SECURITY CONTROL SYSTEM

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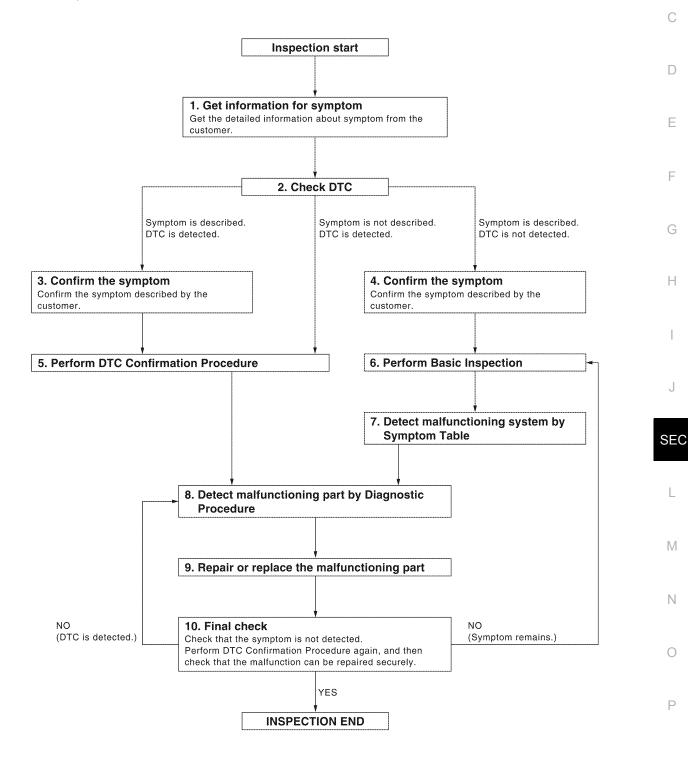
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000006146825 В

OVERALL SEQUENCE



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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-64, "DTC Inspection Priority Chart"</u> (Intelligent Key unit), BCS-46, "DTC Inspection Priority Chart" (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 8.

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

O.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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PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

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

- 1. Check the door lock for normal operation with the Intelligent Key controller and door request switch.
- 2. 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 <u>DLK-207</u>, "Symptom Table".

2.CHECK ENGINE STARTING

Checks that the engine starts when operating the Intelligent Key.

Does the engine start?

YES >> GO TO 3.

NO >> Refer to <u>SEC-115, "Symptom Table"</u>.

3.check steering locking

- 1. Does the steering lock when operating door switch after switching the power supply from ON position (or ACC position) to LOCK position?
- 2. 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.

NO >> Refer to DLK-101, "Diagnosis Procedure".

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 <u>SEC-55</u>, "<u>Diagnosis Procedure</u>".

CHECK VEHICLE SECURITY SYSTEM

- Check the vehicle security system for normal operation.
- 2. 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:0000000006146827

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-58</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-115, "Symptom Table"</u>.
- Alarm (horn and headlamps) does not operate. Refer to <u>SEC-115, "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-116</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:0000000006146829

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:0000000006146830

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.

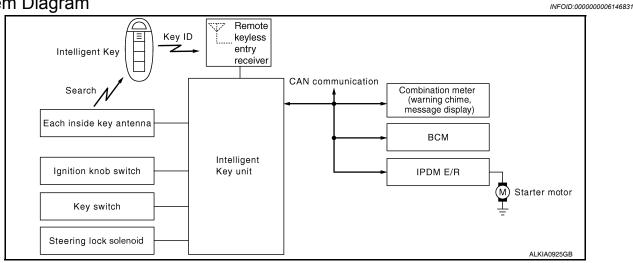
NO >> Initialize control unit. Refer to CONSULT-III Operation Manual NATS.

[WITH INTELLIGENT KEY SYSTEM]

SYSTEM DESCRIPTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram



System Description

INFOID:0000000006146832

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

SYSTEM DESCRIPTION

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

The driver should carry the Intelligent Key at all times.

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head console, luggage area)

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< SYSTEM DESCRIPTION >

[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>BCS-16</u>, "<u>COMMON ITEM</u>: <u>CONSULT-III Function</u> (<u>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 DLK-117, "Diagnosis Procedure".
- 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.
- 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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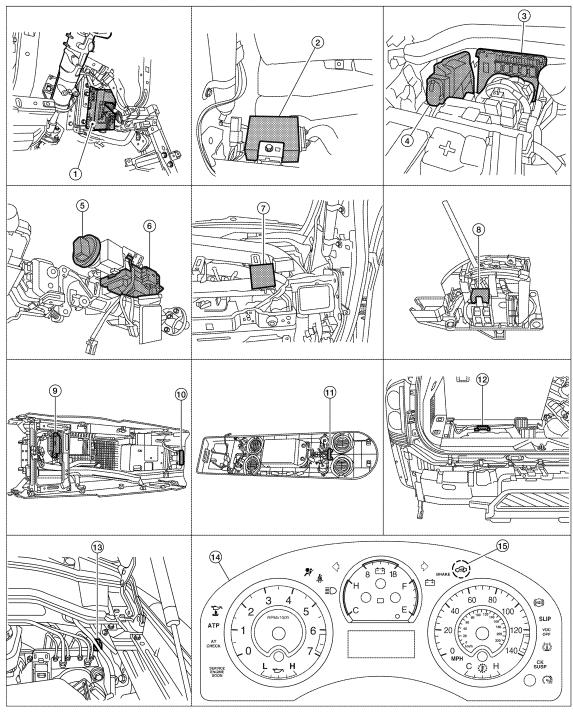
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- BCM M18, M20 (view with instrument panel LH removed)
- 4. ECM E16
- Remote keyless entry receiver M25 (view with instrument panel RH removed)
- Intelligent Key unit M70 (view with instrument panel LH removed)
- 5. Key switch and ignition knob switch M12 6. (view with steering column removed)
- 8. A/T shift selector (park position switch)
 - (view with center console removed)
- 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 SCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

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

Component Description

INFOID:0000000006146834

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.

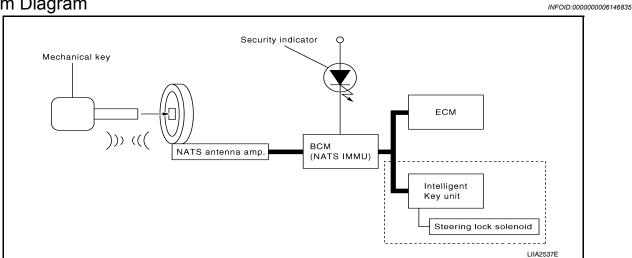
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram



System Description

INFOID:0000000006146836

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	Steering lock solenoid
Key switch	Mechanical key (Insert/remove)		
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	14/110	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)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

- 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, "Work Flow"</u>.
- 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

INFOID:0000000006146837

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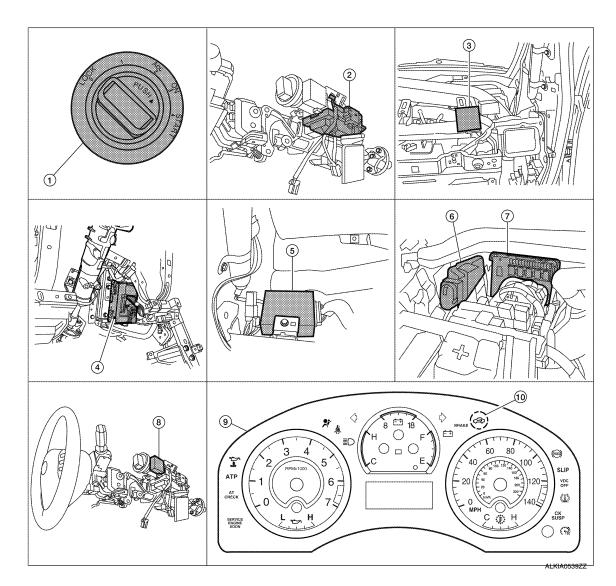
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- 1. Key switch and ignition knob switch M12
- Steering lock solenoid M15 (view with steering column removed)
- Remote keyless entry receiver M25 (view with instrument panel RH removed)

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

Combination meter M24

ECM E16

- IPDM E/R E119, E120, E121, E122, E124 8. (view with cover removed)
- NATS antenna amp. M21

10. Security indicator lamp

Component Description

INFOID:0000000006146838

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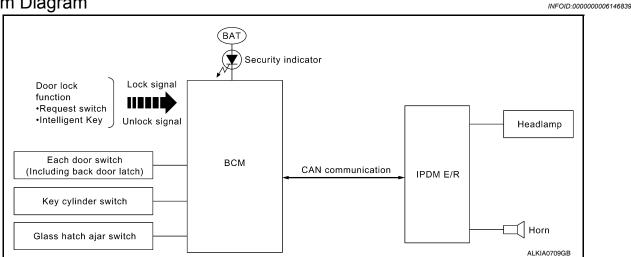
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) SCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

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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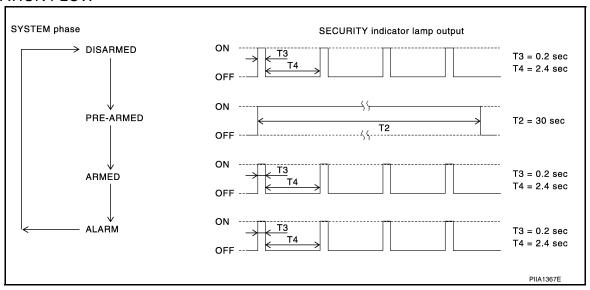
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DESCRIPTION

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.

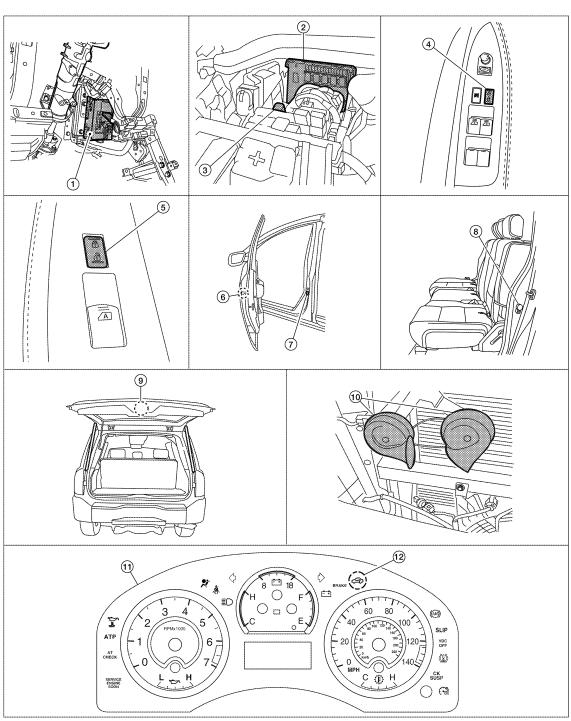
Condition of Deactivating The System

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:0000000006146841



ALKIA0540ZZ

- 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

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- 7. Front door switch LH B8 RH B108
- 8. Rear door switch LH B18 RH B11611. Combination meter M24
- 9. Back door latch (door ajar switch) D503 Glass hatch ajar switch D707

10. Horn E3 (view with front grille removed)

12. Security indicator lamp

Component Description

INFOID:0000000006146842

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)

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:0000000006628785

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	 The vehicle specification can be read and saved. The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions.

		Direct Diagnostic Mode						
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY			×				
Combination switch	COMB SW			×				
BCM	ВСМ	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Back door open	TRUNK			×	×			
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×	×	×		
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

IMMU: CONSULT-III Function (BCM - IMMU)

INFOID:0000000006751670

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DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator operation [Off/On].

THEFT ALM

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

INFOID:0000000006751671

DATA MONITOR

Monitor Item [Unit]	Description	_
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.	
I-KEY LOCK* [On/Off]	Indicates condition of lock signal from Intelligent Key.	
I-KEY UNLOCK* [On/Off]	Indicates condition of unlock signal from Intelligent Key.	
KEYLESS LOCK** [On/Off]	Indicates condition of lock signal from keyfob.	
KEYLESS UNLOCK** [On/Off]	Indicates condition of unlock signal from keyfob.	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.	
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.	
BACK DOOR SW [On/Off]	Indicates condition of back door switch.	
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.	
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.	
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.	
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.	

