	L	relay	Output	_	Ignition switch OFF or ACC	0V	
7	\A//D	CCM relevingentral	lant		Ignition switch ON or START	0V	
7	W/B	ECM relay control	Input		Ignition switch OFF or ACC	Battery voltage	
0	D/D	Fugo 54	Output		Ignition switch ON or START	Battery voltage	
8	R/B	Fuse 54	Output	_	Ignition switch OFF or ACC	0V	
40	0	E 45	0.1-1	ON	Daytime light system active	0V	
10	10 G	Fuse 45	Output	ON	Daytime light system inactive	Battery voltage	
44	V/D	A/C compressor	Output	ON or	A/C switch ON or defrost A/C switch	Battery voltage	
11	11 Y/B	A/C compressor	Output	START	A/C switch OFF or defrost A/C switch	0V	
40	1.00/	Ignition switch sup-	11		OFF or ACC	0V	
12	L/W	plied power	Input		ON or START	Battery voltage	
40	DAY	F	0.1-1		Ignition switch ON or START	Battery voltage	
13	B/Y	Fuel pump relay	Output	_	Ignition switch OFF or ACC	0V	
44	V/D	F 40	0.1-1		Ignition switch ON or START	Battery voltage	
14	Y/R	Fuse 49	Output		Ignition switch OFF or ACC	0V	
4-	1.0/5	5 50 A (DO)	0 1 1		Ignition switch ON or START	Battery voltage	
15	LG/B	Fuse 50 (VDC)	Output	_	Ignition switch OFF or ACC	0V	
45	05	F	0.1.1		Ignition switch ON or START	Battery voltage	
15	GR	Fuse 50 (ABS)	Output	_	Ignition switch OFF or ACC	0V	
					Ignition switch ON or START	Battery voltage	
16	G	Fuse 51	Output	_	Ignition switch OFF or ACC	0V	
					Ignition switch ON or START	Battery voltage	
17	W	Fuse 55	Output	_	Ignition switch OFF or ACC	0V	
19	W/R	Starter motor	Output	START	_	Battery voltage	
		Ignition switch sup-	<u>.</u>		OFF or ACC	0V	
21	BR	plied power	Input	_	START	Battery voltage	
22	G	Battery power supply	Output	OFF	_	Battery voltage	
		Door mirror defogger	<u> </u>		When rear defogger switch is ON	Battery voltage	
23	GR/W	output signal	Output	_	When raker defogger switch is OFF	0V	

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

< ECU DIAGNOSIS >

Terminal Wire color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal name Signal input color Signal input color Signal name Signal nam	< ECO DI	AGNUSI	S <i>></i>				[********	LIGENT KET STSTEM]	
Color Signal name Input		Wiro		Signal		Measuring con	dition	Peference value	
24	Terminal		Signal name		tion	Operation	or condition		
27 W/B Fuse 38 Output — Ignition switch ON or START Battery voltage Over Ignition switch ON or START Over Ignition switch OR or START Over Over Ignition switch OR or START Over Over Ignition switch OR Over Over Ignition switch OR Ignition	24	L	Cooling fan relay	Output	_	fan operation		Battery voltage	
Section Processing Section S								0V	
Section Sect	27	W/B	Fuse 38	Output	_				
32 L Wiper low speed signal Output START Wiper switch OFF or ACC OV OFF CARD OFF CAR				•					
32	30	W	Fuse 53	Output	_				
32 L nal Space of the property						Ignition switch	1		
35 L/B Wiper high speed signal Output START Wiper switch ON OFF, LO, INT Battery voltage Power generation command signal Output	32	L		Output		Wiper switch			
START Wiper switch HI								-	
Ignition switch ON	35	L/B		Output		Wiper switch		, ,	
39 L CAN-H — ON — — — — — — — — — — — — — — — — —			command signal		_	40% is set on "Active test," "ALTERNATOR DUTY" of "ENGINE" 40% is set on "Active test," "ALTERNATOR DUTY" of		JPMIA0003GB 3.8 V (V) 64 42 0 → 2ms JPMIA0002GB 3.8 V	
40 P CAN-L — ON — — — — — — — — — — — — — — — — —				-		_		0V	
42 GR Oil pressure switch Input — Engine running Battery voltage Engine stopped 0V 43 L/Y Wiper auto stop signal Input ON or START Wiper switch OFF, LO, INT Battery voltage 44 BR Daytime light relay Input ON Daytime light system active 0V				_		_		_	
42 GR Oil pressure switch Input — Engine stopped OV 43 L/Y Wiper auto stop signal Input ON or START Wiper switch OFF, LO, INT Battery voltage 44 BR Daytime light relay Input ON Daytime light system active OV	40	Р	CAN-L	_	ON	Engine rupains		Pottony voltage	
43 L/Y Wiper auto stop signal Input ON or START Wiper switch OFF, LO, INT Battery voltage 44 BR Daytime light relay Input ON Daytime light system active 0V	42	GR	Oil pressure switch	Input	_				
44 BR BR Input ON	43	L/Y	Wiper auto stop signal	Input					
Control Daytime light system inactive Battery voltage	44	BR		Input	ON	Daytime light s	system active	0V	
	-T-T	DI.	control	iiiput	511	Daytime light s	system inactive	Battery voltage	

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

< ECU DIAGNOSIS >

			Signal		Measuring con	dition		
Terminal	Wire color	Signal name	input/ output	Igni- tion switch	Operation	or condition	Reference value (Approx.)	
45	G/W	Horn relay control	Input	ON		ks are operated r Intelligent Key DFF → ON)*	Battery voltage → 0V	
46	GR	Fuel pump relay con-	Input		Ignition switch	ON or START	0V	
40	OI C	trol	при		Ignition switch	OFF or ACC	Battery voltage	
47	0	Throttle control motor	Input	_	Ignition switch	ON or START	0V	
71)	relay control	прис		Ignition switch	OFF or ACC	Battery voltage	
		Starter relay (inhibit		ON or	Selector lever	in "P" or "N"	0V	
48	B/R	switch)	Input	START	Selector lever a	any other posi-	Battery voltage	
					Lighting	OFF	0V	
49	R/L	Trailer tow relay	Output	ON	switch must be in the 1st position	ON	Battery voltage	
					Lighting	OFF	0V	
50	W/R	Front fog lamp (LH)	Output	ON or START	switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	ON	Battery voltage	
					Lighting	OFF	0V	
51	W/R	Front fog lamp (RH)	Output	ON or START	switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	ON	Battery voltage	
52	L	LH low beam head- lamp	Output	_	Lighting switch	in 2nd position	Battery voltage	
54	R/Y	RH low beam head-lamp	Output	_	Lighting switch	in 2nd position	Battery voltage	
55	G	LH high beam head- lamp	Output	_	Lighting switch and placed in I position	in 2nd position HIGH or PASS	Battery voltage	
56	L/Y	RH high beam head- lamp	Output	_	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	
57	R/L	Parking, license, and tail lamp	Output	ON	Lighting switch 1st po- sition	OFF ON	0V Battery voltage	
59	В	Ground	Input	_	_	_	0V	
00	D 444	Rear window defog-	ON or Rear defogger switch ON		switch ON	Battery voltage		
60	B/W	ger relay	Output		Rear defogger switch OFF		0V	
61	BR	Fuse 32	Output	OFF	_	_	Battery voltage	

^{*:} When horn reminder is ON

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

< ECU DIAGNOSIS >

Fail Safe INFOID:0000000004917352

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

Control part	Fail-safe in operation
Cooling fan	 Turns ON the cooling fan relay when the ignition switch is turned ON Turns OFF the cooling fan relay when the ignition switch is turned OFF

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	 Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF
 Parking lamps License plate lamps Tail lamps	 Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay 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 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.
Rear window defogger	Rear window defogger relay OFF
A/C compressor	A/C relay OFF
Front fog lamps	Front fog lamp relay OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Ignition switch	Ignition relay	Tail lamp relay	
ON	ON	_	
OFF	OFF	_	

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 second activation and 20 second stop five times.

Ignition switch	Front wiper switch	Auto stop signal	
ON	OFF	Front wiper stop position signal cannot be input 10 seconds.	
	ON	The signal does not change for 10 seconds.	

NOTE:

This operation status can be confirmed on the IPDM E/R "DATA MONITOR" that displays "Block" for the item "WIP PROT" while the wiper is stopped.

STARTER MOTOR PROTECTION FUNCTION

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

< ECU DIAGNOSIS >

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index INFOID:0000000004917353

CONSULT-III display	Fail-safe	Fail-safe TIME ^N		Refer to
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-16

NOTE:

The details of TIME display are as follows.

- CRNT: The malfunctions that are detected now
- 1 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like $0 \rightarrow 1 \rightarrow 2 \cdots 38 \rightarrow 39$ after returning to the normal condition whenever IGN OFF \rightarrow ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

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SEC-111 Revision: April 2009 2010 Armada

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

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SYMPTOMS

Symptom Table INFOID:0000000004917354

NOTE:

- Before performing the diagnosis in the following table, check "SEC-5, "Work Flow"".
- · Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.
- Engine cranking is enabled when the shift lever is in the "Park" position, and in the "Neutral" position only if the brake pedal is depressed.
- If the following symptoms are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

- Engine start function is ON when setting on CONSULT-III.
- · Mechanical key is not inserted in key cylinder.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Symptom		Diagnosis/service procedure	Reference page
Ignition switch does not turn on with Intelligent Key.	1.	Check steering lock solenoid.	SEC-28
[LCD displays "KEY DETECTED"]	2.	Replace Intelligent Key unit.	SEC-117
	1.	Check Intelligent Key unit power supply and ground circuit.	DLK-70
	2.	Check ignition knob switch.	DLK-117
Ignition switch does not turn on with Intelligent Key. [LCD does not display "KEY DETECTED"]	3.	Check key switch (BCM input).	DLK-116
[4.	Check key switch (Intelligent Key unit input).	DLK-114
	5.	Replace Intelligent Key unit.	SEC-117
	1a.	Check center console area antenna (rear).	DLK-62
	1b.	Check luggage area antenna.	DLK-68
Ignition switch does not turn on with Intelligent Key. [LCD displays " NO KEY DETECTED"]	1c.	Check center console area antenna (front).	DLK-64
[1d.	Check overhead console area antenna.	DLK-66
	2.	Replace Intelligent Key unit.	SEC-117
Ignition switch does not turn on with mechanical key	1.	Check key switch (BCM input).	DLK-116
ignition switch does not turn on with mechanical ke		Check key switch (Intelligent Key unit input).	DLK-114
Engine cannot be cranked with transmission in "Park"		Check transmission signal.	<u>TM-45</u>
or in "Neutral" position with brake pedal depressed	2.	Check stop lamp switch.	EXL-86

VEHICLE SECURITY SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table INFOID:0000000004917355

	Procedure Symptom		Diagnostic procedure	Refer to page	
			- Diagnostic procedure	Refer to page	
		Door switch	Check door switch (LF, RF, LR, RR, back)	<u>DLK-73</u>	
	Vehicle security sys-	Glass ajar switch	Check glass ajar switch	DLK-128	
	tem cannot be set by	Intelligent Key	Check Intelligent Key system	DLK-8	
1	••••	Key cylinder switch	Check key cylinder switch	<u>DLK-81</u>	
		_	Check Intermittent Incident	<u>GI-38</u>	
	Security indicator does not turn ON.		Check vehicle security indicator	<u>SEC-56</u>	
	Security indicator does	S HOL LUITI OIN.	Check Intermittent Incident	<u>GI-38</u>	
	* Vehicle security	Any door is opened.	Check door switch (LF, RF, LR, RR, back)	<u>DLK-73</u>	
2	system does not	Glass ajar switch	Check glass ajar switch	DLK-128	
	sound alarm when ····	_	Check Intermittent Incident	<u>GI-38</u>	
	Vehicle security		Check horn switch	_	
3	alarm does not activate.	Horn alarm	Check Intermittent Incident	<u>GI-38</u>	
	Vehicle security sys-	Intelligent Key	Check Intelligent Key system	DLK-8	
4	tem cannot be can-	Key cylinder switch	Check key cylinder switch	DLK-81	
	celed by ····	_	Check Intermittent Incident	<u>GI-38</u>	

^{*:} Check the system is in the armed phase.

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

NOTE:

- Before performing the diagnosis in the following table, check "SEC-5, "Work Flow"".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.
- If the following symptoms are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

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

Symptom	Diagnosis/service procedure	Reference page
Security indicator does not turn ON or flash.	Check vehicle security indicator	<u>SEC-56</u>
Security indicator does not turn on or hasn.	2. Check Intermittent Incident	<u>GI-38</u>

PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000005212329

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-TEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work.
 If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

- 2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
- Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
- 4. Perform the necessary repair operation.

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PRECAUTIONS

< PRECAUTION >

[WITH INTELLIGENT KEY SYSTEM]

- 5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
- 6. Perform a self-diagnosis check of all control units using CONSULT-III.

INTELLIGENT KEY UNIT

[WITH INTELLIGENT KEY SYSTEM]

ON-VEHICLE REPAIR

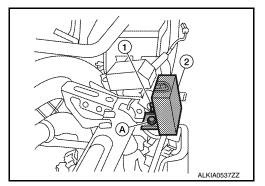
INTELLIGENT KEY UNIT

Removal and Installation

REMOTE KEYLESS ENTRY RECEIVER

Removal

- 1. Remove the instrument panel. Refer to IP-12, "Removal and Installation".
- 2. Disconnect the wire harness (1), remove the bolt (A) and the RKE receiver (2).