^{*:} with Intelligent Key

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation [Off/On].
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].

WORK SUPPORT

Support Item	Setting	Description
SECURITY ALARM SET	Off	Security alarm OFF.
SECONTT ALANW SET	On*	Security alarm ON.

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^{** :} without Intelligent Key

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Support Item	Setting	Description		
	Off/On	The switch which triggered vehicle security alarm is recorded [On]. This mode is able		
THEFT ALM TRG	CLEAR	to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching [CLEAR].		

^{*:} Initial setting

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

CONSULT-III Function (INTELLIGENT KEY)

INFOID:0000000006751672

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APPLICATION ITEM

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

Diagnosis mode	Function Description
ECU IDENTIFICATION	The Intelligent Key unit part number is displayed.
SELF DIAGNOSTIC RESULT	Displays the diagnosis results judged by 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.
WORK SUPPORT	Changes the setting for each system function.
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from Intelligent Key unit.

SELF-DIAG RESULT

Refer to SEC-64, "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).
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.
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 PANIC	Indicates [ON (pressed)/OFF (released)] condition of Intelligent Key panic button.
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.
VEHICLE SPEED	Displays the vehicle speed signal received from combination meter by numerical value [km/h].

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DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

[WITH INTELLIGENT KEY SYSTEM]

Test item	Description
DOOR LOCK/UNLOCK	This test is able to check door lock/unlock operation. ALL UNLK: All door lock actuators are unlocked. DR UNLK: Door lock actuator (driver side) is unlocked. AS UNLK: Door lock actuator (passenger side) is unlocked. BK UNLK: This item is indicated, but inactive. LOCK: All door lock actuator is locked.
ANTENNA	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 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.
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. ON OFF
INSIDE BUZZER	This test is able to check warning chime in combination meter operation. TAKE OUT: Take away warning chime sounds. KNOB: Ignition knob switch warning chime sounds. KEY: Key warning chime sounds. OFF

WORK SUPPORT

Support item	Description	Selection item	Condition
CONFIRM KEY FOB ID	It can check whether Intelligent Key ID code is registered or not.	_	_
TAKE OUT FROM WINDOW WARN	Take away warning chime (from window) mode	ON	Active
TAKE OUT TROM WINDOW WARN	can be changed.	OFF	Inactive
LOW BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be	ON	Active
LOW BATT OF RETT OF WARRI	changed.	OFF	Inactive
ANSWER BACK FUNCTION	Buzzer reminder operation can be changed.	ON	Active
ANOWER BACKTONOTION	Buzzer reminder operation can be changed.	OFF	Inactive
SELECTIVE UNLOCK FUNCTION	Anti-hijack mode can be changed.	ON	Active
SELECTIVE UNLOCK FUNCTION	Anti-nijack mode can be changed.	OFF	Inactive
ANTI KEY LOCK IN FUNCTION	Key reminder function mode can be changed to	ON	Active
ANTI RET LOCK IN FONCTION	operation with this mode.	OFF	Inactive
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key	ON	Active
HORN WITH RETLESS LOCK	button can be selected with this mode.	OFF	Inactive
		LOCK/UNLOCK	
HAZARD ANSWER BACK	Hazard reminder operation mode can be	LOCK ONLY	Active
HAZARD ANSWER BACK	changed.	UNLOCK ONLY	
		OFF	Inactive
	Buzzer reminder operation (lock operation)	HORN CHIRP	Active
ANSWER BACK WITH I-KEY LOCK	mode by each door request switch can be	BUZZER	Active
	changed.	OFF	Inactive
	Buzzer reminder operation (unlock operation)	ON	Active
ANSWER BACK WITH I-KEY UNLOCK	mode by each door request switch can be changed.	OFF	Inactive

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Support item	Description	Selection item	Condition	
		1 min	Active	
AUTO RELOCK TIMER	Auto door lock operation mode can be changed.	5 min	Active	
	3.1	OFF	Inactive	
	Panic alarm button pressing time on Intelligent	0.5 sec	Active	
PANIC ALARM DELAY	Key button can be selected from the following	1.5 sec	Active	
	with this mode.	OFF	Inactive	
	Unlock button pressing time on Intelligent Key	3 sec	Active	
P/W DOWN DELAY	button can be selected from the following with	5 sec	Active	
	this mode.	OFF	Inactive	
ENGINE START BY I-KEY	Engine start function (by Intelligent Key) mode	ON	Active	
ENGINE START BY I-REY	can be changed.	OFF	Inactive	
LOCK/UNLOCK BY I-KEY	Door lock function by door request switch can	ON	Active	
LOCK/UNLOCK BY I-REY	be changed.	OFF	Inactive	

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U1000 CAN COMM CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000006146847

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

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:0000000006146849

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)

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

U1010 CONTROL UNIT (CAN)

Description

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H 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".

or the Communication digital orient, refer to Erith 40. Or the Communication digital orient.

DTC Logic

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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

INFOID:0000000006146852

1. REPLACE INTELLIGENT KEY UNIT

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

>> Replace Intelligent Key unit. Refer to SEC-121, "Removal and Installation".

Special Repair Requirement

INFOID:0000000006146853

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:000000006146854

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

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-30, "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to <a>SEC-84, "Wiring Diagram".

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

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

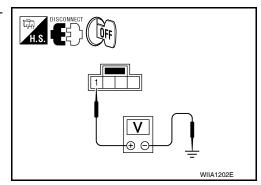
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(+)	Voltage (V)		
Steering lock solenoid con- nector	Terminal	(–)	(Approx.)
M15	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3.CHECK STEERING LOCK SOLENOID GROUND CIRCUIT



INFOID:0000000006146856

B2013 STRG COMM 1

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Check continuity between steering lock solenoid harness connector and ground.

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

DISCONNECT OFF

Is the inspection result normal?

YES >> GO TO 4

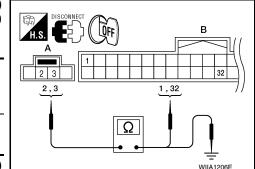
NO >> Repair or replace harness.

4. CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUITS

Disconnect Intelligent Key unit connector.

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

Steering lock sole- noid connector Terminal Intelligent Key unit connector				Continuity
M15	2	M70	1	Yes
- IVI 15	3	IVI/U	32	165



3. 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	INO

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.

5. CHECK INTELLIGENT KEY UNIT POWER SUPPLY-2

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

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

H.S. CONNECT OFF

Is the inspection result normal?

YES >> GO TO 6

NO >> Replace Intelligent Key unit. Refer to <u>SEC-121</u>, "Removal and Installation".

6. CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUIT

1. Connect steering lock solenoid connector.

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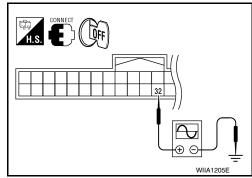
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< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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.
>> Replace Intelligent Key unit. Refer to <u>SEC-121, "Removal and Installation"</u>. NO

B2190 NATS ANTENNA AMP.

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[WITH INTELLIGENT KEY SYSTEM]

B2190 NATS ANTENNA AMP.

Description INFOID:0000000006146857

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:0000000006146858

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-33, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-107, "Wiring Diagram - With Intelligent Key System".

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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2011 Armada

B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

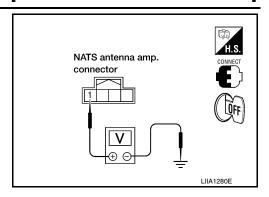
[WITH INTELLIGENT KEY SYSTEM]

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.

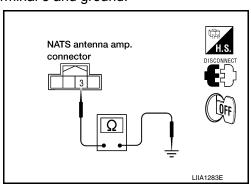
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

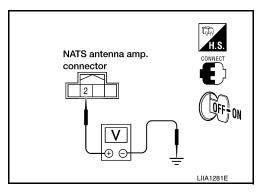
NOTE:

If harness is OK, replace BCM, refer to <u>BCS-56</u>, "Removal and Installation". 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)	
(+)	(-)	Fosition of 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-56</u>, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

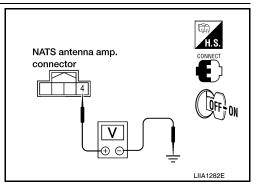
B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT 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.)	
	Ground	Before inserting ignition key	Battery voltage	
4		After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage	
		Just after turning ignition switch ON	Pointer of tester should move for approx. 1 second, then return to battery voltage	

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to BCS-56, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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B2191 DIFFERENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2191 DIFFERENCE OF KEY

Description INFOID:000000006146860

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-36</u>, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000006146862

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-56, "Removal and Installation".
- · Perform initialization again

B2192 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2192 ID DISCORD. IMMU-ECM

Description INFOID:0000000006146863

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:0000000006146864

DTC DETECTION LOGIC

NOTE:

 If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".

 If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "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-37, "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?

YES >> ID was unregistered.

NO >> GO TO 2

2.PEPLACE BCM

Replace BCM. Refer to BCS-56, "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

- 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

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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

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2193 CHAIN OF ECM-IMMU

Description

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

DTC Logic

DTC DETECTION LOGIC

NOTE:

• If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".

• If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29</u>, "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

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

Is DTC detected?

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

NO >> Inspection End

Diagnosis Procedure

gnosis Procedure

1.REPLACE BCM

- Replace BCM. Refer to <u>BCS-56, "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.

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B2194 ID DISCORD IMMU-I-KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

INFOID:0000000006146871

B2194 ID DISCORD IMMU-I-KEY

Description INFOID:0000000006146869

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:0000000006146870

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-40, "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".
- 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-56</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

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2552 INTELLIGENT KEY

Description INFOID:0000000006146872

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

DTC Logic INFOID:0000000006146873

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2552	2 INTELLIGENT KEY Malfunction is detected inside Intelligent key unit.		Intelligent Key unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

>> Inspection End. NO

Diagnosis Procedure

1. REPLACE INTELLIGENT KEY UNIT

- Replace Intelligent Key unit. Refer to SEC-121, "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-41, "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

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2590 ID DISCORD BCM-I-KEY

Description INFOID:000000006146876

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-28, "DTC Logic".
- If DTC B2590 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29</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.
- 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:0000000006146878

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-56, "Removal and Installation".
 - · Perform initialization again

P1610 LOCK MODE

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1610 LOCK MODE

Description INFOID:0000000006146879

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:0000000006146880

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-43, "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.000000006146882

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-137, "DTC Logic".
- If DTC P1611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-138, "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-44, "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000006146884

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-56, "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

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> Inspection End.	
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P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1612 CHAIN OF ECM-IMMU

Description INFOID:000000006146888

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-137, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-138, "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-46</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000006146887

1.REPLACE BCM

- Replace BCM. Refer to <u>BCS-56, "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

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1614 CHAIN OF IMMU-KEY

Description INFOID:0000000006146888

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:0000000006146889

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-47, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-107, "Wiring Diagram - With Intelligent Key System".

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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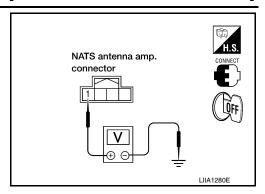
[WITH INTELLIGENT KEY SYSTEM]

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.

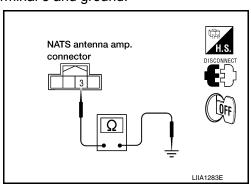
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

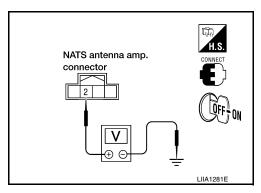
NOTE:

If harness is OK, replace BCM, refer to <u>BCS-56</u>, "Removal and Installation". 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)
(+)	(-)	Position of 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-56, "Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

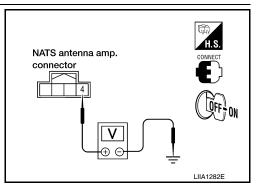
P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT 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.



Term	ninals	Position of ignition key cylinder	Voltage (V)	
(+)	(-)		(Approx.)	
4 Ground		Before inserting ignition key	Battery voltage	
	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-56, "Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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P1615 DIFFRENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1615 DIFFRENCE OF KEY

Description INFOID:000000006146891

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-50</u>, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000006146893

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-56, "Removal and Installation".
- · Perform initialization again

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT INTELLIGENT KEY UNIT

INTELLIGENT KEY UNIT: Diagnosis Procedure

INFOID:0000000006751678

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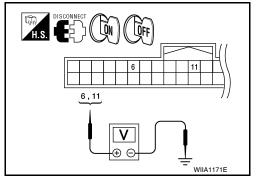
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Regarding Wiring Diagram information, refer to DLK-177, "Wiring Diagram".

1. CHECK POWER SUPPLY CIRCUIT

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

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

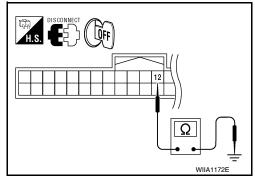
12 - Ground

: 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.



BCM

BCM: Diagnosis Procedure

INFOID:0000000006751661

Regarding Wiring Diagram information, refer to BCS-48. "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 newer 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.

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

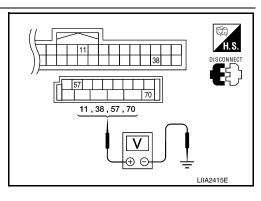
[WITH INTELLIGENT KEY SYSTEM]

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.

	1		1	1	
Connector	Terminals		Power	Condition	Voltage (V) (Ap-
Commodia	(+)	(-)	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
MZU	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

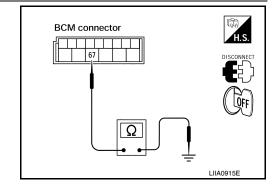
Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Connector Terminal		Continuity
M20	67		Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



[WITH INTELLIGENT KEY SYSTEM]

KEY CYLINDER SWITCH

Description INFOID:0000000006146896

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:0000000006146897

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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 GTE ER-SW	Neutral / Unlock	: OFF
KEY CYL UN-SW	Unlock	: ON
KEY CYL UN-SW	Neutral / Lock	: OFF

Is the inspection result normal?

YES >> Key cylinder switch is OK.

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

Diagnosis Procedure

INFOID:0000000006146898

Regarding Wiring Diagram information, refer to SEC-96, "Wiring Diagram".

1. CHECK DOOR KEY CYLINDER SWITCH LH

(P)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

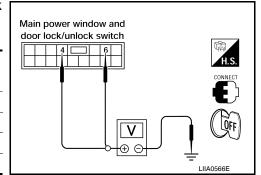
When key inserted in left front key cylinder is turned to UNLOCK:

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	Terminals		Condition of left front key cylinder	Voltage (V)	
00111100101	(+)	(-)	condition of lost mont key symmetr	(Approx.)	
	4		Neutral/Unlock	5	
5.7	_	Ground	Lock	0	
D7	6		Neutral/Lock	5	
			Unlock	0	



Is the inspection result normal?

>> Key cylinder switch signal is OK.

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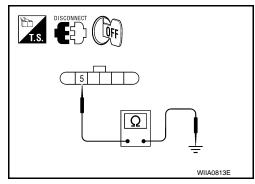
< DTC/CIRCUIT DIAGNOSIS >

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?

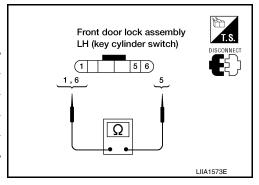
YES >> GO TO 3

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
3-0	Key is turned to UNLOCK.	Yes



Is the inspection result normal?

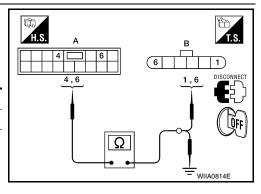
YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-238</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.

IGNITION KNOB SWITCH

Diagnosis Procedure

INFOID:0000000006146899

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Regarding Wiring Diagram information, refer to SEC-84, "Wiring Diagram".

1. CHECK IGNITION KNOB SWITCH

(P)With CONSULT-III

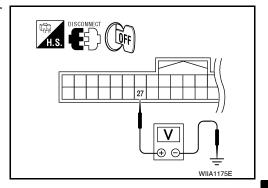
Display "PUSH SW" on DATA MONITOR screen, and check if ON/OFF display is linked to ignition switch operation.

Monitor item	Condition	
PUSH SW	Ignition switch is pushed: ON	
F 0311 3W	Ignition switch is released: OFF	

Without CONSULT-III

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

Connector	Terminals		Condition	Voltage (V)
	(+)	(–)	Condition	(Approx.)
M70	27	Cround	Ignition switch is pushed	Battery voltage
M70	27 Ground	Ground	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

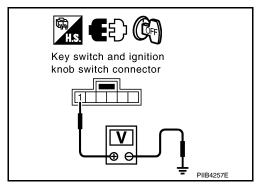
- Turn ignition switch OFF.
- 2. Disconnect key switch and ignition knob switch connector.
- Check voltage between key switch and ignition knob switch harness connector M12 terminal 1 and ground.

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

< DTC/CIRCUIT DIAGNOSIS >

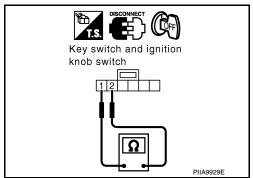
[WITH INTELLIGENT KEY SYSTEM]

Component	Terminals		Condition	Continuity
Ignition	1	2	Ignition switch is pushed	Yes
knob switch	'	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.

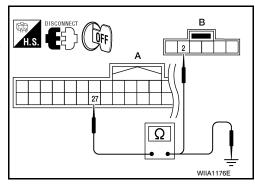
2. Check continuity between Intelligent Key unit harness connector M70 (A) terminal 27 and ground.

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.	1.	Check "HAZARD ANSWER BACK" setting in "WORK SUPPORT".	<u>SEC-25</u>
(Horn reminder operate.)	2.	Check hazard function.	DLK-114
	3.	Check Intermittent Incident.	<u>GI-38</u>
Hazard reminder does not operate by Intelligent Key.		Check "HAZARD ANSWER BACK" setting in "WORK SUPPORT".	<u>SEC-25</u>
(Horn reminder operate.)	2.	Check hazard function.	DLK-114
	3.	Check Intelligent Key battery inspection.	DLK-108
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".	<u>SEC-25</u>
(Hazard reminder operate.)	2.	Check Intelligent Key warning buzzer.	DLK-97
	3.	Check Intermittent Incident.	<u>GI-38</u>
Horn reminder does not operate by Intelligent Key.	1.	Check "HORN WITH KEYLESS LOCK" setting in "WORK SUPPORT".	<u>SEC-25</u>
(Hazard reminder operate.)	2.	Check horn function.	DLK-110
	3.	Check Intermittent Incident.	<u>GI-38</u>

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VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY INDICATOR

Description INFOID:000000006146901

- 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:0000000006146902

1. CHECK FUNCTION

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

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

Is the inspection result normal?

YES >> Inspection End.

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

Diagnosis Procedure

INFOID:0000000006146903

Regarding Wiring Diagram information, refer to <a>SEC-84, "Wiring Diagram".

1. SECURITY INDICATOR LAMP ACTIVE TEST

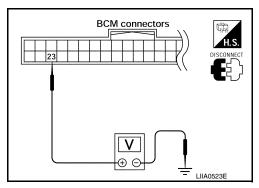
(P)With CONSULT-III

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	
WITO	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

< DTC/CIRCUIT 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.

H.S. DISCONNECT OFF A 23 B 28 LIIA2253E

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 INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

ECU DIAGNOSIS INFORMATION

INTELLIGENT KEY UNIT

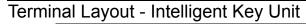
Reference Value

VALUES ON THE DIAGNOSIS TOOL

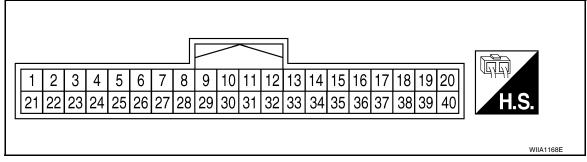
Monitor Item	Condition	Value/Status
PUSH SW	When ignition knob switch (push switch) is released	OFF
FUSH 3W	When ignition knob switch (push switch) is pushed	ON
KEN OW	When ignition key is removed from ignition cylinder	OFF
KEY SW	When ignition key is inserted into ignition cylinder	ON
DD DEO OM	When left door request switch is not pressed (driver side)	OFF
DR REQ SW	When left door request switch is pressed (driver side)	ON
AC DEO CW	When right door request switch is not pressed (passenger side)	OFF
AS REQ SW	When right door request switch is pressed (passenger side)	ON
ION OW	Ignition switch OFF or ACC	OFF
IGN SW	Ignition switch ON	ON
A C C C \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Ignition switch OFF	OFF
ACC SW	Ignition switch ACC or ON	ON
OTOD LAMB OW	When the brake pedal is not depressed	OFF
STOP LAMP SW	When the brake pedal is depressed	ON
D DANIOE OW	When selector lever is in any position other than P or N	OFF
P RANGE SW	When selector lever is in P or N position	ON
D00D 00K 0I0	Other than power door lock switch LOCK	OFF
DOOR LOCK SIG	Power door lock switch LOCK	ON
	Other than power door lock switch UNLOCK	OFF
DOOR UNLOCK SIG	Power door lock switch UNLOCK	ON
KEVI ECC DANIC	When PANIC button of Intelligent Key is not pressed	OFF
KEYLESS-PANIC	When PANIC button of Intelligent Key is pressed	ON
KENI O DDD OIO	When liftgate button of Intelligent Key is not pressed and held	OFF
KEYLS PBD SIG	When liftgate button of Intelligent Key is pressed and held	ON
DOOD CW DD	Driver door closed	CLOSE
DOOR SW-DR	Driver door opened	OPEN
DOOD CW AC	Passenger door closed	CLOSE
DOOR SW-AS	Passenger door opened	OPEN
DOOD SW DD	Rear door RH closed	CLOSE
DOOR SW-RR	Rear door RH opened	OPEN
DOOD CW DI	Rear door LH closed	CLOSE
DOOR SW-RL	Rear door LH opened	OPEN
DOOD DK OW	Back door opener switch OFF	CLOSE
DOOR BK SW	While the back door opener switch is turned ON	OPEN
VEHICLE SPEED	While driving	Equivalent to speedometer reading

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]







Physical Values - Intelligent Key Unit

INFOID:0000000006751664

				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	_	_		_
_		Intelligent Key warn-		Operate door request	Buzzer OFF	Battery voltage
4	GR	ing buzzer (front of vehicle)	LOCK	switch.	Buzzer ON	0
5	B/W	Front door request		Press front door request	switch LH.	0
3	D/VV	switch LH	_	Other than above		Battery voltage
6	G/R	Ignition switch (ON)	ON	_		Battery voltage
7	B/R	Key switch	LOCK	Insert mechanical key in cylinder.	to ignition key	Battery voltage
,	D/K	Key Switch	LOCK	Remove mechanical key key cylinder.	/ from ignition	0
8	G	Remote keyless en- try receiver ground	_	_		0
0	O.D.	Remote keyless en-		When remote keyless entry receiver receives signal from keyfob.		(V) 6 4 2 0
9	GR	try receiver signal	_	Stand-by		(V) 6 4 2 0 ** 0.2s
11	Υ	Power source (Fuse)	_	_		Battery voltage
12	В	Ground	_	_		0

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[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)
14	W/G	Center console area antenna (front) (-) signal	LOCK	Any door open $ ightarrow$ all doors closed	0 10.0μs PHB7441E
15	G	Center console area antenna (rear) (+) signal			(V)
16	L	Center console area antenna (rear) (-) sig- nal	LOCK	Any door open \rightarrow all doors closed	5 0 10.0μs PIIB7441E
17	W/L	Rear bumper anten- na (+) signal			(V)
18	W/R	Rear bumper anten- na (-) signal	LOCK	Lift back door handle (close switch).	15 10 5 0 10 µs SIIA1910J
19	Р	Front outside anten- na LH (+) signal			(<u>V)</u>
20	V	Front outside anten- na LH (-) signal	LOCK	Press front door request switch LH.	15 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		Power 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
20		Unlock sensor		Door (driver side) is locked.	5
28	R	(driver side)	_	Door (driver side) is unlocked.	0
29	LG/R	Back door open	_	Back door handle switch ON.	0
23	LG/K	switch input	_	Back door handle switch OFF.	Battery voltage