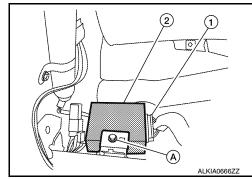
Installation

Installation is in the reverse order of removal.

INTELLIGENT KEY UNIT

Removal

- 1. Remove the instrument panel. Refer to IP-12, "Removal and Installation".
- 2. Disconnect the wire harness (1), remove the bolt (A) and the Intelligent key unit (2).



Installation

Installation is in the reverse order of removal.

NATS ANTENNA AMP

NOTE:

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

Removal

- 1. Disconnect the battery negative terminal.
- Remove the steering column covers. Refer to <u>IP-11, "Exploded View"</u>.

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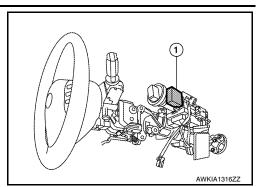
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INTELLIGENT KEY UNIT

< ON-VEHICLE REPAIR >

[WITH INTELLIGENT KEY SYSTEM]

3. Remove the bolt, disconnect the electrical connector, and remove the NATS antenna amp (1).



Installation

Installation is in the reverse order of removal.

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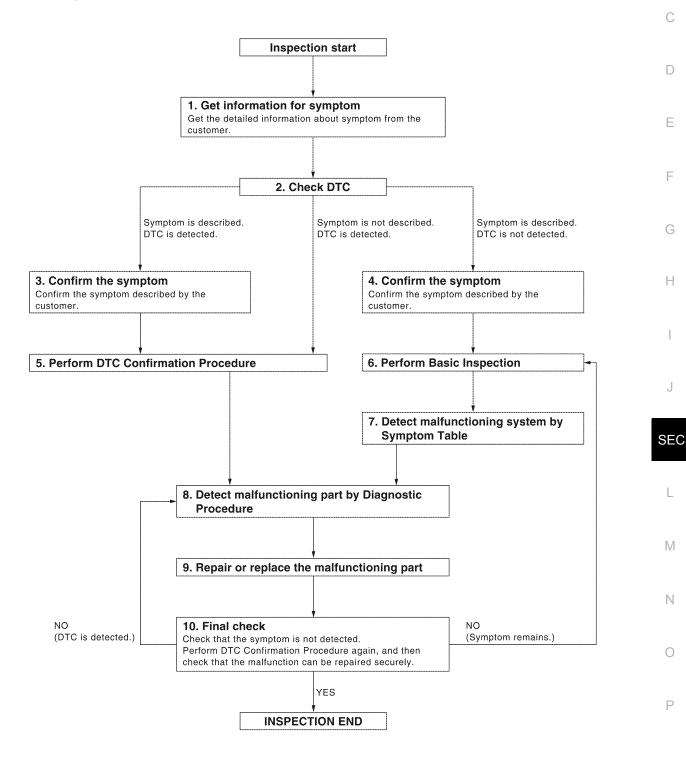
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000004917360 В

OVERALL SEQUENCE



ALKIA0538GB

DIAGNOSIS AND REPAIR WORKFLOW

[WITHOUT INTELLIGENT KEY SYSTEM]

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2

< BASIC INSPECTION >

2.CHECK DTC

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

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3

Symptom is described, DTC is not displayed>>GO TO 4

Symptom is not described, DTC is displayed>>GO TO 5

3.confirm the symptom

Confirm the symptom described by the customer.

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

>> GO TO 5

4. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

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

>> GO TO 6

5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. If two or more DTCs are detected, refer to <u>SEC-182, "DTC Inspection Priority Chart"</u> (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 8

NO >> Refer to GI-38, "Intermittent Incident".

6.PERFORM BASIC INSPECTION

Perform Basic Inspection. Refer to SEC-122, "Basic Inspection".

>> GO TO 7

7.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

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

>> GO TO 8

8. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

NOTE:

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

>> GO TO 9

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

$9.\mathsf{REPAIR}$ OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 10

10. FINAL CHECK

When DTC was detected in step 9, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunctions have been fully repaired.

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

Does the symptom reappear?

YES (DTC is detected)>>GO TO 8

YES (Symptom remains)>>GO TO 6

NO >> Inspection End.

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PRE-INSPECTION FOR DIAGNOSTIC

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

1. INSPECTION START

Turn ignition switch "OFF".

NOTE:

Before starting operation check, open front windows.

>> GO TO 2.

2.CHECK SECURITY INDICATOR LAMP

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

Does the security indicator lamp illuminate?

YES >> GO TO 3.

NO >> Perform diagnosis and repair. Refer to <u>SEC-154, "Component Function Check"</u>.

3. CHECK ALARM FUNCTION

- 1. After 30 seconds, security indicator lamp will start to blink.
- 2. Open any door before unlocking with keyfob or mechanical key, or open back door or glass hatch without keyfob.

Does the alarm function properly?

YES >> GO TO 4.

NO >> Check the following.

- The vehicle security system does not phase in alarm mode. Refer to <u>SEC-192, "Symptom Table".</u>
- Alarm (horn and headlamps) does not operate. Refer to SEC-192, "Symptom Table".

4. CHECK ALARM CANCEL OPERATION

Unlock any door using keyfob or mechanical key.

Does the alarm (horn and headlamps) stop.

YES >> Inspection End.

NO >> Check door lock function. Refer to <u>DLK-253</u>, "<u>DOOR LOCK AND UNLOCK SWITCH</u>: <u>System Description</u>".

INSPECTION AND ADJUSTMENT

[WITHOUT INTELLIGENT KEY SYSTEM] < BASIC INSPECTION > INSPECTION AND ADJUSTMENT Α ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT: Special Repair Re-В quirement INFOID:0000000004917361 Refer to the CONSULT-III Operation Manual-NATS. ECM RE-COMMUNICATING FUNCTION ECM RE-COMMUNICATING FUNCTION: Description INFOID:0000000004917362 D Performing following procedure can automatically perform re-communication of ECM and BCM, but only when the ECM has been replaced with a new one (*1). *1: New one means an ECM which has never been energized on-board. Е (In this step, initialization procedure by CONSULT-III is not necessary) NOTE: When registering new Key IDs or replacing the ECM that is not brand new, refer to CONSULT-III Operation Manual NATS. F 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:0000000004917363 1.PERFORM ECM RE-COMMUNICATING FUNCTION Н Install ECM. Using a registered key (*2), turn ignition switch to "ON". 2. *2: To perform this step, use the key that has been used before performing ECM replacement. 3. Maintain ignition switch in "ON" position for at least 5 seconds. Turn ignition switch to "OFF". 5. Start engine. Can engine be started? YES >> Procedure is completed. NO >> Initialize control unit. Refer to CONSULT-III Operation Manual NATS.

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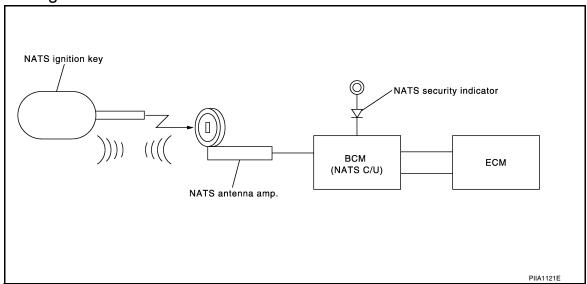
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FUNCTION DIAGNOSIS

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

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System Description

INFOID:0000000004917365

INPUT/OUTPUT SIGNAL CHART

BCM

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

SYSTEM DESCRIPTION

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

- Engine immobilizer shows high anti-theft performance to prevent engine from starting by other than the owner.
- Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- Security indicator always flashes with mechanical key removed condition (key switch: OFF) and ignition knob released condition on LOCK position (ignition knob switch: OFF).
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system. Refer to <u>SEC-127</u>.
 "System Description".
- If system detects malfunction, security indicator illuminates when ignition switch is turned to ON position.
- If the owner requires, ignition key ID or mechanical key ID can be registered for up to 5 keys.
- During trouble diagnosis or when the following parts have been replaced, and if ignition key is added, registration* is required.
 - *1: All keys kept by the owner of the vehicle should be registered with mechanical key.
- ECM
- BCM
- Ignition key
- Remote keyless entry receiver
- NATS trouble diagnosis, system initialization and additional registration of other mechanical key IDs must be carried out using CONSULT-III.
 - When NATS initialization has been completed, the ID of the inserted mechanical key or mechanical key IDs can be carried out.

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< FUNCTION DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

- Possible symptom of NATS malfunction is "Engine cannot start". Identify the possible causes according to "Work Flow", Refer to SEC-119, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-123, "ECM RE-COMMUNICATING FUNCTION: Description".

PRECAUTIONS FOR KEY REGISTRATION

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

SECURITY INDICATOR

Always flashes with ignition key in the OFF position.

MAINTENANCE INFORMATION

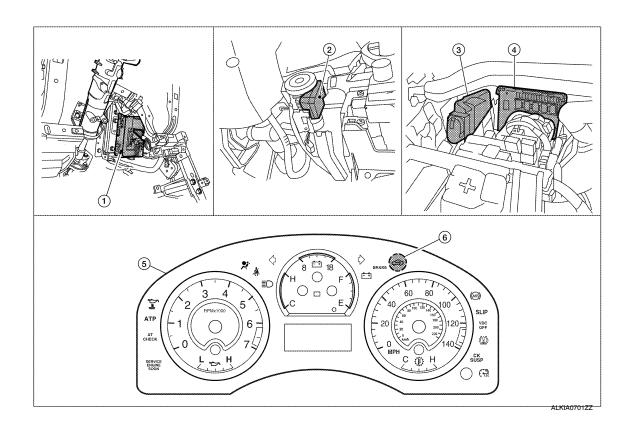
CAUTION:

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

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

Component Parts Location

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

< FUNCTION DIAGNOSIS >

. BCM M18, M20 2. NATS antenna amp. M21 3. ECM E16 (view with instrument panel LH removed)

4. IPDM E/R E119, E120, E121, E122, E124 5. Combination meter M24 6. Security indicator lamp (view with cover removed)

Component Description

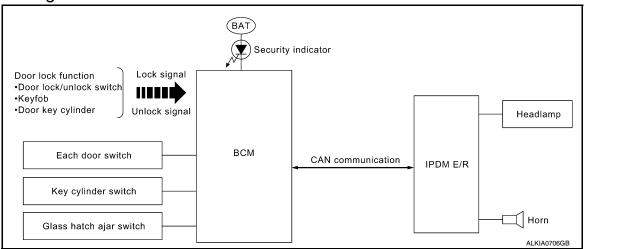
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Item	Function
BCM	Verifies the received signal from the ignition key ID, then informs ECM whether to allow engine start.
Remote keyless entry receiver	Receives lock/unlock signal from the keyfob, and then transmits to the BCM.
NATS antenna amp.	Detects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

Revision: April 2009 SEC-126 2010 Armada

VEHICLE SECURITY SYSTEM

System Diagram



System Description

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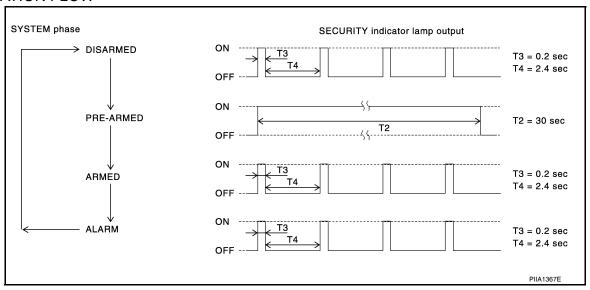
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DESCRIPTION

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

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

OPERATION FLOW



Disarmed Phase

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

Pre-Armed Phase And Armed Phase

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

Condition of Activating The System

When the following condition is performed in armed phase, the system sounds the horns and flashes the headlamps for about 45 seconds.

· Any door is opened.

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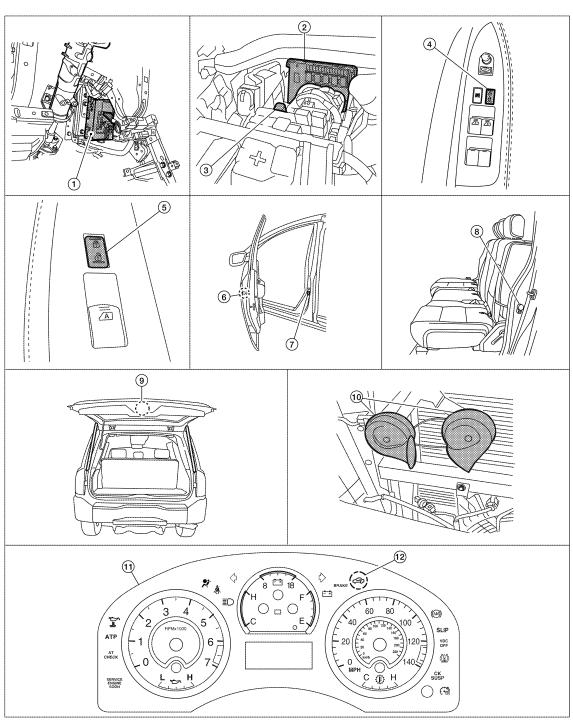
Condition of Deactivating The System

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

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

Component Parts Location

INFOID:0000000004917370



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- BCM M18, M19, M20 (view with instrument panel LH removed)
- Main power window and door lock/ unlock switch D7, D8
- IPDM E/R E122, E124 (view with cover removed)
- Power window and door lock/unlock switch RH D105
- 3. Horn relay H-1
- Front door lock assembly LH (key cylinder switch) D14

VEHICLE SECURITY SYSTEM

< FUNCTION DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

- 7. Front door switch LH B8 RH B108
- 8. Rear door switch LH B18 RH B116
- 9. Back door latch (door ajar switch) (with power back door) D503
 - Back door switch (without power back
 - door) D502 Glass hatch ajar switch D707

- Horn E3
 (view with front grille removed)
- 11. Combination meter M24
- 12. Security indicator lamp

Component Description

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

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DIAGNOSIS SYSTEM (BCM)



[WITHOUT INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000005215828

APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to BCS-55, "DTC Index".
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	 Enables to read and save the vehicle specification. Enables to write the vehicle specification when replacing 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.