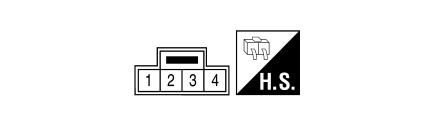
< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

				Condition	
Terminal	Wire Color	Item	Ignition Switch Po- sition	Operation or Conditions	Voltage (V) Approx.
30	G/B	Remote keyless en- try 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	LOCK	Press ignition knob switch: ON (Ignition knob switch)	5 0 10.0μs PIIB7441E
35	0	Luggage area anten- na (+) signal			(V) : : : : : : : : : : : : : : : : : : :
36	R	Luggage area anten- na (-) signal	LOCK	Back door open → all doors closed	10 5 0 10.0µs
37	LG	Front outside anten- na (+) signal RH			(<u>V</u>
38	B/Y	Front outside anten- na (-) signal RH	LOCK	Press front door request switch RH.	15 10 5 0 10 μs SIIA1910
39	L/R	P range switch		Selector lever is in "P" position.	0
38	L/K	i range switch		Other than above	Battery voltage
40	V	AS select unlock out-		UNLOCK with rear door locks disabled.	0
10	•	put		Other than above	Battery voltage

Terminal Layout - Steering Lock Solenoid

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Physical Values - Steering Lock Solenoid

INFOID:0000000006751666

				Condition	
Terminal	Wire Color	Signal Designation	Ignition Switch Posi- tion	Operation or Conditions	Voltage (V) Approx.
1	Υ	Power source (fuse)	LOCK	_	Battery voltage
2	L/Y	Steering lock solenoid power supply	LOCK	_	5
3	L/O	Steering lock solenoid communication signal	LOCK	When Intelligent Key is inside vehicle, press ignition knob switch.	(V) 6 4 2 0 2 ms
				Other than the above	5
4	В	Steering lock solenoid ground	_	_	0

Fail Safe

Fail-safe operation

The Intelligent Key system operation will be interrupted if the Intelligent Key unit loses power or communication with the BCM.

DTC Inspection Priority Chart

INFOID:0000000006751668

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)
2	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2194: ID DISCORD IMMU-I-KEY
3	B2013: ID DISCORD BCM-S/L B2552: INTELLIGENT KEY B2590: ID DISCORD BCM-I-KEY P1610: LOCK MODE P1611: ID DISCORD, IMMU-ECM P1612: CHAIN OF ECM-IMMU P1614: CHAIN OF IMMU-KEY P1615: DIFFERENCE OF KEY

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 1 → 2
 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF \rightarrow ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warn- ing lamp ON	Reference page	Е
No DTC is detected. Further testing may be required.	_	_	_	_	(
U1000: CAN COMM	_	_	_	<u>DLK-61</u>	
U1010: CONTROL UNIT(CAN)	_	_	_	<u>DLK-62</u>	
B2013: ID DISCORD BCM-S/L	×	×	_	<u>SEC-30</u>	
B2190: NATS ANTENNA AMP	×	_	_	<u>SEC-33</u>	[
B2191: DIFFERENCE OF KEY	×	_	_	<u>SEC-36</u>	
B2192: ID DISCORD BCM-ECM	×	_	_	<u>SEC-37</u>	
B2193: CHAIN OF BCM-ECM	×	_	_	<u>SEC-39</u>	
B2194: ID DISCORD IMMU-I-KEY	×	_	_	<u>SEC-40</u>	
B2552: INTELLIGENT KEY	_	×	×	<u>SEC-41</u>	
B2590: IID DISCORD BCM-I-KEY	_	×	×	<u>SEC-42</u>	(
P1610: LOCK MODE	_	×	×	<u>SEC-43</u>	
P1611: ID DISCORD, IMMU-ECM	_	×	×	<u>SEC-44</u>	ŀ
P1612: CHAIN OF ECM-IMMU	_	_	×	SEC-46	
P1614: CHAIN OF IMMU-KEY	×	×	×	<u>SEC-47</u>	
P1615: DIFFERENCE OF KEY	_	×	×	SEC-50	

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< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
ACC ON SW	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
AIR COND SW	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm², psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm², psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm², psi
ALITO LICUIT CW	Lighting switch OFF	Off
AUTO LIGHT SW	Lighting switch AUTO	On
BACK DOOR SW	Back door closed	Off
BACK DOOK SW	Back door opened	On
BRAKE SW	Brake pedal released	Off
DRANE SW	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
BUCKLE SW	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
BUZZER	Buzzer in combination meter ON	On
CARCO LAMB SW	Cargo lamp switch OFF	Off
CARGO LAMP SW Cargo lamp switch ON		On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
CDL LOCK SW	Press door lock/unlock switch to the LOCK side	On
CDL LINI OCK SW	Door lock/unlock switch does not operate	Off
CDL UNLOCK SW	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
DOOR SW-AS	Front door RH opened	On
DOOR SW-DR	Front door LH closed	Off
DOOK SW-DK	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
DOOR SW-RL	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
DOOR SW-RR	Rear door RH opened	On
FAN ON SIG	Blower motor fan switch OFF	Off
I AN ON SIG	Blower motor fan switch ON	On
ED EOC SW	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
ED WASHED SW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status		
FR WIPER LOW	Front wiper switch OFF	Off		
	Front wiper switch LO	On		
FR WIPER HI	Front wiper switch OFF	Off		
	Front wiper switch HI	On		
FR WIPER INT	Front wiper switch OFF	Off		
	Front wiper switch INT	On		
FR WIPER STOP	Any position other than front wiper stop position	Off		
	Front wiper stop position	On		
HAZARD SW	When hazard switch is not pressed	Off		
HAZARD SW	When hazard switch is pressed	On		
HEAD LAMD CW/4	Headlamp switch OFF	Off		
HEAD LAMP SW1	Headlamp switch 1st	On		
LIEAD LAMD CM/O	Headlamp switch OFF	Off		
HEAD LAMP SW2	Headlamp switch 1st	On		
LII DEAM CVA	High beam switch OFF	Off		
HI BEAM SW	High beam switch HI	On		
ID DECOT EL 4	ID registration of front left tire incomplete	YET		
ID REGST FL1	ID registration of front left tire complete	DONE		
ID DECOT ED4	ID registration of front right tire incomplete	YET		
ID REGST FR1	ID registration of front right tire complete	DONE		
	ID registration of rear left tire incomplete	YET		
ID REGST RL1	ID registration of rear left tire complete	DONE		
	ID registration of rear right tire incomplete	YET		
ID REGST RR1	ID registration of rear right tire complete	DONE		
	Ignition switch OFF or ACC	Off		
IGN ON SW	Ignition switch ON	On		
	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		
	LOCK button of Intelligent Key is not pressed	Off		
I-KEY LOCK ¹	LOCK button of Intelligent Key is pressed	On		
	PANIC button of Intelligent Key is not pressed	Off		
I-KEY PANIC ¹	PANIC button of Intelligent Key is pressed	On		
	UNLOCK button of Intelligent Key is not pressed	Off		
	UNLOCK button of intelligent key is not pressed	011		
I-KEY PW DWN ¹	UNLOCK button of Intelligent Key is pressed for greater than 3 sec-	On		
	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction			
I-KEY PW DWN ¹	UNLOCK button of Intelligent Key is pressed for greater than 3 sec-	On		
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction UNLOCK button of Intelligent Key is not pressed	On Off		
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction UNLOCK button of Intelligent Key is not pressed UNLOCK button of Intelligent Key is pressed Door key cylinder LOCK position	On Off On		
I-KEY UNLOCK ¹ KEY CYL LK-SW	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction UNLOCK button of Intelligent Key is not pressed UNLOCK button of Intelligent Key is pressed	On Off On Off		
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction UNLOCK button of Intelligent Key is not pressed UNLOCK button of Intelligent Key is pressed Door key cylinder LOCK position Door key cylinder other than LOCK position Door key cylinder UNLOCK position	On Off On Off On Off		
I-KEY UNLOCK ¹ KEY CYL LK-SW	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction UNLOCK button of Intelligent Key is not pressed UNLOCK button of Intelligent Key is pressed Door key cylinder LOCK position Door key cylinder other than LOCK position	On Off On Off On Off On Off		

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< ECU DIAGNOSIS INFORMATION >

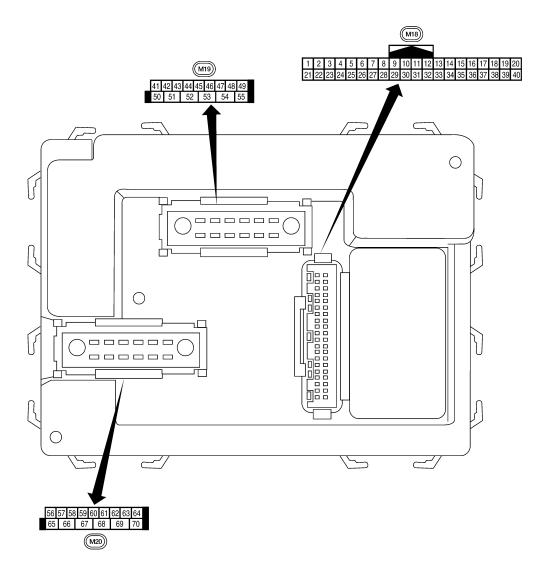
[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
KEYLESS LOCK ²	LOCK button of key fob is not pressed	Off
KEYLESS LOCK ²	LOCK button of key fob is pressed	On
KEYLESS PANIC ²	PANIC button of key fob is not pressed	Off
	PANIC button of key fob is pressed	On
KEYLESS UNLOCK ²	UNLOCK button of key fob is not pressed	Off
	UNLOCK button of key fob is pressed	On
LIGHT OW ACT	Lighting switch OFF	Off
LIGHT SW 1ST	Lighting switch 1st	On
OIL PRESS SW	Ignition switch OFF or ACC Engine running	Off
	Ignition switch ON	On
ODTION OTHER	Bright outside of the vehicle	Close to 5V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0V
DACCINIC CIAI	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
DUGU 0W1	Return to ignition switch to LOCK position	Off
PUSH SW ¹	Press ignition switch	On
REAR DEF SW	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
DD WACHED OW	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
RR WIPER IN	Rear wiper switch INT	On
RR WIPER ON	Rear wiper switch OFF	Off
RR WIPER UN	Rear wiper switch ON	On
RR WIPER STOP	Rear wiper stop position	Off
KK WIFEK STOP	Other than rear wiper stop position	On
DD WIDED CTD2	Rear wiper stop position	Off
RR WIPER STP2	Other than rear wiper stop position	On
TUDNI CIONIAL I	Turn signal switch OFF	Off
TURN SIGNAL L	Turn signal switch LH	On
TUDN SIGNAL D	Turn signal switch OFF	Off
TURN SIGNAL R	Turn signal switch RH	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
MADNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
WARNING LAMP	Low tire pressure warning lamp in combination meter ON	On

^{1:} With Intelligent Key

^{2:} With remote keyless entry system

Terminal Layout



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Physical Values

[WITH INTELLIGENT KEY SYSTEM]

	Wire		Signal		Measuring condition	Reference value or waveform
Terminal color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)	
1 BR/W	Ignition keyhole illumi- nation	Output	OFF	Door is locked (SW OFF)	Battery voltage	
				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) 64 20
5	G/B	Combination switch input 2				0.0
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	Input	ON	Rear window defogger switch	0V
9	GR/R				ON Rear window defogger switch OFF	5V
10	-	Hazard lamp flash	Input	OFF	ON (opening or closing)	0V
10 G	G				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

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Terminal Wire color	Signal name	Signal		Measuring condition	Reference value or waveform (Approx.)	
		input/ output	Ignition switch	Operation or condition		
19	V/W	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 → •50 ms
20 G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	(V) 6 4 2 0 +50 ms	
				When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 0 +-50 ms	
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, ther 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 → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, ther return to battery voltage.
26 Y/L	Rear wiper auto stop switch 2	Input	ON	Rise up position (rear wiper arm on stopper)	0V	
				A Position (full clockwise stop position)	0V	
				Forward sweep (counterclockwise direction)	Fluctuating	
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Fluctuating
27	W/R	Compressor ON sig-	Innut	ON	A/C switch OFF	5V
21 W/R	nal	Input	ON	A/C switch ON	0V	

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[WITH INTELLIGENT KEY SYSTEM]

Terminal	Wire color	Signal name	Signal input/	Ignition	Measuring condition	Reference value or waveform (Approx.)
	00101		output	switch	Operation or condition	
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
					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) 6 4 2 0 **-5ms
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **-5ms SKIA5291E
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	6 4 2 0 ***5ms SKIA5292E
37 ¹	B/R	Key switch and igni-	Input	OFF	Intelligent Key inserted	Battery voltage
SI	אוע	tion knob switch	прис	Ol-F	Intelligent Key inserted	0V
37 ² B/R	B/R	Key switch and key	Input	OFF	Key inserted	Battery voltage
		lock solenoid			Key inserted	0V
38	W/L	Ignition switch (ON)	Input	ON	_	Battery voltage
39	L	CAN-H		_	_	_
40	Р	CAN-L		_	—	_
42	GR	Glass hatch ajar	Input	ON	Glass hatch open	O Datton:
		switch	•		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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

	14.0		Signal		Measuring condition	Defense
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 counterclock- wise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating
47	SB	Front door switch LH	Input	OFF	ON (open)	0V
47	36	FIGHT GOOL SWITCH FLA	iliput	OFF	OFF (closed)	Battery voltage
48	R/Y	Rear door switch LH	Input	OFF	ON (open)	0V
40	IX/ I	Real door Switch LH	iliput	OFF	OFF (closed)	Battery voltage
49	R	Cargo lamp	Output	OFF	Any door open (ON)	0V
73	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	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	15 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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[WITH INTELLIGENT KEY SYSTEM]

		JOIO II VI OI (IVI) (TIC	•					
Terminal	Wire	Signal name	Signal input/	lauriti aur	Measuring con	dition	Reference value or waveform	
	color	Signal name	output	Ignition switch	Operation	or condition	(Approx.)	
58	W/R	Optical sensor	Input	ON	When optical sensor is illuminated		3.1V or more	
00	**/1	Option Concor	Прис	011	When optical s minated	ensor 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	Turn 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	R/W	Step lamp LH and RH	Output	OFF	ON (any door	open)	0V	
02	17/77	Step lamp Lit and IXII	Output	OH	OFF (all doors	closed)	Battery voltage	
		Interior room/map	0 1: 1	055	Any door	ON (open)	0V	
63	L	lamp	Output	OFF	switch	OFF (closed)	Battery voltage	
		All door lock actuators			OFF (neutral)		0V	
65	V	(lock)	Output	OFF	ON (lock)		Battery voltage	
		Front door lock actua-			OFF (neutral)		0V	
66	G/Y	tor RH, rear door lock actuators LH/RH and back door lock actua- tor (unlock)	Output	OFF	ON (unlock)		Battery voltage	
67	В	Ground	Input	ON	-	_	0V	
					Ignition switch	ON	Battery voltage	
					Within 45 seconds after ignition switch OFF		Battery voltage	
68	W/L	Power window power supply (RAP)	Output	_	More than 45 seconds after ignition switch OFF		0V	
					When front door LH or RH is open or power window timer operates		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

Fail Safe

Fail-safe index

^{2:} With remote keyless entry system

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

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

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

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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	
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] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1720: [CODE ERR] FL C1721: [CODE ERR] FR 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] RR 	S

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-29

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2013: STRG COMM 1	_	_	_	<u>SEC-30</u>
B2190: NATS ANTENNA AMP	_	_	_	SEC-33 (with I- Key), SEC-139 (without I-Key)
B2191: DIFFERENCE OF KEY	_	_	1	SEC-36 (with I- Key), SEC-142 (without I-Key)
B2192: ID DISCORD BCM-ECM	_	_	_	SEC-37 (with I- Key), SEC-143 (without I-Key)
B2193: CHAIN OF BCM-ECM	_	_	_	<u>SEC-39</u> (with I- Key), <u>SEC-145</u> (without I-Key)
B2552: INTELLIGENT KEY	_	_	_	SEC-41
B2590: NATS MALFUNCTION	_	_	_	SEC-42
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	_	_	_	_

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

< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000006628792

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Con	Value/Status	
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	
A/C COMP REQ	A/C switch OFF		Off
A/C COIVIP REQ	A/C switch ON		On
TAIL&CLR REQ	Lighting switch OFF		Off
IAIL&OLK REQ	Lighting switch 1ST, 2ND, HI or AU	TO (Light is illuminated)	On
LI I O DEO	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND HI or AUTO (Li	ght is illuminated)	On
LII LII DEO	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
		Front wiper switch OFF	Stop
ED WID DEO	Ignition quitab ON	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	Front wiper stops at fail-safe operation	BLOCK
OT DIV DEO	Ignition switch OFF or ACC		Off
ST RLY REQ	Ignition switch START		On
ION BLV	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
OIL D OW	Ignition switch OFF, ACC or engine	running Open	
OIL P SW Ignition switch ON			Close
DIDL DEG	Not operated	Off	
DTRL REQ	Daytime Running Lights ON	On	
	Not operated	I	Off
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE S TEM 	On	

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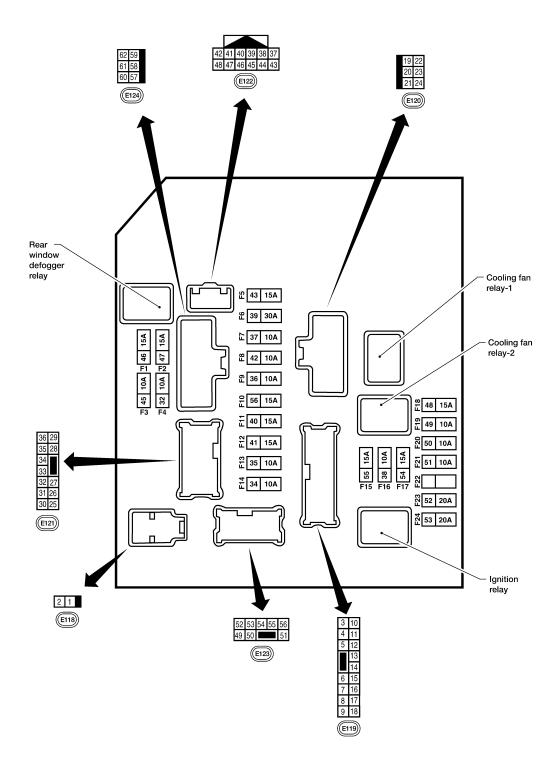
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
HORN CHIRP	Not operated	Off
HORN CHIRF	Door locking with keyfob or Intelligent Key (if equipped) (horn chirp mode)	On

Terminal Layout INFOID:0000000006628793



NOTE:

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.

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

< ECU DIAGNOSIS INFORMATION >

Physical Values INFOID:0000000006628794

Α

PHYSICAL VALUES

			Signal		Measuring condition		E							
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	FCM relev	Outout		Ignition switch ON or START	Battery voltage								
3	BR	ECM relay	Output	_	Ignition switch OFF or ACC	0V	_							
4	W/L	ECM roley	Quitaut		Ignition switch ON or START	Battery voltage	— E							
4	VV/L	ECM relay	Output		Ignition switch OFF or ACC	0V								
6		Throttle control motor	Outout		Ignition switch ON or START	Battery voltage	F							
6	L	relay	Output	_	Ignition switch OFF or ACC	0V								
7	W/D	FOM relevine and rel	la acid		Ignition switch ON or START	0V								
7	W/B	ECM relay control	Input	_	Ignition switch OFF or ACC	Battery voltage								
0	D/D	F.100 F4	Outout		Ignition switch ON or START	Battery voltage								
8	R/B	Fuse 54	Output	_	Ignition switch OFF or ACC	0V								
40	0	Fuse 45	0 1 1	0	ON	Daytime light system active	0V							
10	G	(Canada only)	Output	ON	Daytime light system inactive	Battery voltage								
44	V/D	A/O	Output	Output	Output	Output	Output	ON or	A/C switch ON or defrost A/C switch	Battery voltage				
11	Y/B	A/C compressor						Output	Output	Output	Output	Output	Galpai	Galput
10	1 ///	Ignition switch sup-	lanut		OFF or ACC	0V								
12	L/W	plied power	Input	_	ON or START	Battery voltage	0.1							
10	DW	Firel number relevi	Outout		Ignition switch ON or START	Battery voltage	- SI							
13	B/Y	Fuel pump relay	Output	_	Ignition switch OFF or ACC	0V								
1.1	Y/R	Fuee 40	Outout		Ignition switch ON or START	Battery voltage	-							
14	1/K	Fuse 49	Output		Ignition switch OFF or ACC	0V								
15	LG/B	Fugo 50	Quitaut		Ignition switch ON or START	Battery voltage								
15	LG/B	Fuse 50	Output		Ignition switch OFF or ACC	0V								
16	0	F.100 F4	Outout		Ignition switch ON or START	Battery voltage								
16	G	Fuse 51	Output	_	Ignition switch OFF or ACC	0V	-							
4-			0		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								
0.4	55	Ignition switch sup-	1		OFF or ACC	0V								
21	BR	plied power	Input	_	START	Battery voltage	F							
22	G	Battery power supply	Output	OFF	_	Battery voltage	r							
22	CDAM	Door mirror defogger	Quitnut		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 INFORMATION >

					Measuring cor	ndition	
Terminal	Wire color	Signal name	Signal input/ output	Igni- tion switch	Operation	or condition	Reference value (Approx.)
24		Cooling for relay	Outro		Conditions cor fan operation	rect for cooling	Battery voltage
24	L	Cooling fan relay	Output	_	Conditions not cooling fan op		0V
27	W/B	Fuse 38	Output		Ignition switch	ON or START	Battery voltage
21	VV/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 signal	Output	ON or START	Wiper switch	OFF LO or INT	Battery voltage 0V
		Wiper high speed sig-		ON or		OFF, LO, INT	Battery voltage
35	L/B	nal	Output	START	Wiper switch	HI	0V
37	Y	Power generation command signal	Output	_	Ignition switch 40% is set on "ALTERNATOI "ENGINE" 40% is set on "ALTERNATOI "ENGINE"	"Active test," R DUTY" of	JPMIA0001GB 6.3 V (V) 6 4 2 0 JPMIA0001GB 3.8 V
38	В	Ground	Input				0V
39	L	CAN-H	_	ON	_		_
40	Р	CAN-L	_	ON	-	_	_
42	GR	Oil pressure switch	Input	_	Engine running	g	Battery voltage
	J. (2 p. ccca. o omiton			Engine stoppe	d	0V
43	L/Y	Wiper auto stop signal	Input	ON or START	Wiper switch	OFF, LO, INT	Battery voltage
4.4		Daytime light relay	Innt	ON	Daytime light s	system active	0V
44	BR	control (Canada only)	Input	ON	Daytime light system inactive		Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

					Magazzina	dition	
	Wire		Signal		Measuring con	aition	Reference value
Terminal	color	Signal name	input/ output	lgni- tion switch	Operation or condition		(Approx.)
45	G/W	Horn relay control	Input	ON	When door lock using keyfob or (if equipped) (0		Battery voltage → 0V
46	GR	Fuel pump relay con-	Innut		Ignition switch	ON or START	0V
40	GR	trol	Input	_	Ignition switch	OFF or ACC	Battery voltage
47	0	Throttle control motor	Input		Ignition switch	ON or START	0V
77	0	relay control	input		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
		Trailer tow relay (With trailer tow)			Lighting switch must	OFF	0V
49	R/L	Illumination (Without trailer tow)	Output	ON	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	Y (With DTRL)	RH high beam head- lamp	Output	_	Lighting switch and placed in I 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
57	D/I	Parking, license, and	d Outral Ott	0.44	Lighting	OFF	0V
57	R/L	tail lamp	Output	ON	switch 1st po- sition	ON	Battery voltage
59	В	Ground	Input	_		_	0V
60	B/W	Rear window defog-	Output	ON or	Rear defogger	switch ON	Battery voltage
30	٠, , ,	ger relay	Jaspas	START	Rear defogger	switch OFF	0V
		Fuse 32		ĺ	Rear delogger switch OFF		

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

< ECU DIAGNOSIS INFORMATION >

*: When horn reminder is ON

Fail Safe INFOID:0000000006628795

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 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.