System	Sub system selection item	Diagnosis mode		
System		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
BCM	BCM	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system*	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
RAP (retained accessory power)	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
TPMS (tire pressure monitoring system)	AIR PRESSURE MONITOR	×	×	×
Vehicle security system	THEFT ALM	×	×	×
Panic alarm system	PANIC ALARM			×

^{*:} With Intelligent Key

IMMU

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

IMMU: CONSULT-III Function (BCM - IMMU)

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DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [ON/OFF]	Indicates 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-III Function (BCM - PANIC ALARM)

INFOID:0000000005215830

ACTIVE TEST

Test Item	Description
HEAD LAMP (HI)	This test is able to check head lamp (HI) operation.
PANIC ALARM	This test is able to check panic alarm operation.

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Revision: April 2009 SEC-131 2010 Armada

U1000 CAN COMM CIRCUIT

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000004917375

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-46, "CAN Communication Signal Chart".

DTC Logic (INFOID:000000004917376

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When BCM cannot communicate CAN communication signal continuously for 2 seconds or more.	In CAN communication system, any item (or items) of the following listed below is malfunctioning. • Receiving (TCM) • Receiving (IPDM E/R) • Receiving (ECM) • Receiving (METER/M&A) • Receiving (MULTI AV)

Diagnosis Procedure

INFOID:0000000004917377

1.PERFORM SELF DIAGNOSTIC

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

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-5, "CAN Communication Control Circuit".

NO >> Refer to GI-38, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

U1010 CONTROL UNIT (CAN)

Description INFOID:0000000004917378

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-46, "CAN Communication Signal Chart".

D DTC Logic INFOID:0000000004917379

DTC DETECTION LOGIC

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

Diagnosis Procedure

1.REPLACE BCM

When DTC [U1010] is detected, replace BCM.

>> Replace BCM. Refer to BCS-60, "Removal and Installation".

Special Repair Requirement

INFOID:0000000004917381

INFOID:0000000004917380

1. REQUIRED WORK WHEN REPLACING BCM

Initialize BCM. Refer to CONSULT-III Operation Manual.

>> Inspection End.

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B2190 NATS ANTENNA AMP.

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

INFOID:0000000004917384

B2190 NATS ANTENNA AMP.

Description INFOID:000000004917382

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

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

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190	NATS ANTENNA AMP	 Inactive communication between NATS antenna amp. and BCM. Ignition key is malfunctioning. 	Harness or connectors (The NATS antenna amp. circuit is open or shorted) Ignition key NATS antenna amp. BCM

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to <u>SEC-134</u>, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-176, "Wiring Diagram - NVIS -".

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-196, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

YES >> • Ignition key ID chip is malfunctioning.

- · Replace the ignition key.
- Perform initialization with CONSULT-III.
 For initialization, refer to "CONSULT-III Operation Manual".

NO >> GO TO 3

3.CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

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

B2190 NATS ANTENNA AMP.

< COMPONENT DIAGNOSIS >

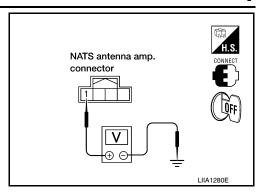
[WITHOUT INTELLIGENT KEY SYSTEM]

1 - Ground : Battery voltage

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace fuse or harness.



4. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

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

3 - Ground : Continuity should exist.

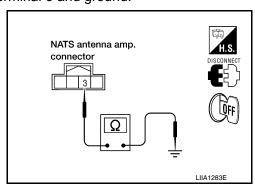
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

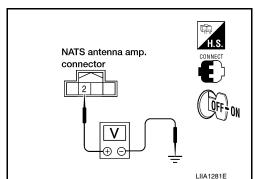
NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60</u>, <u>"Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".



5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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



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

Is the inspection result normal?

YES >> GO TO 6

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60, "Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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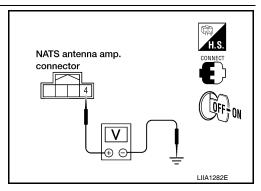
Revision: April 2009 SEC-135 2010 Armada

B2190 NATS ANTENNA AMP.

[WITHOUT INTELLIGENT KEY SYSTEM]

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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



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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60, "Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

B2191 DIFFERENCE OF KEY

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2191 DIFFERENCE OF KEY

Description INFOID:0000000004917385

Performs ID verification through BCM when ignition knob switch is pressed.

Prohibits the release of steering lock or start of engine when an unregistered ID of mechanical key is used.

DTC Logic INFOID:0000000004917386

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2191	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 the key cylinder.
- Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-137, "Diagnosis Procedure".

>> Inspection End. NO

Diagnosis Procedure

1. PERFORM INITIALIZATION

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

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

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

YES >> Mechanical key was unregistered.

NO >> BCM is malfunctioning.

- Replace BCM. Refer to BCS-60, "Removal and Installation".
- Perform initialization again

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B2192 ID DISCORD, IMMU-ECM

Description INFOID:000000004917388

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

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-132, "DTC Logic".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-133, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD IMMU- 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-III.

Is DTC detected?

YES >> Refer to <u>SEC-138</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004917390

1.PERFORM INITIALIZATION

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

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

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

YES >> ID was unregistered.

NO >> GO TO 2

2.PEPLACE BCM

- 1. Replace BCM. Refer to BCS-60, "Removal and Installation".
- Perform initialization with CONSULT-III. Re-register all mechanical keys. For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

YES >> BCM is malfunctioning.

NO >> GO TO 3

3.PEPLACE ECM

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

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

YES >> ECM is malfunctioning.

NO >> GO TO 4

4. CHECK INTERMITENT INCIDENT

Refer to GI-38, "Intermittent Incident".

B2192 ID DISCORD, IMMU-ECM

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

>> Inpection End.	
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B2193 CHAIN OF ECM-IMMU

[WITHOUT INTELLIGENT KEY SYSTEM]

B2193 CHAIN OF ECM-IMMU

Description INFOID:000000004917391

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:000000004917392

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-132, "DTC Logic"</u>.
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-133, "DTC Logic"</u>.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to <u>SEC-140, "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004917393

1.REPLACE BCM

- Replace BCM. Refer to <u>BCS-60, "Removal and Installation"</u>.
- Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

Does the engine start?

YES >> BCM was malfunctioning.

NO >> ECM is malfunctioning.

- · Replace ECM.
- · Perform ECM re-communicating function.

P1610 LOCK MODE

[WITHOUT INTELLIGENT KEY SYSTEM] < COMPONENT DIAGNOSIS > P1610 LOCK MODE Α Description INFOID:0000000004917394 When the starting operation is carried more than five times consecutively under the following conditions, NATS В will shift to the mode which prevents the engine from being started. · Unregistered mechanical key is used. · BCM or ECM's malfunctioning. DTC Logic INFOID:0000000004917395 DTC DETECTION LOGIC D Trouble diagnosis DTC No. DTC detecting condition Possible cause name Е When the starting operation is carried out five or more times consecutively under the P1610 LOCK MODE following conditions. F · Unregistered mechanical key · BCM or ECM's malfunctioning. DTC CONFIRMATION PROCEDURE 1. PERFORM DTC CONFIRMATION PROCEDURE Turn ignition switch ON. Check "Self diagnostic result" with CONSULT-III. Н Is DTC detected? YES >> Refer to <u>SEC-141</u>, "<u>Diagnosis Procedure</u>". NO >> Inspection End. Diagnosis Procedure INFOID:0000000004917396 1. CHECK ENGINE START FUNCTION Perform the check for DTC except DTC P1610. Use CONSULT-III to erase DTC after fixing. SEC 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-38, "Intermittent Incident". >> Inspection End. Ν

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[WITHOUT INTELLIGENT KEY SYSTEM]

P1611 ID DISCORD, IMMU-ECM

Description INFOID.000000005192528

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-132, "DTC Logic".
- If DTC P1611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-133, "DTC Logic"</u>.

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

Is DTC detected?

YES >> Refer to <u>SEC-142</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000005192530

1.PERFORM INITIALIZATION

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

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

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

YES >> ID was unregistered.

NO >> GO TO 2

2.PEPLACE BCM

- Replace BCM. Refer to <u>BCS-60, "Removal and Installation"</u>.
- Perform initialization with CONSULT-III. Re-register all mechanical keys. For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

YES >> BCM is malfunctioning.

NO >> GO TO 3

3.PEPLACE ECM

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

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

YES >> ECM is malfunctioning.

NO >> GO TO 4

4. CHECK INTERMITENT INCIDENT

Refer to GI-38, "Intermittent Incident".

P1611 ID DISCORD, IMMU-ECM

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

>> Inspection End.		
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P1612 CHAIN OF ECM-IMMU

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1612 CHAIN OF ECM-IMMU

Description INFOID:000000005192531

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-132, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-133, "DTC Logic"</u>.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000005192533

1.REPLACE BCM

- Replace BCM. Refer to <u>BCS-60, "Removal and Installation"</u>.
- Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

Does the engine start?

YES >> BCM was malfunctioning.

NO >> ECM is malfunctioning.

- · Replace ECM.
- · Perform ECM re-communicating function.

P1614 CHAIN OF IMMU-KEY

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1614 CHAIN OF IMMU-KEY

Description INFOID:0000000005192534

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

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

DTC Logic INFOID:0000000005192535

DTC DETECTION LOGIC

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DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
P1614	CHAIN OF IMMU- KEY	Inactive communication between NATS antenna amp. and BCM. Ignition key is malfunctioning.	Harness or connectors (The NATS antenna amp. circuit is open or shorted) Ignition key NATS antenna amp. BCM	E

DTC CONFIRMATION PROCEDURE

$oldsymbol{1}$. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-176, "Wiring Diagram - NVIS -".

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp, installation, Refer to SEC-196, "Removal and Installation"

Is the inspection result normal?

YES >> GO TO 2

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

YES >> • Ignition key ID chip is malfunctioning.

- · Replace the ignition key.
- Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

NO >> GO TO 3

3.CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

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

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P1614 CHAIN OF IMMU-KEY

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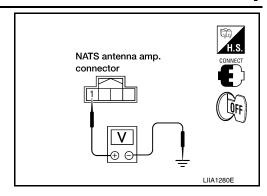
[WITHOUT INTELLIGENT KEY SYSTEM]

1 - Ground : Battery voltage

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace fuse or harness.



4. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

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

3 - Ground : Continuity should exist.

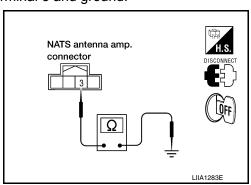
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

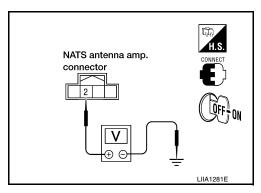
NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60</u>, <u>"Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".



5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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



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

Is the inspection result normal?

YES >> GO TO 6

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to <u>BCS-60, "Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

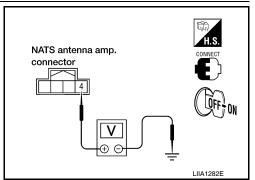
P1614 CHAIN OF IMMU-KEY

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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



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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to BCS-60, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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P1615 DIFFRENCE OF KEY

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1615 DIFFRENCE OF KEY

Description INFOID:000000005192537

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 the key cylinder.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000005192539

1.PERFORM INITIALIZATION

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

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

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

YES >> Mechanical key was unregistered.

NO >> BCM is malfunctioning.

- Replace BCM. Refer to BCS-60, "Removal and Installation".
- · Perform initialization again

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM: Diagnosis Procedure

INFOID:0000000005229935

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Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
57	Pattony nower supply	22 (15A)
70	Battery power supply	F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

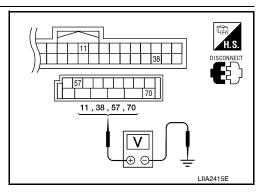
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

Connector	Terminals		Power	Condition	Voltage (V) (Ap-
Connector	(+)	(-)	source	Condition	prox.)
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	lgnition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
10120	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage



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<u>Is the measurement value normal?</u> YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

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POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

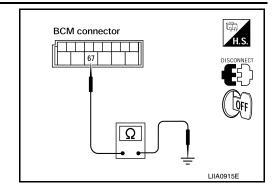
Check continuity between BCM harness connector and ground.

ВС	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M20 67			Yes	

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

KEY CYLINDER SWITCH

Description INFOID:0000000004917398

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

Component Function Check

INFOID:0000000004917399

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1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to <u>SEC-151, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:0000000004917400

Regarding Wiring Diagram information, refer to SEC-165. "Wiring Diagram - VEHICLE SECURITY SYSTEM".

1. CHECK DOOR KEY CYLINDER SWITCH LH

With CONSULT-III

Check front door lock assembly LH (key cylinder switch) ("KEY CYL LK-SW") and ("KEY CYL UN-SW) in DATA MONITOR mode with CONSULT-III.