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

< ECU DIAGNOSIS INFORMATION >

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index INFOID:0000000006628796

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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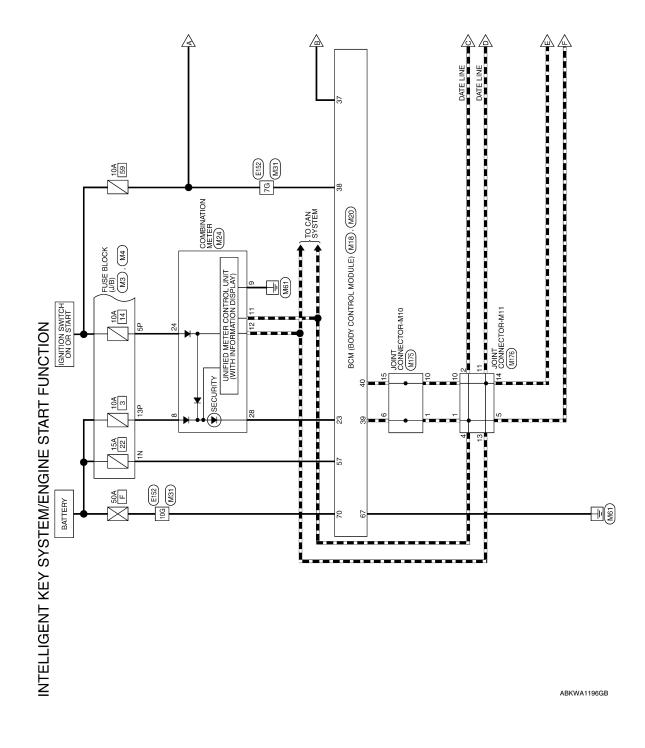
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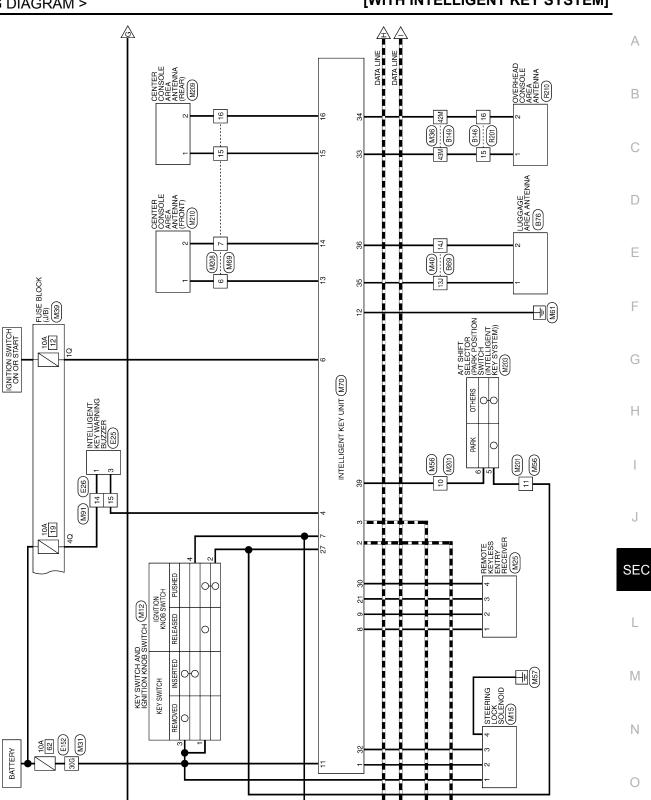
SEC-83 Revision: July 2010 2011 Armada

WIRING DIAGRAM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

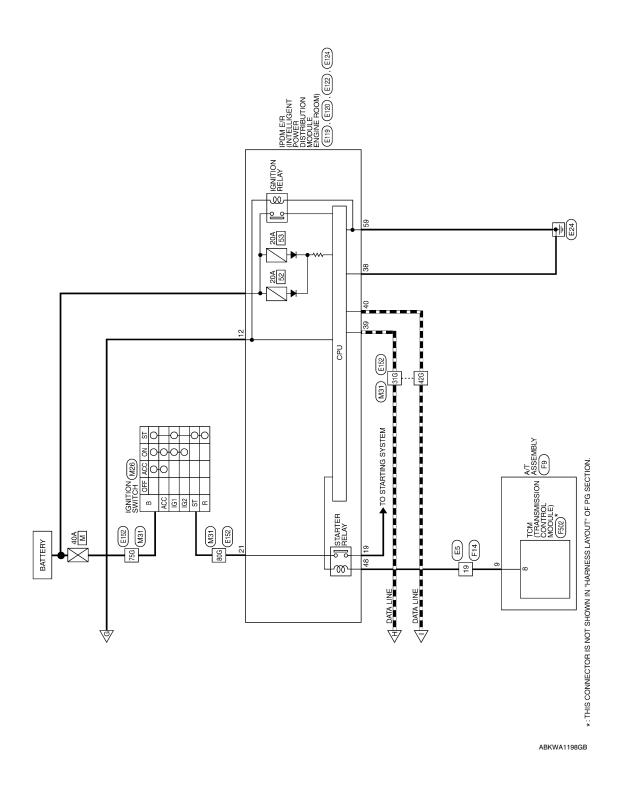
Wiring Diagram





Revision: July 2010 SEC-85 2011 Armada

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< WIRING DIAGRAM >

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

Α Connector Name | KEY SWITCH AND | IGNITION KNOB SWITCH BCM (BODY CONTROL MODULE) GND (POWER) Signal Name Signal Name BAT (FUSE) BAT (F/L) В 1 C BLACK GRAY M12 M20 Color of Wire Color of Wire Υ'R W/B R/B B/R ш Connector Name Connector Color Connector Color Connector No. Connector No. D Terminal No. Terminal No. 22 29 2 N က Е F
 13
 14
 15
 16
 17
 18
 19
 20

 33
 34
 35
 36
 37
 38
 39
 40
 SECURITY INDICATOR OUTPUT 7P 6P 5P 4P 3P 2P 1P 16P 15P 14P 13P 12P 11P 10P 9P 8P BCM (BODY CONTROL MODULE) Signal Name Signal Name CAN-H KEY SW **IGN SW** CAN-L Connector Name FUSE BLOCK (J/B) 30 31 32 Н Connector Color WHITE Connector Color WHITE 1 2 3 4 5 6 7 8 9 21 22 23 24 25 26 27 28 29 M18 Color of Wire Color of Wire 0/2 B/R W/L ۵ _ ۵ Connector Name Connector No. Connector No. Terminal No. Terminal No. 13P 49 5P 88 88 23 37 J SEC Connector Name STEERING LOCK SOLENOID Signal Name L Signal Name 5V PWR Connector Name FUSE BLOCK (J/B) GND SIG ф M WHITE Connector Color | WHITE M15 Color of Wire M Μ Color of Wire 9 ₹ В Connector Color Ν Connector No. Connector No. Terminal No. Terminal No. Z N က 4 0

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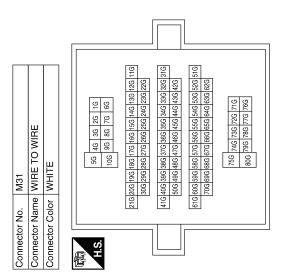
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< WIRING DIAGRAM >

Connector No.	M24		Connector No.	o. M25		Connector No.	Jo. M26	
Connector Nan	ne COM	Connector Name COMBINATION METER	Connector Na	ame REM	Connector Name REMOTE KEYLESS ENTRY RECEIVER	Connector	Jame IGNIT	Connector Name IGNITION SWITCH
Connector Color WHITE	or WHII	ш	Connector Color BLACK	olor BLAC	. X	Connector	Connector Color WHITE	
(所) H.S. (2019) 40 39	20 19 18 17 16 11 40 39 38 37 36 31	20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 4 0 3 9 8 3 3 2 8 1 8 0 5 8 3 4 33 22 21	E SH	1 2 3	4	高 H.S.	B ST 161	[3]
Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
80	۵	BATTERY	-	ŋ	GND	В	5	1
6	В	GND	2	GR	SIG	ST	BR	I
1	_	CAN-H	ဇ	B/W	RSSI			
12	۵	CAN-L	4	G/B	5V			
24	O/L	RUN/START						
28	G/O	SECURITY						

Signal Name	I	ı	ı	I	I	1	ı
Color of Wire	M/L	M/B	>	_	۵	5	BR
Terminal No.	52	10G	908	31G	42G	522	908



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< WIRING DIAGRAM >

Connector No. M39 Connector No. M39 Connector Color WHITE Signal No. Color of Signal Name 1Q G/R -	Connector No. M56	A B C D
		F
Signal Name	Signal Name	G H
Color of Wire BR W	Color of Wire of B O O B O O O O O O O O O O O O O O O	
Terminal No. 42M 43M 43M	13J 14J 14J	J
		SEC
M36	M40 MIRE TO WIRE Start MIRE TO WIRE TO WIRE TO WIRE TO WIRE Start MIRE TO WIRE TO	L
WAISE	Connector No. M40 Connector Name WIRE TO WIRE Connector Color WHITE 100 93 83 173 184 153 150 155 155 155 155 155 155 155 155 155	M
cto rol oto Cto rol oto rol ot	Connector No. Connector Name Connector Color (41) [61]	Ν
Conne		0
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< WIRING DIAGRAM >

Connector No.		M69 WIRE TO WIRE	Connector No.	No. M70 Name INTE	Connector No. M70 Connector Name INTELLIGENT KEY UNIT	Term	Terminal No.	Color of Wire	Signal Name
Connector Color		BROWN	Connector Color	Color WHITE	1		6	GR	RF TUNER SIGNAL
	4						11	>	BAT
E	2 8 6	76 754321					12	В	GND
U H	20 19 1	20 19 18 17 16 15 14 13 12 11 10	SH				13	B/W	ROOM ANT3 (+)
							14	W/G	ROOM ANT3 (-)
			2 3 4	6 7 8	10 11 12 13 14 15 16 17 18 19		15	G	ROOM ANT1 (+)
Terminal No.	Color of	Signal Name	2 22 23 24 3	52 26 27 28 29	9 30 31 32 33 34 35 36 37 38 39 40		16	_	ROOM ANT1 (-)
u				30,200			21	B/W	RF TUNER RSSI
7 0	M/G	ı	Terminal No.	o. Wire	Signal Name		27	B/B	PUSH SW INPUT
, <u>r</u>	D/A	I	-	Š	STRG C/U 5V OUTPUT		30	G/B	RF TUNER 5V OUTPUT
2 4	5 -	I	2	_	CAN-H		32	9	STRG C/U SIG
0	۲	ı	ღ	۵	CAN-L		33	>	ROOM ANT4 (+)
					OLITSIDE BLIZZEB		34	BB	ROOM ANT4 (-)
			4	GB GB	OUTPUT		35	0	ROOM ANT2 (+)
			9	G/R	IGN SW INPUT		36	Ж	ROOM ANT2 (-)
			7	B/B	KEY SW INPUT		39	L/R	P RANGE SW INPUT
			8	g	RF TUNER GND				
ON TOTAL	MOA		1	210			Oly rotocource		
Connector Name	<u>e</u>	WIRE TO WIRE	Connector Nar	Vame JOIN	Connector Name JOINT CONNECTOR-M10		Connector Name	- 1	M1/6 JOINT CONNECTOR-M11
Connector Color		ITE	Connector Color	Color BLUE	ш	Conr	Connector Color	- 1	ш
品S.H	7 6 5 14 1	13 12 11 10 9 8	原则 H.S.	20 19 18 17	6 5 4 3 2 1 16 15 14 13 12 11 10	是 H.S.		9 8 7	6 5 4 3 2 1 16 15 14 13 12 11 10
	Color of			Color of	i de la companya de l	F		Color of	
relillia No.		olgilal Ivalile	ופוווומו		olgilal ivallie	i D	ellillal NO.	Wire	olgilai Nailie
14	Y/R	1	-	_	ı		-	_	I
15	GR	1	9	_	1		2	_	ı
			10	۵	ı		4	_	I
			15	۵	ı		2	_	I
							10	۵	ı
							11	Ь	I
							13	Ь	ı
							14	_	ı

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< WIRING DIAGRAM >

DI	٩G	RA	M	>					
8	E TO WIRE	WN		1 2 3 4 5	Signal Name	1	ı	1	ı
M208	ne WIRI	or BRO		2 3 4	Solor of Wire	B/W	M/G	ŋ	_
Connector No.	Connector Name WIRE TO WIRE	Connector Color BROWN		H.S.	Terminal No. Wire	9	7	15	16
			_			•			
3	A/T SHIFT SELECTOR	(WITH INTELLIGENT KEY SYSTEM)	TE	3 4 5 8 9 1011112	Signal Name	1	1		
M203	AT.	SYS	or WHITE	1 2 9	Color of Wire	B/B	L'A		

3	A/T SHIFT SELECTOR	(WITH INTELLIGENT KEY SYSTEM)	TE	2 3	Signal Name	I	_	
M203	Ą	ne SYS	or WHI	6 1 2	Solor of Wire	B/B	L/R	
Connector No.		Connector Nar	Connector Color WHITE	明.S.	Terminal No. Wire	2	9	
Connector No. M201	Connector Name WIRE TO WIRE	Connector Color WHITE		H.S.	Terminal No. Wire Signal Name	10 L/R –	11 R/B –	

Connector No.	. E5	
Connector Name WIRE TO WIRE	me WIR	E TO WIRE
Connector Color WHITE	lor WHI	TE
H.S.	12 3 4 5 6	1 2 3 4 5 6
Terminal No. Wire	Color of Wire	Signal Name
19	B/R	ı

M210	CENTER CONSLOE AREA ANTENNA (FRONT)	GRAY	2 1	f Signal Name	ı	1
Г	е			Color of Wire	B/W	W/G
Connector No.	Connector Name	Connector Color	呵荷 H.S.	Terminal No.	-	2

60	CENTER CONSLOE AREA ANTENNA (REAR)	ITE		Signal Name	Ì	-
. M209		lor WH		Color of Wire	5	_
Connector No.	Connector Name	Connector Color WHITE	H.S.	Terminal No.	-	2

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Revision: July 2010 SEC-91 2011 Armada

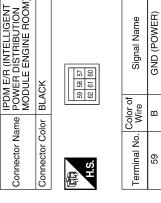
< WIRING DIAGRAM >

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

MODULE ENGINE MODULE ENGINE	ITE	9 8 7 6 ((1) 5 4 3 18 17 16 15 14 13 11 10	Signal Na) MS NDI
	lor WH	9 8 7 6 15 16 15	Color of Wire	ΓM
COLLIECTOR IN	Connector Color WHITE	H.S.	Terminal No.	12

Color of Wire	Γ/M	
Terminal No.	12	

E124	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	BLACK	
Connector No.	Connector Name	Connector Color BLACK	ą



Connector No.	E26
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE



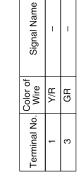
Signal Name	_	-
Color of Wire	Y/R	GR
Terminal No.	14	15

Connector No.	E122
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE R
Connector Color WHITE	WHITE

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	HTE	41 40 39 88 37 47 46 45 44 43	Signal Name	GND (SIGNAL)	CAN-H	CAN-L	RANGE SW
	lor WH	484	Color of Wire	В	_	Ь	B/R
Connector Name	Connector Color WHITE	高.H.S.	Ferminal No.	38	39	40	48

E25	Connector Name INTELLIGENT KEY WARNING BUZZER	BROWN
Connector No.	Connector Name	Connector Color BROWN



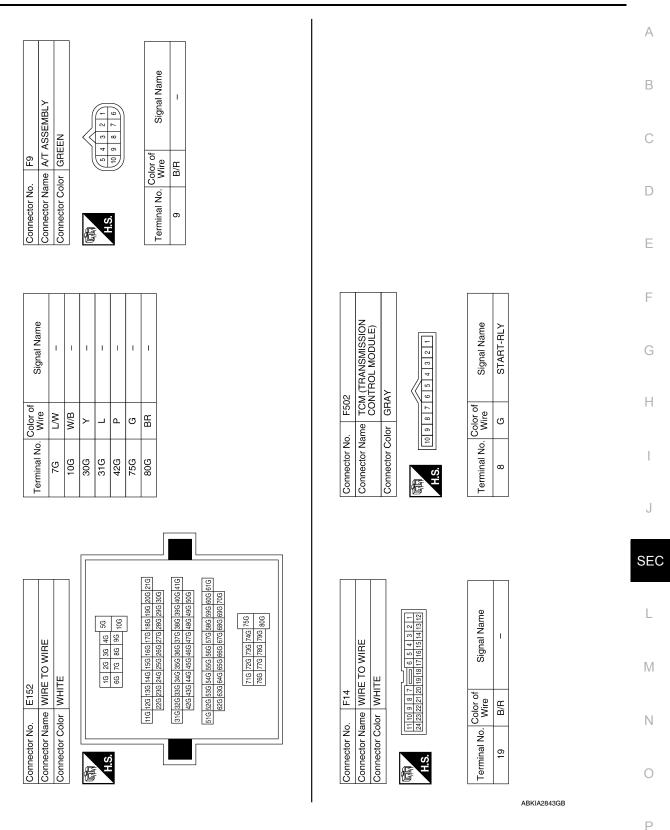


E120	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

21 20 19 24 23 22	Signal Name	STARTER MTR	IGN SW (ST)
24	Color of Wire	W/R	BB
画 H.S.	Terminal No.	19	21

ABKIA2839GB

< WIRING DIAGRAM >



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Connector No. B69 Connector Name WIRE TO WIRE	lo. B69	TO WIRE	Terminal No.	O. Wire	Signal Name	Connector No.	٩	B76	
Connector Color	Solor WHITE	! ! ! ! !	133	0	1	Connector Color			
	_		140	œ	ı		_		
H.S.	1 3	1 22 33 44 55 1 77 88 99 100				H.S.	~~		
	11.0 12.0 13.0 13.0	[17] [23] [34] [45] [45] [45] [45] [45] [45] [45]				Terminal No.	Color of Wire	Signal Name	
	227 237 2	223 233 243 253 253 273 283 293 300				-	0	ı	
	31J 32J 33J 3	31.) 32.) 33.) 34.) 35.) 36.) 37.) 38.) 37.) 38.) 40.) 41.) 42.) 43.) 44.) 45.) 46.) 47.) 48.) 49.) 50.)				2	œ	ı	
	513 523 533 5	[51] [52] [53] [54] [55] [56] [57] [58] [59] [60] [61] [62] [63] [64] [65] [66] [67] [68] [69] [70]]						
		74.1 72.3 73.3 74.3 75.3 76.1 77.3 76.1 79.9 80.1							
Connector No.		B146	Connector No.		B149	Terminal No.	Color of Wire	Signal Name	
Connector Color		N N	Connector Color			42M	BB	1	
	_			_		43M	8	ı	
H.S.	12 3 4 5 6 12 13 14 15 16 17	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 90 21 22 23 24	师 H.S.		1M 2M 3M 4M 5M 6M 6M 7M 7M 8M 7M 10M				
				11M 12M 13M	11M 12M 13M 14M 15M 16M 17M 18M 19M 20M 21M				
Terminal No.	Color of Wire	Signal Name		22M 23M	22M 23M 24M 25M 26M 27M 28M 29M 30M				
15	Μ	1		31M 32M 33M	31M 32M 33M 34M 35M 36M 37M 38M 39M 40M 41M				
16	BR	ı		4ZIVI 43IV	1 44 m 45 m 40 m 47 m 48 m 20 m				
				51M 52M 53M 62M 63M	61M 52M 53M 54M 55M 56M 57M 58M 59M 60M 61M 62M 63M 64M 65M 66M 67M 68M 69M 70M				
				7	71M 72M 73M 74M 75M 75M 76M 77M 78M 80M				

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< WIRING DIAGRAM >

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R210	Connector Name OVERHEAD CONSOLE AREA ANTENNA	WHITE	
Connector No.	Connector Name	Connector Color WHITE	





Signal Name

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tor Color 11 10 9 24 23 22	Connector Color	BROWN		8 7 6 5 4 3 2 1	21 20 19 18 17 16 15 14 13 12
BROWN	BROWN				16
tor Color BROWN 11 10 9 8 7	nnector Color BROWN 11 10 9 8 7			9	17
tor Color BROW	nnector Color BROW 1110 9 8 7 E E E E E E E E E E	z		ıTn	18
tor Color BRC	nector Color BRC	≷	l r	ᄓᄔ	13
tor Color B	Inector Color B	12		^	20
tor Color 11 10 9 24 23 22	11 10 9 24 23 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 22 24 23 22 24 24 23 22 24 24 24 24 24 24 24 24 24 24 24 24	В			21
tor Cole	11 10 24 23 24 23	5		6	22
to 100	nnector C	ğ		10	23
용 └──	nnectc	Ž		Ξ	54
	ine ine	용	<u> </u>		

Connector Name WIRE TO WIRE

R201

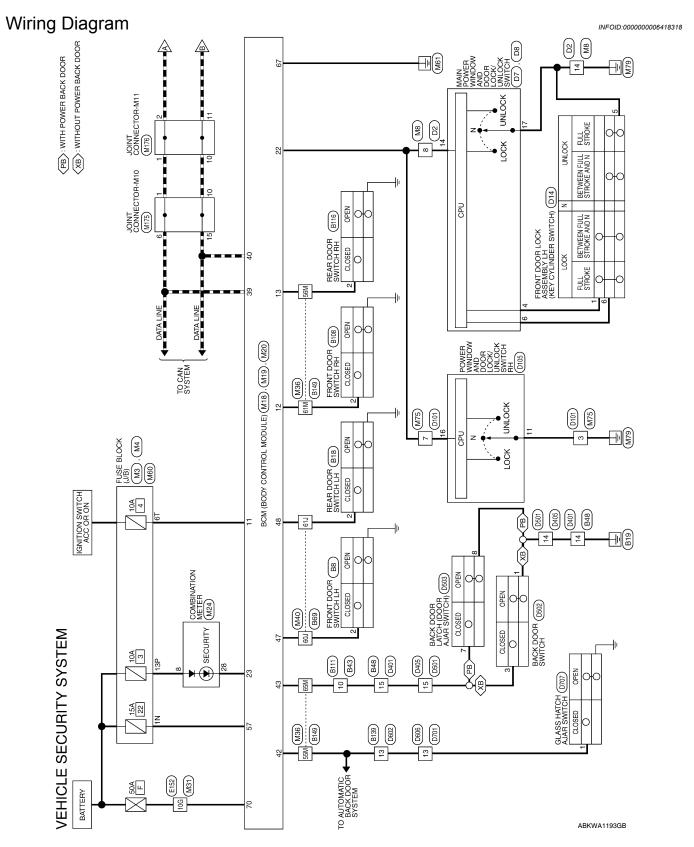
Connector No.