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

KEY CYL LK-SW : ON

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

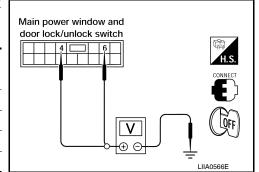
KEY CYL UN-SW : ON

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Without CONSULT-III

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

Connector	Terminals		Condition of left front key cylinder	Voltage (V)	
Commedia	(+)	(-)	Condition of left from key dyffinder	(Approx.)	
	4		Neutral/Unlock	5	
5-	_	Ground	Lock	0	
D7	6		Neutral/Lock	5	
	-		Unlock	0	



Is the inspection result normal?

YES >> Key cylinder switch signal is OK.

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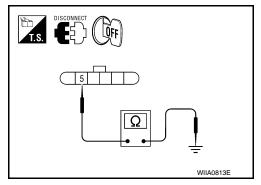
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NO >> GO TO 2

2.check door key cylinder switch LH ground Harness

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

Connector	Terminals	Continuity
D14	5 – Ground	Yes



Is the inspection result normal?

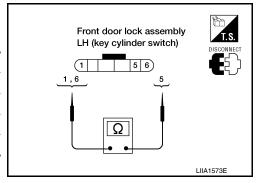
YES >> GO TO 3

NO >> Repair or replace harness.

3.check door key cylinder switch LH

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

Terminals	Condition	Continuity
1 – 5	Key is turned to UNLOCK or neutral.	No
1-5	Key is turned to LOCK.	Yes
5 – 6	Key is turned to LOCK or neutral.	No
3-0	Key is turned to UNLOCK.	Yes



Is the inspection result normal?

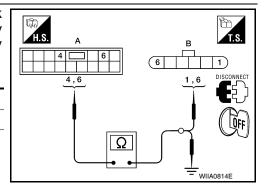
YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-396</u>, "Removal and Installation".

4. CHECK DOOR KEY CYLINDER HARNESS

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

Connector	Terminals	Connector	Terminals	Continuity
A: Main power win- dow and door lock/ unlock switch	4	B: Front	1	Yes
	6	door lock assembly LH (key cylinder switch)	6	Yes
	4, 6	Gi	round	No



Is the inspection result normal?

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

NO >> Repair or replace harness.

HORN FUNCTION

[WITHOUT INTELLIGENT KEY SYSTEM]

HORN FUNCTION

Symptom Table

HAZARD AND HORN REMINDER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check "Work flow". Refer to DLK-8, "Work Flow".
- If the following symptoms" are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

Conditions of Vehicle (Operating Conditions)

- "ANSWER BACK FUNCTION" is ON when setting on CONSULT-III.
- Ignition switch is in OFF position.
- · All doors are closed.

Symptom		Diagnosis/service procedure	Reference page
	1.	Check "HAZARD LAMP SET" setting in "WORK SUPPORT".	SEC-131
Hazard reminder does not operate by keyfob. (Horn reminder operate.)	2.	Check hazard function.	DLK-113
(3.	Check keyfob battery.	DLK-293
Horn reminder does not operate by keyfob.		Check "HORN WITH KEYLESS LOCK" setting in "WORK SUPPORT".	SEC-131
(Hazard reminder operate.)	2.	Check horn function.	DLK-109
	3.	Check Intermittent Incident.	<u>GI-38</u>

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VEHICLE SECURITY INDICATOR

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY INDICATOR

Description INFOID:000000004917402

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

Component Function Check

INFOID:0000000004917403

1. CHECK FUNCTION

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

Test it	em	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-154, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:0000000004917404

Regarding Wiring Diagram information, refer to <u>SEC-165</u>, "Wiring Diagram - <u>VEHICLE SECURITY SYSTEM"</u>.

1. SECURITY INDICATOR LAMP ACTIVE TEST

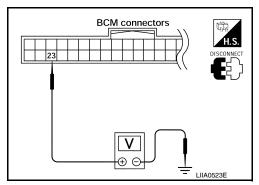
(P)With CONSULT-III

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

Without CONSULT-III

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

Connector	Term	ninals	Condition	Voltage (V)	
Connector	(+) (-)		Condition	(Approx.)	
M18	23	Ground	ON	0	
IVITO	25	Oround	OFF	Battery voltage	



Is the inspection result normal?

YES >> Security indicator lamp is OK.

NO >> GO TO 2

$2.\mathsf{security}$ indicator LAMP CHECK

Check security indicator lamp condition.

Is the inspection result normal?

YES >> GO TO 3

NO >> Replace security indicator lamp.

3.CHECK HARNESS CONTINUITY

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

VEHICLE SECURITY INDICATOR

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

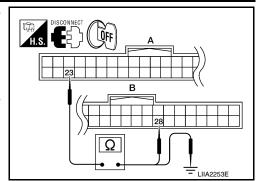
23 - 28 : Continuity should exist.

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

23 - Ground : Continuity should not exist.

Is the inspection result normal?

- YES >> Check the following:
 - 10A fuse [No. 19, located in fuse block (J/B)]
 - · Harness for open or short between security indicator lamp and fuse
- NO >> Repair or replace harness.



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Revision: April 2009 SEC-155 2010 Armada

BCM (BODY CONTROL MODULE) [WITHOUT INTELLIGENT KEY SYSTEM]

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

A/C switch OFF
A/C switch ON OFF Outside of the room is dark OFF Outside of the room is bright ON AUTO LIGHT SW Lighting switch OFF Lighting switch AUTO ON BACK DOOR SW Back door closed OFF Cargo lamp switch OFF Cargo lamp switch OFF Cargo lamp switch ON ON Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW DOOR SW-AS Front door RH closed Front door LH closed Front door LH closed Pear door LH closed Rear door LH closed Rear door LH closed Rear door RH closed OFF
AUT LIGHT SYS Outside of the room is bright ON AUTO LIGHT SW Lighting switch OFF OFF Lighting switch AUTO ON BACK DOOR SW Back door closed OFF Back door opened ON ON CARGO LAMP SW Cargo lamp switch OFF OFF Cargo lamp switch ON ON ON CDL LOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF DOOR SW-DR Front door RH closed OFF DOOR SW-RL Rear door LH closed OFF DOOR SW-RL Rear door LH closed OFF Rear door LH closed OFF Rear door RH closed OFF
Outside of the room is bright ON AUTO LIGHT SW Lighting switch OFF OFF Lighting switch OFF ON BACK DOOR SW Back door closed OFF Back door opened ON CARGO LAMP SW Cargo lamp switch OFF OFF Cargo lamp switch ON ON ON CDL LOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF DOOR SW-DR Front door LH closed OFF DOOR SW-RL Rear door LH closed OFF DOOR SW-RL Rear door LH closed OFF Rear door LH closed OFF Rear door RH closed OFF
Lighting switch AUTO
Lighting switch AUTO
BACK DOOR SW Back door opened ON CARGO LAMP SW Cargo lamp switch OFF OFF Cargo lamp switch ON ON ON CDL LOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH opened ON DOOR SW-DR Front door LH closed OFF DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON Rear door LH opened ON Rear door RH closed OFF
Back door opened
CARGO LAMP SW Cargo lamp switch ON ON CDL LOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH opened ON DOOR SW-DR Front door LH closed OFF DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON Rear door LH opened ON Rear door RH closed OFF
Cargo lamp switch ON
CDL LOCK SW Press door lock/unlock switch to the LOCK side ON Door lock/unlock switch does not operate Press door lock/unlock switch to the UNLOCK side ON Press door lock/unlock switch to the UNLOCK side ON Front door RH closed Front door RH opened ON Front door LH closed Front door LH closed Front door LH closed OFF Front door LH opened ON Rear door LH closed OFF Rear door LH closed OFF Rear door RH closed OFF Rear door RH closed OFF Rear door RH closed OFF
Press door lock/unlock switch to the LOCK side
CDL UNLOCK SW Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Front door RH closed OFF Front door RH opened ON DOOR SW-DR Front door LH closed OFF Front door LH opened ON DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON Rear door LH opened ON Rear door RH closed OFF
Press door lock/unlock switch to the UNLOCK side
DOOR SW-AS Front door RH opened ON DOOR SW-DR Front door LH closed OFF Front door LH opened ON DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON Rear door RH closed OFF
Front door RH opened
DOOR SW-DR Front door LH opened ON DOOR SW-RL Rear door LH closed OFF Rear door LH opened ON Rear door RH closed OFF
Front door LH opened
DOOR SW-RL Rear door LH opened ON Rear door RH closed OFF
Rear door LH opened ON Rear door RH closed OFF
Rear door RH closed OFF
DOOR SW-RR Rear door RH opened ON
Engine stopped OFF
ENGINE RUN Engine running ON
FR FOG SW Front fog lamp switch OFF OFF
Front fog lamp switch ON ON
FR WASHER SW Front washer switch OFF OFF
Front washer switch ON ON
FR WIPER LOW Front wiper switch OFF OFF
Front wiper switch LO ON
FR WIPER HI OFF OFF
Front wiper switch HI ON
Front wiper switch OFF OFF
FR WIPER INT Front wiper switch INT ON
Any position other than front wiper stop position OFF
FR WIPER STOP Front wiper stop position ON
When hazard switch is not pressed OFF
HAZARD SW When hazard switch is pressed ON

< ECU DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status	<u></u>
LIGHT SW 1ST	Lighting switch OFF	OFF	
IGHT SW 1ST	Lighting switch 1st	ON	
HEAD LAMP SW1	Headlamp switch OFF	OFF	
TEAD LAIVIP SWI	Headlamp switch 1st	ON	
IEAD LAMB CMO	Headlamp switch OFF	OFF	
HEAD LAMP SW2	Headlamp switch 1st	ON	
II DE AM CIM	High beam switch OFF	OFF	
HI BEAM SW	High beam switch HI	ON	
ON ON OW	Ignition switch OFF or ACC	OFF	
GN ON SW	Ignition switch ON	ON	
	Ignition switch OFF or ACC	OFF	
GN SW CAN	Ignition switch ON	ON	
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	
	LOCK button of Intelligent Key is not pressed	OFF	
-KEY LOCK ¹	LOCK button of Intelligent Key is pressed	ON	
	UNLOCK button of Intelligent Key is not pressed	OFF	
-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is pressed	ON	
	Door key cylinder LOCK position	ON	
KEY CYL LK-SW	Door key cylinder other than LOCK position	OF	
	Door key cylinder UNLOCK position	ON	
KEY CYL UN-SW	Door key cylinder other than UNLOCK position	ON	
	Mechanical key is removed from key cylinder	OFF	
KEY ON SW	Mechanical key is inserted to key cylinder	ON	<u></u>
	LOCK button of key fob is not pressed	OFF	<u></u>
KEYLESS LOCK ²	LOCK button of key fob is pressed	ON	
	UNLOCK button of key fob is not pressed	OFF	
KEYLESS UNLOCK ²	UNLOCK button of key fob is pressed	ON	
OIL PRESS SW	Ignition switch OFF or ACC Engine running	OFF	
SIET REGO GW	Ignition switch ON	ON	
	Bright outside of the vehicle	Close to 5V	
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0V	
	Other than lighting switch PASS	OFF	
PASSING SW	Lighting switch PASS	ON	<u></u>
	Return to ignition switch to LOCK position	OFF	
PUSH SW ¹	Press ignition switch	ON	
	Rear window defogger switch OFF	OFF	
REAR DEF SW	<u> </u>	ON	
	Rear window defogger switch ON		
RKE LCK-UNLCK	LOCK/UNLOCK buttons of key fob not pressed at same time	OFF	
	LOCK/UNLOCK buttons of key fob pressed at same time	ON	
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	OFF	
	UNLOCK button of key fob is pressed	ON	
RR WASHER SW	Rear washer switch OFF	OFF	
	Rear washer switch ON	ON	

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BCM (BODY CONTROL MODULE) [WITHOUT INTELLIGENT KEY SYSTEM]

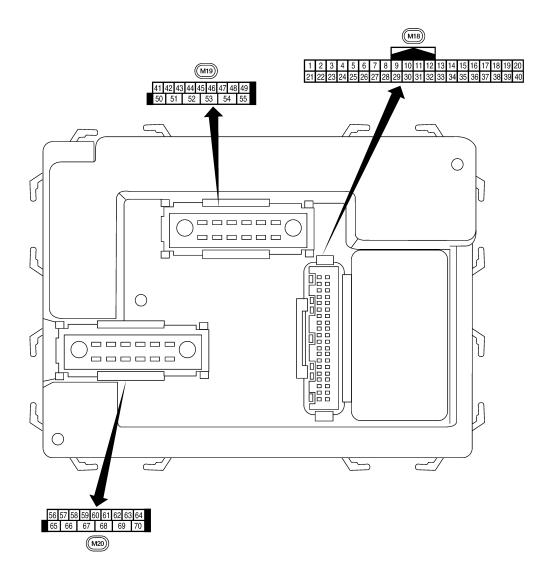
< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
RR WIPER INT	Rear wiper switch OFF	OFF
RR WIPER INT	Rear wiper switch INT	ON
RR WIPER ON	Rear wiper switch OFF	OFF
RR WIFER ON	Rear wiper switch ON	ON
RR WIPER STOP	Rear wiper stop position	OFF
RR WIPER STOP	Other than rear wiper stop position	ON
RR WIPER STP2	Rear wiper stop position	OFF
	Other than rear wiper stop position	ON
TRNK OPNR SW	When back door opener switch is not pressed	OFF
TRINK OPINK SW	When back door opener switch is pressed	ON
TURN SIGNAL L	Turn signal switch OFF	OFF
TURN SIGNAL L	Turn signal switch LH	ON
TURN SIGNAL R	Turn signal switch OFF	OFF
TURN SIGNAL R	Turn signal switch RH	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

^{1:} With Intelligent Key

^{2:} With remote keyless entry system

Terminal Layout



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Physical Values

[WITHOUT INTELLIGENT KEY SYSTEM]

	\\/inc		Signal		Measuring condition	Deference value or way of arm
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
1	BR/W	Ignition keyhole illumi-	Output	OFF	Door is locked (SW OFF)	Battery voltage
	DIVVV	nation	Output	OH	Door is unlocked (SW ON)	0V
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 +5ms SKIA5291E
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ***5ms SKIAS291E
5	G/B	Combination switch input 2				00
6	V	Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 2 0 → 5ms SKIA5292E
					Rear window defogger switch	0V
9	GR/R	Rear window defogger switch	Input	ON	ON Rear window defogger switch OFF	5V
10	_	Hazard lama fleeb	lnn:-t	OFF	ON (opening or closing)	0V
10	G	Hazard lamp flash	Input	OFF	OFF (other than above)	Battery voltage
11	0	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH	Input	OFF	ON (open) OFF (closed)	0V Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open) OFF (closed)	0V Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	_	5V
18	Р	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	_	0V

BCM (BODY CONTROL MODULE) [WITHOUT INTELLIGENT KEY SYSTEM]

	Miro		Signal		Measuring condition	Reference value or waveform												
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)												
19	V/W	Remote keyless entry receiver (power sup- ply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 ***50 ms												
20	G/W	Remote keyless entry	Input	OFF	Stand-by (keyfob buttons released)	(V) 6 4 2 0 *********************************												
20	3	receiver (signal)				mput			·	icij		put OFF					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.												
22	W/V	BUS	_	_	Ignition switch ON or power window timer operates	(V) 15 10 5 0 200 ms												
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V												
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF \rightarrow ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.												
					Rise up position (rear wiper arm on stopper)	0V												
	26 Y/L Rear wiper auto stop switch 2				A Position (full clockwise stop position)	0V												
26		Input	ON	Forward sweep (counterclockwise direction)	Fluctuating													
												B Position (full counterclockwise stop position)	Battery voltage					
					Reverse sweep (clockwise direction)	Fluctuating												
27	W/R	Compressor ON sig-	Input	ON	A/C switch OFF	5V												
		nal		.,	A/C switch ON	0V												

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Revision: April 2009 SEC-161 2010 Armada

BCM (BODY CONTROL MODULE) [WITHOUT INTELLIGENT KEY SYSTEM]

< ECU D	IAGNO		M (BOI	אל כטו	NTROL MODULE) [WITHOUT IN	TELLIGENT KEY SYSTEM]
			Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
	L/D	Front blower monitor	laaut	ON	Front blower motor OFF	Battery voltage
28	L/R	Front blower monitor	Input	ON	Front blower motor ON	0V
	VA//D	He and a State	11	055	ON	0V
29	W/B	Hazard switch	Input	OFF	OFF	5V
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0
35	O/B	Combination switch output 2				(V)
36	R/W	Combination switch output 1	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	5ms SKIA5292E
1	D/D	Key switch and igni-	1	OFF	Intelligent Key inserted	Battery voltage
37 ¹	B/R	tion knob switch	Input	OFF	Intelligent Key inserted	0V
37 ²	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted Key inserted	Battery voltage 0V
38	W/L	Ignition switch (ON)	Input	ON		Battery voltage
39	L	CAN-H	pat	_	_	
40	 P	CAN-L		_	_	_
42	GR	Glass hatch ajar switch	Input	ON	Glass hatch open Glass hatch closed	0 Battery
		Back door switch			ON (open)	0V
43	R/B	(without power back door) or back door latch (door ajar switch) (with power back door)	Input	OFF	OFF (closed)	Battery voltage

< ECU DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

	Wire		Signal		Measuring condition	Reference value or waveform	
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)	
					Rise up position (rear wiper arm on stopper)	0V	
					A Position (full clockwise stop position)	Battery voltage	
44	0	Rear wiper auto stop switch 1	Input	ON	Forward sweep (counterclockwise direction)	Fluctuating	
					B Position (full counterclockwise stop position)	0V	
					Reverse sweep (clockwise direction)	Fluctuating	
47	SB	Front door switch LH	Input	OFF	ON (open)	0V	
7/	OD	1 TOTA GOOT SWILCH ETT	input	OH	OFF (closed)	Battery voltage	
48	R/Y	Rear door switch LH	Input	OFF	ON (open)	0V	
-1 U	1 1 1	Acai door switch Life	mput	511	OFF (closed)	Battery voltage	
49	R	Cargo lamp	Output	OFF	Any door open (ON)	0V	
43	IX	Cargo lamp	Output	OH	All doors closed (OFF)	Battery voltage	
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	(V) 15 10 5 0 500 ms SKIA3009J	
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	(V) 15 10 5 0 500 ms	
					Rise up position (rear wiper arm on stopper)	0V	
					A Position (full clockwise stop position)	0V	
54	Υ	Rear wiper output cir- cuit 2	Input	Input ON	ON	Forward sweep (counterclockwise direction)	0V
				B Position (full counterclockwise stop position)	Battery voltage		
					Reverse sweep (clockwise direction)	Battery voltage	
55	SB	Rear wiper output cir- cuit 1	Output	ON	OFF ON	0 Battery voltage	
56	R/G	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V	
				ON		Battery voltage	
57	Y/R	Battery power supply	Input	OFF	_	Battery voltage	

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Revision: April 2009 SEC-163 2010 Armada

BCM (BODY CONTROL MODULE) [WITHOUT INTELLIGENT KEY SYSTEM]

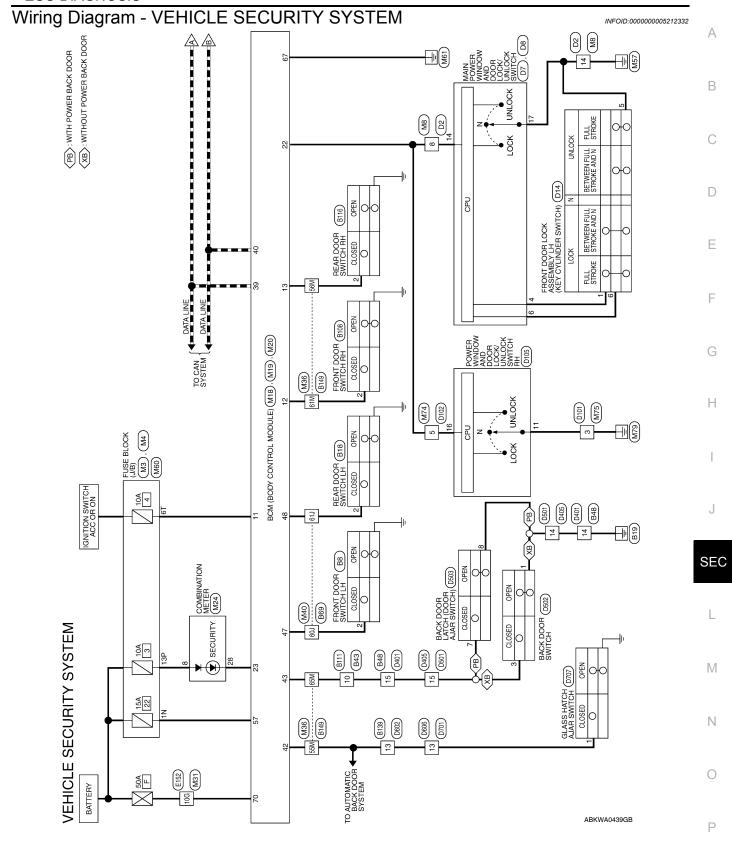
< ECU DIAGNOSIS >

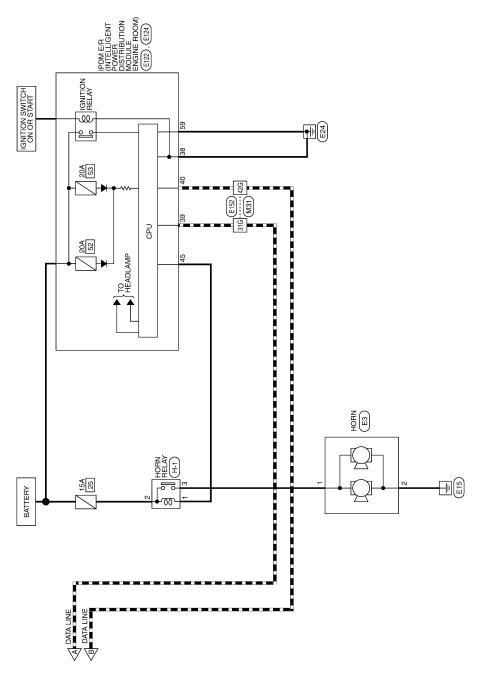
	100		Signal		Measuring con-	dition	Defended all and a seferic					
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition		Reference value or waveform (Approx.)					
58	W/R	Optical sensor	Input	ON	ON When optical sensor is illuminated When optical sensor is not illuminated		3.1V or more					
36	VV/IX	Optical sellsol	input	ON			0.6V or less					
		Front door lock as-	0 1 1	055	OFF (neutral)		0V					
59	G	sembly LH actuator (unlock)	Output	OFF	ON (unlock)		Battery voltage					
60	G/B	Turn signal (left)	Output	ON	Turn left ON		(V) 15 10 50 SKIA3009J					
61	G/Y	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 500 ms					
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)		0V					
02	1000	Otop lamp Err and rer	Output	011	OFF (all doors closed)		Battery voltage					
63	L	Interior room/map	Output	OFF	Any door	ON (open)	0V					
		lamp	·		switch	OFF (closed)	Battery voltage					
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)		0V					
		Front door lock actua-			ON (lock)		Battery voltage 0V					
66	G/Y	tor RH, rear door lock actuators LH/RH and back door lock actua- tor (unlock)	Output	OFF	OFF (neutral) ON (unlock)		Battery voltage					
67	В	Ground	Input	ON	-	_	0V					
					Ignition switch	ON	Battery voltage					
				Within 45 seconds after tion switch OFF More than 45 seconds nition switch OFF			Battery voltage					
68	W/L	Power window power supply (RAP)				0V						
											When front door LH or RH is open or power window timer operates	
69	W/R	Power window power supply	Output	_		_	Battery voltage					
70	W/B	Battery power supply	Input	OFF	-	_	Battery voltage					

^{1:} With Intelligent Key system

^{2:} With remote keyless entry system

[WITHOUT INTELLIGENT KEY SYSTEM]





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| 56|57|58|59|60|61|62|63|64 | 65 | 66 | 67 | 68 | 69 | 70

Connector Name | WIRE TO WIRE

Connector No.

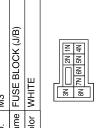
Connector Color WHITE

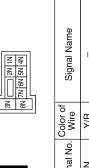
VEHICLE SECURITY SYSTEM CONNECTORS

Connector Name FUSE BLOCK (J/B)

Connector No.

Connector Color WHITE





n	Signal Name	1	
	Color of Wire	Y/R	
	Terminal No.	NI	

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

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Terminal No.	13P	
Signal Name	1	
Color of Wire	H/Y	
9		



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

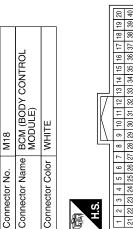
BCM (BODY CONTROL MODULE)

Connector Name Connector Color

Connector No.

BLACK





	_	
22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40		
33		
88		
37		
36		<u>ω</u>
35		a
8		Z
ಜ		na
32		Signal Name
31		",
30		
29		
28		<u>و</u> ي ا
27		Color of Wire
56		ŏ-
52		<u>.</u>
24		erminal No.
ಣ		≟
52		

Signal Name	ACC SW	DOOR SW (AS)	DOOR SW (RR)	ANTI-PINCH SERIAL LINK (RX,TX)	SECURITY INDICATOR OUTPUT	CAN-H	CAN-L
Color of Wire	0	R/L	GR	N/M	0/5	_	Ь
Terminal No.	+	12	13	22	23	39	40

GND (POWER)

В

BAT (F/L)

W/B

Signal Name

Color of Wire

Terminal No.

BAT(FUSE)

Ϋ́Я

22 67

GLASS HATCH SW

Signal Name

Color of Wire

Terminal No.

42 43 47 48

BACK DOOR SW DOOR SW (DR) DOOR SW (RL)

R/B GR

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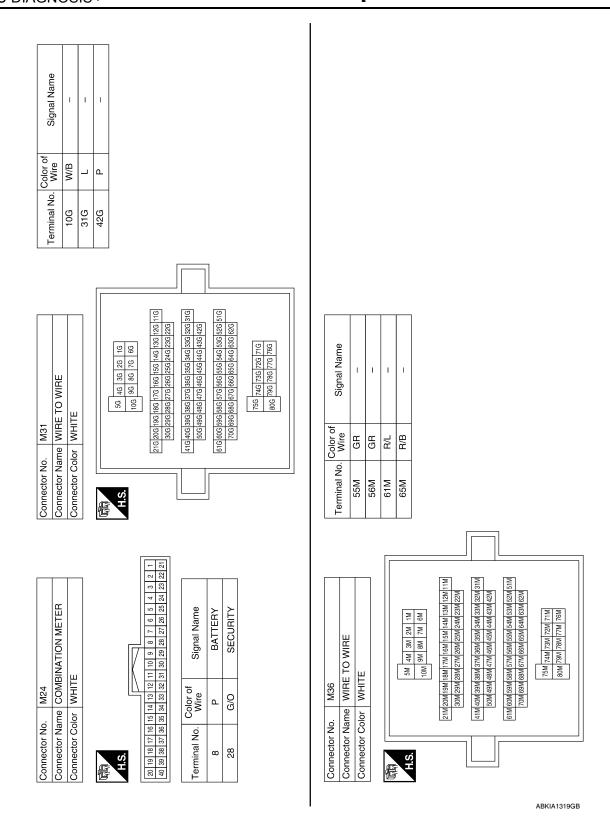
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SEC-167 Revision: April 2009 2010 Armada



< ECU DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

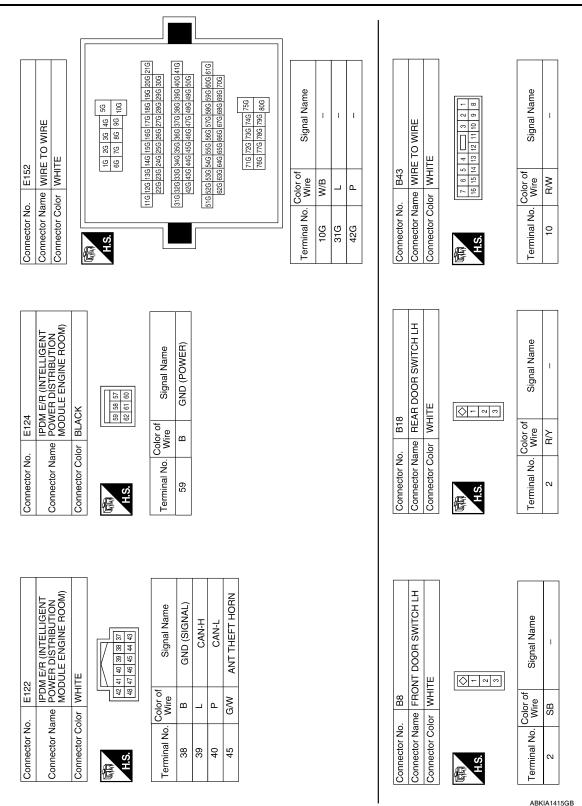
	A
Connector No. M60 Connector Name FUSE BLOCK (J/B) Connector Color of Fire Fire Fire Fire Fire Fire Fire Fire	B C C
	Е
	F
Signal Name	G
MA75 WHITE TO WHITE TO WHITE TO BE T	
No. Color of No. Wire	I
Color of Signal S	J
	SEC
M40 MHTE M	L
M40 WHRE TO W WHITE 10 91 10 10 10 10 92 12 12 12 10 93 12 12 12 10 93 12 12 12 10 93 93 93 93 93 10 93 93 93 93 93 10 93 93 93 93 93 10 93 93 93 93 10 93 93 93 93 10 93 93 93 93 10 93 93 93 93 10 93 93 93 93 10 93 93 93 93 10 93 93 93 93 10 93 93 93 93 10 93 93 93 10 93 93 93 10 93 93 93 10 93 93 93 10 93 93 93 10 93 93 93 10 93 10 93 93 10 93	M
Connector No. M40	N
Connector No. Connector Name Connector Color Auth Etul	IV
Conne Conne Conne Conne Conne	0

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< ECU DIAGNOSIS >



[WITHOUT INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

Connector No. E34
Connector Name WIRE TO WIRE

Connector Color WHITE

Connector No. E16
Connector Name ECM
Connector Color BLACK

120 1

117

Connector No.). E119	6
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	olor WH	J.E
原南 H.S.	9 8 7 6 6	7 6 (
Terminal No. Wire	Color of Wire	Signal Name
12	M	IGN SW (IG)

Connector No.	o. E122	2
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor WHITE	ITE
原 H.S.	42 41	40 39 88 37 46 43
Terminal No.	Color of Wire	Signal Name
38	В	GND (SIGNAL)
39	_	CAN-H
40	۵	CAN-L
48	B/R	INHIBIT SW

	_
Signal Name	
Color of Wire P	
Terminal No. Wire 23 P 24 L	

Olginal Ivalia	ı	ı		1	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	NMO	94 33 32 31 30	Signal Name	ECM BAT	
D 	Ь	_		. E121		lor BROWN	36 35 3	Color of Wire	M	
	23	24		Connector No.	Connector Name	Connector Color	雨 H.S.	Terminal No.	30	
							- 			

	Signal Name	CAN-L	CAN-H		0	IPDM E/B (INTELLIGENT
	Color of Wire	Ь	٦		. E120	IP
IJ	Terminal No. Wire	98	94		Connector No.	

Connector No.). E120	50
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	lor WF	HTE
雨 H.S.	24	20 19
Terminal No. Wire	Color of Wire	Signal Name
19	W/R	STARTER MTR
21	BR	IGN SW (ST)

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MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH Signal Name Signal Name GND ī 1 17 18 19 WHITE Color of Wire Color of Wire GR GR R/L ₩ W В Connector Name Connector Color Connector No. Terminal No. Terminal No. 61M 55M 26M 65M 1 31M 32M 33M 34M 35M 36M 37M 38M 39M 40M 41M 42M 43M 44M 45M 46M 47M 47M 48M 49M 50M 11M 12M 13M 14M 15M 16M 17M 18M 19M 20M 21M 22M 23M 24M 25M 25M 25M 29M 30M 51M 52M 53M 54M 55M 56M 57M 58M 59M 60M 61M 62M 62M 63M 64M 65M 66M 67M 68M 69M 70M MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH ANTI PINCH SERIAL LINK Signal Name UNLOCK 1M 2M 3M 4M 5M 6M 7M 8M 9M 10M 71M 72M 73M 74M 75M 76M 77M 78M 79M 80M LOCK Connector Name | WIRE TO WIRE WHITE WHITE B149 Color of Wire LG/W ш _ Connector Color Connector Name Connector Color Connector No. Connector No. Terminal No. 4 4 9 E Signal Name Signal Name 1 2 3 1 4 5 6 7 8 9 10 11 12 13 14 15 16 1 2 3 **——** 4 5 6 7 8 9 10 11 12 13 14 15 16 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color | WHITE Connector Color WHITE B139 Color of Wire Color of Wire LG/W GR Δ Connector No. Connector No. Terminal No. Terminal No. 4 13 ω

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[WITHOUT INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

Connector No. D14	D14	Connector No. D101	o. D101		Connector No. D102	D102	
tor Name	Connector Name FRONT DOOR LOCK	Connector Name WIRE TO WIRE	ame WIRE	TO WIRE	Connector Name WIRE TO WIRE	ne WIRE	TO WIRE
	ASSEMBLY LH	Connector Color WHITE	olor WHIT	Щ	Connector Color BROWN	or BROV	N
Connector Color BLACK	BLACK						
	2 3 4 5 6	H.S.	5 6 7	© 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	H.S.	0 11 12 13 14	1 2 3 4 5
Terminal No. Wire	r of Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name
	LOCK	င	В	1	2	LG/W	I
В	GND						
۳	UNLOCK						

15	RE TO WIRE	ITE	10 9 8 7 6 6 4 3 2 1 1 18 17 16 15 14 13 12 11	Signal Name	I	ı
D40	e WIF	WH	18 17 16	color of Wire	В	B/W
Connector No. D405	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	14	15
Connector No. D401	Connector Name WIRE TO WIRE	Connector Color WHITE	1 2 3 4 5 = 6 7 8 9 10	Terminal No. Color of Signal Name	ı	R/W –

Connector Name AND DOOR SWITCH RH Connector Color WHITE	Connector Name AND DOOR LOCK/UNLOCK SWITCH RH Connector Color WHITE 2 3 4 5 6 7 1 2 3 4 1 1 1 1 1 1 1 1
	12 13 14 15
3 4 [2 3 4 5 6 9 10 11 12 13 14 15
	Solor of Signal Name
11 B	B GND
16 LG/W ANTI PII	LG/W ANTI PINCH SERIAL LINK

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Revision: April 2009 SEC-173 2010 Armada

Connector No. D105

BCM (BODY CONTROL MODULE) [WITHOUT INTELLIGENT KEY SYSTEM]

	JOOR LATCH		<u> </u>	Signal Name	ı	ı
D203	ne BACK [or WHITE	1 4 S	Solor of Wire	B/W	В
Connector No. D503	Connector Name BACK DOOR LATCH	Connector Color WHITE	H.S.	Terminal No. Wire	7	∞
01	Connector Name BACK DOOR SWITCH	1		Signal Name	ı	ı
. D502	me BAC	lor WHI		Color of Wire	В	W/A
Connector No. D502	Connector Na	Connector Color WHITE	刷 H.S.	Terminal No. Wire	-	က
	TO WIRE		13 14 15 16 17 18	Signal Name	1	1
D201	Name WIRE TO WIRE	or WHITE	12 3 4 5 11 12 13 14 5 1	Color of Wire	В	B/W
r Se	Nan	r Color		Š.		

Connector No.	D701	-
or Nar	ne WIR	Connector Name WIRE TO WIRE
S	Connector Color WHITE	TE
	1 2 3 8 9 10	2 3 mm 4 5 6 7 9 10 11 12 13 14 15 16
Terminal No.	Color of Wire	Signal Name
	GR	ı

	I		i e		
90	RE TO WIRE	ITE	7 6 5 4 6 7 1 10 9 8	Signal Name	-
. D606	me WIF	lor	7 6 5 14 16 15 14	Color of Wire	GR
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	13

			1		
2	IE TO WIRE	<u> </u>	7 6 5 4 4 10 9 8 8 10 9 8 10 9 8 10 9 8 10 9 8 10 9 8 10 9 8 10 9 8 10 9 8 10 9 8 10 9 8 10 9 10 9	Signal Name	I
. D602	me WIF	lor WH	7 16 15	Color of Wire	GR
Connector No.	Sonnector Name WIRE TO WIRE	Connector Color WHITE	S.H.	Ferminal No.	13

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H-1 FUSE AND FUSIBLE LINK BOX (HORN REI AY)			Signal Name	1	ı	-
<u>e</u>		1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 1 1 1 1 1	Color of Wire	B/W	G/B	5
Connector No.	Connector Color	T.S.	Terminal No.	-	2	3

Signal Name	I	
Color of Wire	GR	
Terminal No.	-	

Connector Name GLASS HATCH AJAR SWITCH Connector Color BLACK

D707

Connector No.

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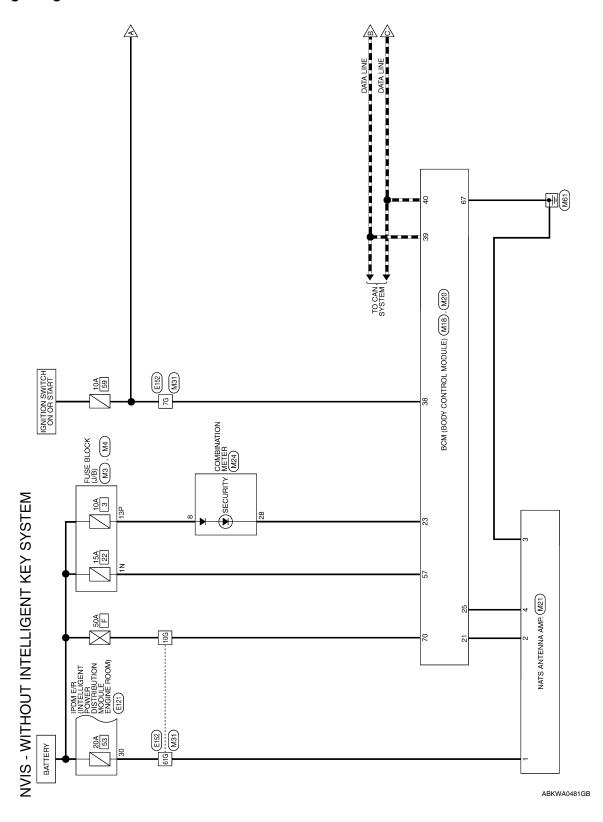
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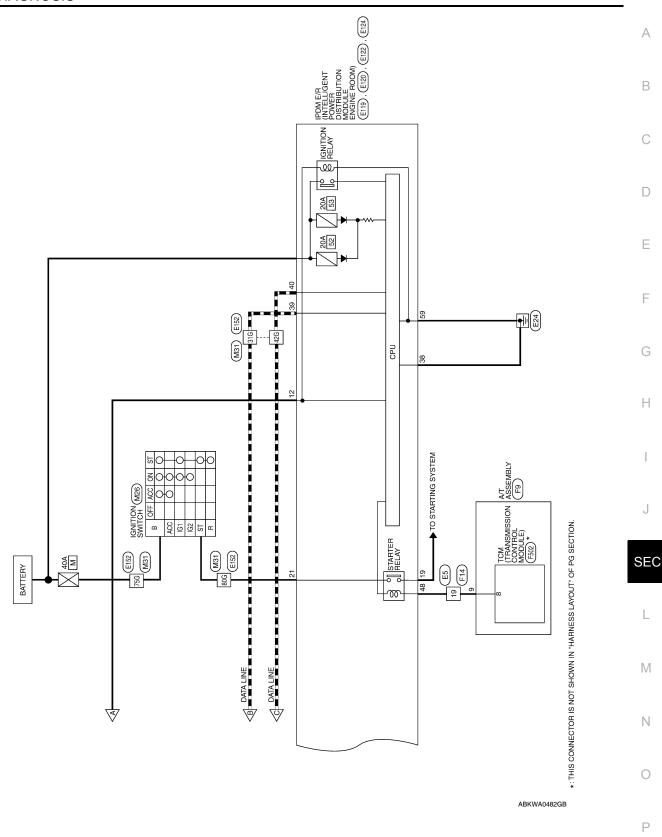
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Revision: April 2009 SEC-175 2010 Armada

Wiring Diagram - NVIS -

INFOID:0000000004917409





Revision: April 2009 SEC-177 2010 Armada

Connector Name BCM (BODY CONTROL MODULE)

Connector No. M18

WHITE

Connector Color

7P 6P 5P 4P 3P 2P 1P 1P 1P 1P 1P 1P 9P 8P

Signal Name

Color of Wire

Terminal No. 13P

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[WITHOUT INTELLIGENT KEY SYSTEM]

NVIS CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

M4	onnector Name FUSE BLOCK (J/B)	WHITE
Connector No.	Connector Name	Connector Color WHITE
M3	onnector Name FUSE BLOCK (J/B)	WHITE
Connector No.	Connector Name	Connector Color WHITE

3N	or No. or Name or Color	M3 FUSE BLOCK (J/B) WHITE

ZN 6N 5N 4N	Signal Name	I
NE NB	Color of Wire	Y/R
νά	ninal No.	1N

	2 23 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 2 2 23 24 25 26 27 28 29 29 31 32 33 34 35 36 36 37 38 39 40	Signal Name	IMMOBILIZER ANTENNA SIGNAL (CLOCK)	SECURITY INDICATOR OUTPUT	IMMOBILIZER ANTENNA SIGNAL (RX, TX)	IGN SW
	6 7 8	Color of Wire	g	0/5	BB	M/L
向 H.S.	1 2 3 4 5 21 22 23 24 25	Terminal No.	21	23	25	38

Signal Name	IMMOBILIZER ANTENNA SIGNAL (CLOCK)	SECURITY INDICATOR OUTPUT	IMMOBILIZER ANTENNA SIGNAL (RX, TX)	MS NDI	CAN-H	CAN-L	
Color of Wire	g	0/9	BB	M/L	7	Ь	
Terminal No. Wire	21	53	25	38	68	40	





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	[-	2			
	7	ន	Ι,		
	3	23 22 21			
	4	72			
	r2	ĸ		டி	
	9	8		ац	⋩
	~	27		Z	ıπ
	∞	37 36 35 34 33 32 31 30 29 28 27 26 25 24		Signal Name	BATTERY
17		83		ję.	B
V	9	8		0,	
Λ	Ξ	3			
	20 19 18 17 16 15 14 13 12 11 10 9	32			
Ξ	1 2	33		O 0	
	4	8		ਫ਼ੵਫ਼	Ф
	15	38		8 -	
	19	38		o.	
	1	37		<u>Z</u>	
	8	8		na l	ω
	19	40 39		Ē	
	20	40		Terminal No. Color of Wire	

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NATS ANTENNA A	WHITE	1 2 3 4
Name	Color	

M21

Connector No.

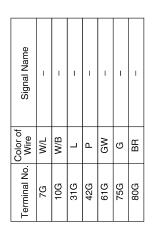
Connector Name NATS ANTENNA AMP.	11	2 3 4	Signal Name	+12V	SCL (CLOCK)	GND	SCL (TX,RX)
me NA	lor WH		Color of Wire	≥	ഗ	В	BR
Connector Na	Connector Color WHITE	原南 H.S.	Terminal No.	-	2	3	4

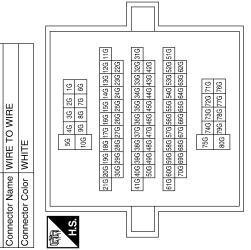
TROL			тше	SE)	/ER)	(
BCM (BODY CONTROL MODULE)	BLACK	56 57 58 59 60 61 62 63 64 65 66 67 88 69 70	Signal Name	BAT (FUSE)	GND (POWER)	(F/L)
		56 57 58 65 66	Color of Wire	۵	В	W/B
Connector Name	Connector Color	(南) H.S.	Terminal No. Wire	22	29	02

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Connector No.

[WITHOUT INTELLIGENT KEY SYSTEM]





Connector No.	. M26	
Connector Name	me IGNIT	IGNITION SWITCH
Connector Color WHITE	lor WHITI	
南 H.S.	B ST (G1	ा छ।
Terminal No.	Color of Wire	Signal Name
В	9	ı
ST	ЫB	1

DULE ENGINE HOC TITE D 19 19 19 19 19 19 19	MO MO MH
21 20 1 24 23 2 Color of Wire	H.S.
8 8	
Connector Color WHITE	ector Co
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Name
). E120	Connector No.

Connector No.	E5
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE
123 H.S.	1 2 3 4 5 6 — 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Signal Name	I	
Color of Wire	B/B	
Terminal No.	19	

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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Signal Name GND (POWER) Signal Name Connector Name | A/T ASSEMBLY 59 58 57 62 61 60 BLACK GREEN E124 Color of Wire Color of Wire B/R ш Connector Name Connector Color Connector Color Connector No. Connector No. Terminal No. Terminal No. 59 6 H.S. IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) GND (SIGNAL) Signal Name Signal Name INHIBIT SW CAN-L CAN-H 1 ī ī 42 41 40 39 38 37 48 47 46 45 44 43 E122 Color of Wire Color of Wire B/R W/L W/B BB ۵ σ ≥ В Ф Connector Name Connector Color Connector No. Terminal No. Terminal No. 10G 42G 61G 75G 31G 80G 73 38 39 40 48 H.S. 偃 11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G 22G 22G 23G 24G 25G 22G 27G 28G 29G 30G 36G 37G 38G 39G 40G 41G 46G 47G 48G 49G 50G 51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G 62G 63G 64G 65G 66G 67G 68G 69G 70G IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Signal Name ECM BAT 71G 72G 73G 74G 75G 76G 77G 78G 79G 80G 16 26 36 46 56 66 76 86 96 10G 29 28 27 26 25 36 35 34 33 32 31 30 Connector Name WIRE TO WIRE 31G 32G 33G 34G 35G 3 42G 43G 44G 45G 4 WHITE E121 E152 Color of Wire ≥ Connector Name Connector Color Connector Color Connector No. Connector No. Terminal No.

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H.S.

Solor Solor	GRAY
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10 9	<
Color of	7 6 5 4 3 2 1
lerminal No. Wire	Signal Name
8	START-RLY

Connector No.		F14	
Connector Name WIRE TO WIRE	ıme	WIR	E TO WIRE
Connector Color WHITE	ō	MH	TE .
H.S.	1 10 9	24 23 22 21 20 19 18	24[23[22[21[2019]18]17]16[15]14[13]12]
Terminal No.	Color of Wire	or of re	Signal Name
19	B/R	æ	ı
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Fail Safe

Fail-safe index

BCM performs fail-safe control when any DTC listed below is detected.

Revision: April 2009 SEC-181 2010 Armada

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE) [WITHOUT INTELLIGENT KEY SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

DTC Inspection Priority Chart

INFOID:0000000005378833

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	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2013: STRG COMM 1 B2552: INTELLIGENT KEY B2590: NATS MALFUNCTION
3	C1729: VHCL SPEED SIG ERR C1735: IGNITION SIGNAL
4	 C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RR C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] FR C1719: [PRESSDATA ERR] RR C1719: [CODE ERR] FL C1720: [CODE ERR] FR C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RR C1724: [BATT VOLT LOW] FL C1725: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL C1727: [BATT VOLT LOW] RL

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	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	BCS-33
B2013: STRG COMM 1	_	_	_	SEC-28

Revision: April 2009 SEC-182 2010 Armada

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2190: NATS ANTENNA AMP	_	_	_	SEC-31 (with I- Key), SEC-134 (without I-Key)
B2191: DIFFERENCE OF KEY	_	_	_	SEC-34 (with I- Key), SEC-137 (without I-Key)
B2192: ID DISCORD BCM-ECM	_	_	_	SEC-35 (with I- Key), SEC-138 (without I-Key)
B2193: CHAIN OF BCM-ECM	_	_	_	SEC-37 (with I- Key), SEC-140 (without I-Key)
B2552: INTELLIGENT KEY	_	_	_	SEC-39
B2590: NATS MALFUNCTION	_	_	_	<u>SEC-40</u>
C1708: [NO DATA] FL	_	_	_	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	_	<u>WT-16</u>
C1710: [NO DATA] RR	_	_	_	<u>WT-16</u>
C1711: [NO DATA] RL	_	_	_	<u>WT-16</u>
C1712: [CHECKSUM ERR] FL	_	_	_	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	_	_	_	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	_	_	_	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	_	_	_	<u>WT-16</u>
C1716: [PRESSDATA ERR] FL	_	_	_	<u>WT-18</u>
C1717: [PRESSDATA ERR] FR	_	_	_	<u>WT-16</u>
C1718: [PRESSDATA ERR] RR	_	_	_	<u>WT-16</u>
C1719: [PRESSDATA ERR] RL	_	_	_	<u>WT-16</u>
C1720: [CODE ERR] FL		_	_	<u>WT-16</u>
C1721: [CODE ERR] FR	_		_	<u>WT-16</u>
C1722: [CODE ERR] RR		_	_	<u>WT-16</u>
C1723: [CODE ERR] RL			_	<u>WT-16</u>
C1724: [BATT VOLT LOW] FL			_	<u>WT-16</u>
C1725: [BATT VOLT LOW] FR	_		_	<u>WT-16</u>
C1726: [BATT VOLT LOW] RR	_		_	<u>WT-16</u>
C1727: [BATT VOLT LOW] RL	_	_	_	<u>WT-16</u>
C1729: VHCL SPEED SIG ERR	_		_	<u>WT-19</u>
C1735: IGN_CIRCUIT_OPEN	_	_	_	_

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

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

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Con	dition	Value/Status		
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %		
A/C COMP REQ	A/C switch OFF	-	OFF		
A/C COMP REQ	A/C switch ON		ON		
TAIL&CLR REQ	Lighting switch OFF		OFF		
IAIL&CLK REQ	Lighting switch 1ST, 2ND, HI or AU	TO (Light is illuminated)	ON		
HL LO REQ	Lighting switch OFF		OFF		
HL LO REQ	Lighting switch 2ND HI or AUTO (Li	ght is illuminated)	ON		
HL HI REQ	Lighting switch OFF		OFF		
nl ni keQ	Lighting switch HI		ON		
		Front fog lamp switch OFF	OFF		
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	ON			
		Front wiper switch OFF	STOP		
ED WID DEO	lauritian auritah ONI	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		
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	Ignition switch ON Front wiper stops at fail-safe operation			
ST RLY REQ	Ignition switch OFF or ACC	Ignition switch OFF or ACC			
SI KLI KEQ	Ignition switch START		ON		
IGN RLY	Ignition switch OFF or ACC		OFF		
IGN KLT	Ignition switch ON		ON		
DD DEE DEO	Rear defogger switch OFF		OFF		
RR DEF REQ	Rear defogger switch ON	ON			
OIL P SW	Ignition switch OFF, ACC or engine	OPEN			
OIL P 3W	Ignition switch ON	CLOSE			
DTRL REQ	NOTE: This item is displayed, but cannot be	e monitored.	OFF		
	Not operated		OFF		
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE S TEM	SECURITY (THEFT WARNING) SYS-	ON		

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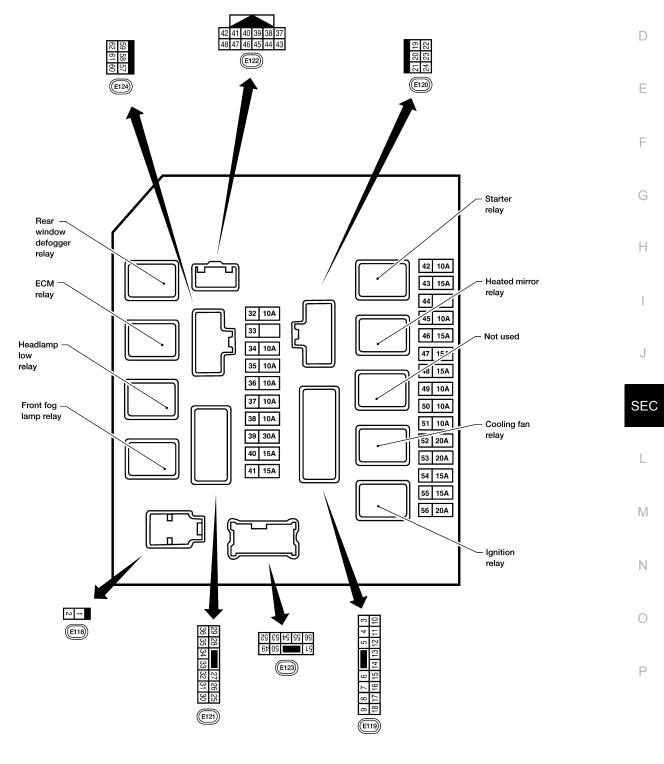
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS > [WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item Condition Value/St

Worldor item	Condition	value/Status
HORN CHIRP	Not operated	OFF
TIONN OF HIN	Door locking with keyfob or Intelligent Key (if equipped) (horn chirp mode)	ON

Terminal Layout

TERMINAL LAYOUT — TYPE A



WKIA5852E

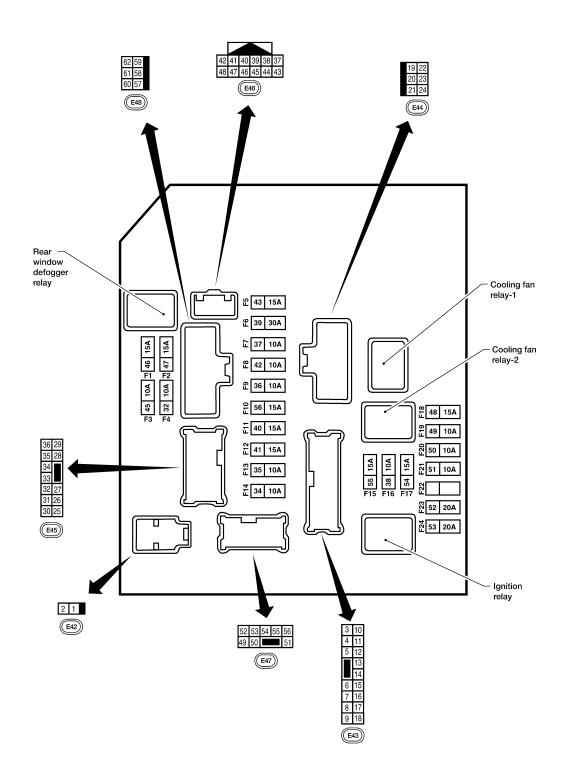
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TERMINAL LAYOUT — TYPE B



AAMIA0364GB

Numbers preceded by an "F" represent the fuse numbers imprinted on the IPDM E/R. The other numbers represent the fuse numbers as they appear in the wiring diagrams.

Physical Values INFOID:0000000005215836

PHYSICAL VALUES

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITHOUT INTELLIGENT KEY SYSTÉM]

< ECU DIAGNOSIS >

			Signal		Measuring condition		
Terminal	Wire color	Signal name	input/ output	Igni- tion switch	Operation or condition	Reference value (Approx.)	
1	B/Y	Battery power supply	Input	OFF	_	Battery voltage	_
2	R	Battery power supply	Input	OFF	_	Battery voltage	_
2	DD	ECM relev	Outout		Ignition switch ON or START	Battery voltage	
3	BR	ECM relay	Output	_	Ignition switch OFF or ACC	0V	
4	W/L	ECM relay	Output		Ignition switch ON or START	Battery voltage	
4	VV/L	Cowneay	Output	_	Ignition switch OFF or ACC	0V	
6	L	Throttle control motor	Output		Ignition switch ON or START	Battery voltage	
O	L	relay	Output	_	Ignition switch OFF or ACC	0V	
7	W//D	ECM releviountral	Innut		Ignition switch ON or START	0V	
7	W/B	ECM relay control	Input	_	Ignition switch OFF or ACC	Battery voltage	
0	D/D	Fuco 54	Outst		Ignition switch ON or START	Battery voltage	
8	R/B	Fuse 54	Output	_	Ignition switch OFF or ACC	0V	
10	0	Fuse 45	الد ساده	ON	Daytime light system active	0V	
10	G	(Canada only)	Output	ON	Daytime light system inactive	Battery voltage	
11	Y/B	A/C compressor	Output	ON or	A/C switch ON or defrost A/C switch	Battery voltage	
11	1/6	A/C compressor	Output	START	A/C switch OFF or defrost A/C switch	0V	
12	L/W	Ignition switch sup-	Innut		OFF or ACC	0V	
12	L/ VV	plied power	Input	_	ON or START	Battery voltage	
13	B/Y	Fuel pump relay	Output		Ignition switch ON or START	Battery voltage	
13	D/ I	i dei puilip relay	Output	_	Ignition switch OFF or ACC	0V	
14	Y/R	Fuse 49	Output		Ignition switch ON or START	Battery voltage	
14	1/1	ruse 49	Output	_	Ignition switch OFF or ACC	0V	
15	LG/B	Fuse 50	Output		Ignition switch ON or START	Battery voltage	
15	LG/D	1 use 50	Output		Ignition switch OFF or ACC	0V	_
16	G	Fuse 51	Outout		Ignition switch ON or START	Battery voltage	_
10	G	Luse of	Output		Ignition switch OFF or ACC	0V	_
17	10/	Fuga FF	O 4 4		Ignition switch ON or START	Battery voltage	
17	W	Fuse 55	Output	_	Ignition switch OFF or ACC	0V	
19	W/R	Starter motor	Output	START	_	Battery voltage	_
24	DD	Ignition switch sup-	lnn::4		OFF or ACC	0V	_
21	BR	plied power	Input	_	START	Battery voltage	
22	G	Battery power supply	Output	OFF	_	Battery voltage	_
23	GR/W	Door mirror defogger	Output	_	When rear defogger switch is ON	Battery voltage	_
۷.	GIVVV	output signal	Ουίραι	_	When raker defogger switch is OFF	0V	_
24	L	Cooling fan relay	Output	_	Conditions correct for cooling fan operation	Battery voltage	
	-	Sooming fair rollay	Juput		Conditions not correct for cooling fan operation	0V	

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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITHOUT INTELLIGENT KEY SYSTÉM]

< ECU DIAGNOSIS >

					Measuring con	dition																		
Terminal	Wire color	Signal name	Signal input/ output	Igni- tion switch	Operation	or condition	Reference value (Approx.)																	
27	W//D	Fuse 38	Output		Ignition switch	ON or START	Battery voltage																	
27	W/B	(With trailer tow)	Output	_	Ignition switch	OFF or ACC	0V																	
30	W	Fuse 53	Output		Ignition switch	ON or START	Battery voltage																	
30	VV	ruse 55	Output		Ignition switch	OFF or ACC	0V																	
32	L	Wiper low speed sig-	Output	ON or	Wiper switch	OFF	Battery voltage																	
32	L	nal	Output	START	wiper switch	LO or INT	0V																	
35	L/B	Wiper high speed sig-	Output	ON or START	Wiper switch	OFF, LO, INT	Battery voltage																	
		IIai		SIAKI		HI	0V																	
					Ignition switch	ON	(V) 6 4 2 0 																	
37	Y	Power generation command signal	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	_	40% is set on ' "ALTERNATOF "ENGINE"		(V) 6 4 2 0 22ms JPMIA0002G
					40% is set on ' "ALTERNATOF "ENGINE"	"Active test," R DUTY" of	(V) 6 4 2 0 2 2ms JPMIA00030																	
38	В	Ground	Input	_	l	_	0V																	
39	L	CAN-H	_	ON	_	_	_																	
40	Р	CAN-L		ON	_	_	_																	
42	GR	Oil pressure switch	Input	_	Engine running		Battery voltage 0V																	
43	L/Y	Wiper auto stop signal	Input	ON or START	Wiper switch	OFF, LO, INT	Battery voltage																	
44	BR	Daytime light relay control (Canada only)	Input	ON	Daytime light s	system active	0V Battery voltage																	
45	G/W	Horn relay control	Input	ON		ks are operated r Intelligent Key DFF → ON)*	Battery voltage → 0V																	

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITHOUT INTELLIGENT KEY SYSTÉM]

< ECU DIAGNOSIS >

ļ			Signal		Measuring con	ndition		
Terminal	Wire color	Signal name	input/ output	Igni- tion switch	Operation	or condition	Reference value (Approx.)	
46	GR	Fuel pump relay con-	Input	_	Ignition switch	ON or START	0V	
40	017	trol	mpat		Ignition switch	OFF or ACC	Battery voltage	
47	0	Throttle control motor	Input	_	Ignition switch	ON or START	0V	
		relay control			Ignition switch		Battery voltage	
48	B/R	Starter relay (inhibit switch)	Input	ON or START		in "P" or "N" any other posi-	0V Battery voltage	
		Trailer tow relay			tion Lighting	OFF	0V	
49	R/L	(With trailer tow) Illumination (Without trailer tow)	Output	ON	switch must be in the 1st position	ON	Battery voltage	
					Lighting	OFF	0V	
50	W/R	Front fog lamp (LH)	Output	ON or START	switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	ON	Battery voltage	
					Lighting	OFF	0V	
51	W/R	Front fog lamp (RH)	Output	ON or START	switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	ON	Battery voltage	
52	L	LH low beam head- lamp	Output	_	Lighting switch in 2nd position		Battery voltage	
54	R/Y	RH low beam head- lamp	Output	_	Lighting switch in 2nd position		Battery voltage	
55	G	LH high beam head- lamp	Output	_	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	
56	Y (With DTRL)	RH high beam head- lamp	Output	_	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	
56	L/W (Without DTRL)	RH high beam head- lamp	Output	_	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	
	5."	Parking, license, and		6	Lighting	OFF	0V	
57	R/L	tail lamp	Output	ON	switch 1st po- sition	ON	Battery voltage	
59	В	Ground	Input	_	-	_	0V	
	D.744	Rear window defog-	0 : :	ON or	Rear defogger	switch ON	Battery voltage	
60	B/W	ger relay	Output	START	Rear defogger	switch OFF	0V	
61	BR	Fuse 32 (With trailer tow)	Output	OFF	-	_	Battery voltage	

^{*:} When horn reminder is ON

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

Fail Safe

CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe in operation
Cooling fan	 Turns ON the cooling fan relay when the ignition switch is turned ON Turns OFF the cooling fan relay when the ignition switch is turned OFF

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation	
Headlamp	Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high LH/RH relays OFF	
Parking lampsLicense plate lampsTail lamps	Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay 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 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. 	
Rear window defogger	Rear window defogger relay OFF	
A/C compressor	A/C relay OFF	
Front fog lamps	Front fog lamp relay OFF	

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Ignition switch	Ignition relay	Tail lamp relay
ON	ON	_
OFF	OFF	_

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 second activation and 20 second stop five times.

Ignition switch	Front wiper switch	Auto stop signal
ON	OFF	Front wiper stop position signal cannot be input 10 seconds.
	ON	The signal does not change for 10 seconds.

NOTE:

This operation status can be confirmed on the IPDM E/R "DATA MONITOR" that displays "Block" for the item "WIP PROT" while the wiper is stopped.

STARTER MOTOR PROTECTION FUNCTION

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITHOUT INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index INFOID:0000000005215838

CONSULT-III display	Fail-safe	TIME	NOTE	Refer to
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-16

NOTE:

The details of TIME display are as follows.

- CRNT: The malfunctions that are detected now
- 1 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like $0 \rightarrow 1 \rightarrow 2 \cdots 38 \rightarrow 39$ after returning to the normal condition whenever IGN OFF \rightarrow ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

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VEHICLE SECURITY SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

	Procedure Symptom		Diagnostic procedure	Defeate nego
			Diagnostic procedure	Refer to page
1	Vehicle security system cannot be set by	Door switch	Check door switch (LF, RF, LR, RR, back)	DLK-274
		Glass ajar switch	Check glass ajar switch	DLK-310
		Key cylinder switch	Check key cylinder switch	DLK-282
		_	Check Intermittent Incident	<u>GI-38</u>
	Security indicator does not turn ON.		Check vehicle security indicator	SEC-154
			Check Intermittent Incident	<u>GI-38</u>
2	* Vehicle security system does not sound alarm when ····	Any door is opened.	Check door switch (LF, RF, LR, RR, back)	DLK-274
		Glass ajar switch	Check glass ajar switch	DLK-310
		_	Check Intermittent Incident	<u>GI-38</u>
3	Vehicle security alarm does not activate.	alarm does not acti- Horn alarm	Check horn switch	_
			Check Intermittent Incident	<u>GI-38</u>
4	Vehicle security system cannot be canceled by ····	, ,	Check key cylinder switch	DLK-299
		Key cylinder switch	Check Intermittent Incident	<u>GI-38</u>

^{*:} Check the system is in the armed phase.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS [WITHOUT INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table INFOID:0000000004917419

NOTE:

- Before performing the diagnosis in the following table, check "SEC-119, "Work Flow"".
- · Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.
- If the following symptoms are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

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

Symptom	Diagnosis/service procedure	Reference page
Security indicator does not turn ON or flash.	Check vehicle security indicator	<u>SEC-154</u>
Security indicator does not turn on or hash.	2. Check Intermittent Incident	<u>GI-38</u>

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PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000005206978

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-TEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.

NOTE:

- Supply power using jumper cables if battery is discharged.
- 2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
- Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
- 4. Perform the necessary repair operation.

PRECAUTIONS

< PRECAUTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)

6. Perform a self-diagnosis check of all control units using CONSULT-III.

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ON-VEHICLE REPAIR

VEHICLE SECURITY SYSTEM

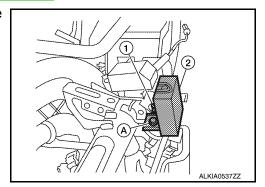
Removal and Installation

INFOID:0000000004917421

REMOTE KEYLESS ENTRY RECEIVER

Removal

- 1. Remove the instrument panel. Refer to IP-12, "Removal and Installation".
- 2. Disconnect the wire harness (1), remove the bolt (A), and the RKE receiver (2).



Installation

Installation is in the reverse order of removal.

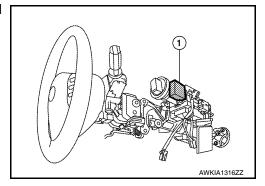
NATS ANTENNA AMP

NOTE:

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

Removal

- 1. Disconnect the battery negative terminal.
- 2. Remove the steering column covers. Refer to IP-11, "Exploded View".
- 3. Remove the bolt, disconnect the electrical connector, and remove the NATS antenna amp (1).



Installation

Installation is in the reverse order of removal.