Signal Name	I	I
Color of Wire	Μ	BR
Terminal No.	15	16

SEC-95 Revision: July 2010 2011 Armada

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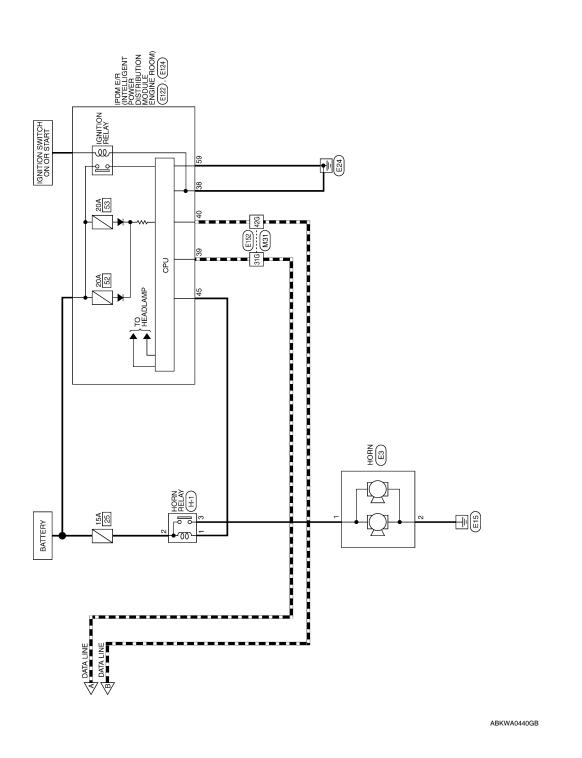
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BCM (BODY CONTROL MODULE)

Connector Name Connector Color

Connector No.

BLACK

Connector Name WIRE TO WIRE

Connector No. M8

Connector Color WHITE

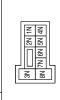
VEHICLE SECURITY SYSTEM CONNECTORS

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

Connector Name FUSE BLOCK (J/B)

Connector No.

Connector Color WHITE



8N 7N 6N 5N 4N	Signal Nam	ı
ਰੰ <u>ਡਿ</u>	Color of Wire	Y/R
H.S.	Terminal No.	N-





Signal Name	-	
Color of Wire	Y/R	
nal No.	z	

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire ₽

Terminal No. 13P

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7P 6P 5P 4P 3P 2P 1P 1P 15P 11P 10P 9P 8P

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

BCM (BODY CONTROL MODULE)

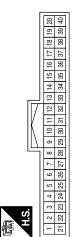
Connector Name Connector Color

M18

Connector No.

WHITE





Signal Name	BAT(FUSE)	GND (POWER)	BAT (F/L)
Color of Wire	Y/R	В	W/B
Terminal No.	22	29	70

Signal Name	GLASS HATCH SW	BACK DOOR SW	DOOR SW (DR)	DOOR SW (RL)
Color of Wire	GR	B/B	SB	R/Υ
Terminal No.	42	43	47	48

erminal No.	Color of Wire	Signal Name
11	0	ACC SW
12	R/L	DOOR SW (AS)
13	GR	DOOR SW (RR)
22	N/M	ANTI-PINCH SERIAL LINK (RX,TX)
23	G/O	SECURITY INDICATOR OUTPUT
39	٦	CAN-H
40	Ь	CAN-L

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		А
Signal Name		В
Color of Wire W/B W/B P P		С
Terminal No. W W 10G W 31G 42G		D
		Е
		F
M31	Signal Name	G
Connector No. M31 Connector Name WIRE TO WIRE Connector Color WHITE 56 46 36 106 96 986 776 886 116 90 986 776 886 116 90 986 776 886 116 90 986 976 986 116 90 986 976 986 116 90 986 976 986 116 90 986 976 976 986 117 90 996 986 776 986 118 900 776 976 986 119 900 976 976 776 119 900 976 976 776 110 900 986 976 976 976 110 976 976 776 110 976 976 976 976 110 976 976 976 976 110 976 976 976 976 110 976 976 976 976 110 976 976 976 976 110 976 976 976 976 110 976 976 976 110 976 976 976 110 976 976 110 976 976 976 110 976 976 11		Н
Connector No. Connector No. Connector No. Connector Color	Color of Wire GR M GR MILL M RILL M RILL M M M M M M M M M M M M M M M M M M	I
Connector Nan Connector Cold	55M 56M 61M 65M	J
Connector No. M24	Connector No. M36 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE SM	SEC L M
		Р

Connector No. M40 Connector Name WIRE TO WIRE	Terminal No.	O -	Signal Name	Connector No. Connector Name	<u>9</u>	M60 FUSE BLOCK (J/B)
Connector Color WHITE	P09	SB	1	Connector Color	olor WHITE	ш
_	61)	R/Y	1		_	
5.4 4.1 3.1 22 1.1 1.1 (1.0) 9.1 8.8 7.7 6.1				H.S.	2T	47 37
				Terminal No.	Color of Wire	Signal Name
41.1 40.1 39.1 38.1 37.7 36.1 35.1 34.1 35.1 37.1 37.0 39.2 37.1 34.1 35.1 37.1 36.1 36.1 36.1 37.1 36.1 36.1 36.1 36.1 36.1 36.1 36.1 36				ET 9		. 1
75J 74J 75J 75J 77J 80J 75J 75J 75J						
M75	Connector No.	o. M175		Connector No.). M176	
Connector Name WIRE TO WIRE Connector Color WHITE	Connector Name	ame JOINT	Connector Name JOINT CONNECTOR-M10 Connector Color BLUE	Connector Name Connector Color	ame JOINT	Connector Name JOINT CONNECTOR-M11 Connector Color BLUE
2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	H.S.	9 8 7 6 20 19 18 17 16	5 4 3 2 1 15 14 13 12 11 10	H.S.	9 8 7 6 20 19 18 17 16	5 4 3 2 1
Color of Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
- B	-	_	1	-	_	ı
N/N	9	7	ı	2	_	1
	10	Ф	1	10	۵	1
	15	А	ı	11	Д.	ı

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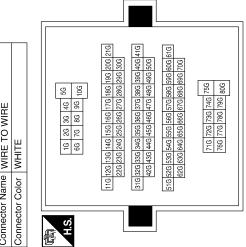
[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

Connector Name HORN					Connector No.	E124	
				IPDM E/R (INTELLIGENT		IPDM	IPDM E/R (INTELLIGENT
Connector Color BLACK		Connector Name		POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Nan	ne POWE MODU	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
		Connector Color	lor WHITE	ш	Connector Color	or BLACK	
H.S.		原 R.S.	42 4	42 41 40 39 88 37 40 47 46 46 44 43	E H.S.	59 58	58 57 61 60
Color of Si	N legal		9	24 +++ 0+ 0+]	
Wire			Color of			Solor of	
1 G	ı	Terminal No.	Wire	Signal Name	Terminal No.	Wire	Signal Name
2 B	ı	38	В	GND (SIGNAL)	29	В	GND (POWER)
		39	_	CAN-H			
		40	۵	CAN-L			
		45	G/W	ANT THEFT HORN			
		45	W/5	ANT THEFT HORN			

S W K		FRONT DOOR SWITCH LH			Signal Name	ı
Dunector Name onnector Name onnector Name onnector Color onnector Color onnector Color onnector Color onnector Name on Color o	B8	FRONT C	WHITE	Q - N ®		SB
	Connector No.	Connector Name	onnector Color	语 H.S.	Terminal No.	

Signal Name	1	I	Ι	
Color of Wire	M/B	_	Ь	
Terminal No.	10G	31G	42G	



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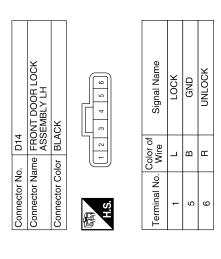
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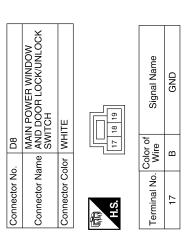
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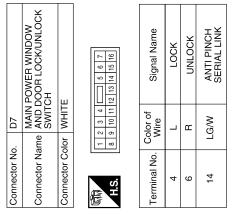
Connector No. B48 Connector Name WIRE TO WIRE	B B B	Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Color of Wire 10 R/W –	
Connector No. B43 Connector Name WIRE TO WIRE	R/W	Connector No. Connector Color WHITE Connector Color WHITE	Terminal No. Wire 2 R/L –	
Connector No. B18 Connector Name REAR DOOR SWITCH LH Connector Color WHITE Terminal No. Color of Signal Name	Been	Connector Name WIRE TO WIRE Connector Color WHITE To all all all all all all all all all al	11 12 12 13 14 13 15 17 18 18 2 2 2 2 2 2 2 2 2	Terminal No. Color of Signal Name 60J Signal Name 61J R/Y -

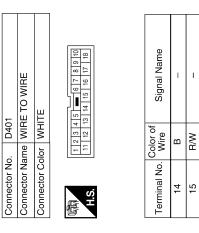
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	В
D2 WIRE TO WIRE WHITE Signal Name	С
2. D2 3. D2 3. D2 4. D2 4. D2 4. D3 6. D3 6. D4 7. D4	D
<u> </u> <u> </u> <u> </u> <u> </u>	Е
	F
	G H
NWINE TO WHITE TO WH	I
Connector No. Connector Name Connector Name Connector Color Terminal No. Will 55M G 55M G 61M R 65M R/	J
	SEC
B116 WHITE Irof Signal Name R	L
Connector No. Connector Name REAR DOOR SWITC Connector Color of Signal Nam 2 Connector No. B149 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE Tim Izw 3m 4m 5m 10m 10	M
Connector No. B11 Connector Name RE Connector Color of WH Connector No. B12 Connector No. B12 Connector No. B12 Connector No. B14 Connector Color WH Connector No. B12 Connector Color WH Connector Color W	Ν
	0
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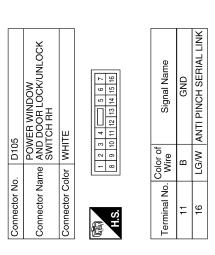
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Connector No.		D101
Connector Na	ıme	Connector Name WIRE TO WIRE
Connector Color	olor	WHITE
赋取 H.S.	[-]40]	5 6 7 8 9 10 4 10 10 10 10 10 10 10 10 10 10 10 10 10
	ŏ	Color of Size Niger

Signal Name	I	1
Color of Wire	В	LG/W
Terminal No.	3	7

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[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

SWITCH		Signal Name	I	_
D502 BACK DOOR			В	B/W
Connector No. D502 Connector Name BACK DOOR SWITCH Connector Color WHITE	H.S.	Terminal No. Wire	-	3 R/
_ - - -			ı	ı
: TO WIRE	13 14 15 16 17 18	Signal Name	1	-
Connector No. D501 Connector Name WIRE TO WIRE Connector Color WHITE	11 12 13 4 5 13	Color of Wire	В	B/W
Connector No. Connector Name	原 H.S.	Terminal No. Wire	14	15
D405 WIRE TO WIRE WHITE	15 14 13 12 11	Signal Name	ı	1
e z	10 9 8 7 6	Color of Wire	В	B/W
or No.		Š.		

91	E TO WIRE	ITE	5 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	I
. De06	me WIF	lor WHITE	7 6 5 14 15 14	Color of Wire	GR
Connector No.	Connector Name WIRE TO WIRE	Connector Color	赋 H.S.	Terminal No.	13

Connector No. D602 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 16 15 14 13 12 11 10 9 8	Terminal No. Vire Signal Name	0
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33	Connector Name BACK DOOR LATCH	ITE	2 2 2 8 2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Signal Name	_	1
. D503	me BA(lor WH	1 4	Color of Wire	B/W	8
Connector No.	Connector Na	Connector Color WHITE	赋 H.S.	Terminal No.	7	8

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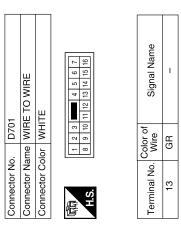
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	FUSE AND FUSIBLE LINK BOX (HORN RELAY)			Signal Name	ı	ı	-
<u> </u>		lor		Color of Wire	B/W	G/B	ŋ
Connector No.	Connector Name	Connector Color	S. T.	Terminal No.	-	2	ဧ

	Connector Name GLASS HATCH AJAR SWITCH	X		Signal Name	ı
. D707	me GL SW	lor BLACK		Color of Wire	GR
Connector No.	Connector Na	Connector Color	原 H.S.	Terminal No.	-



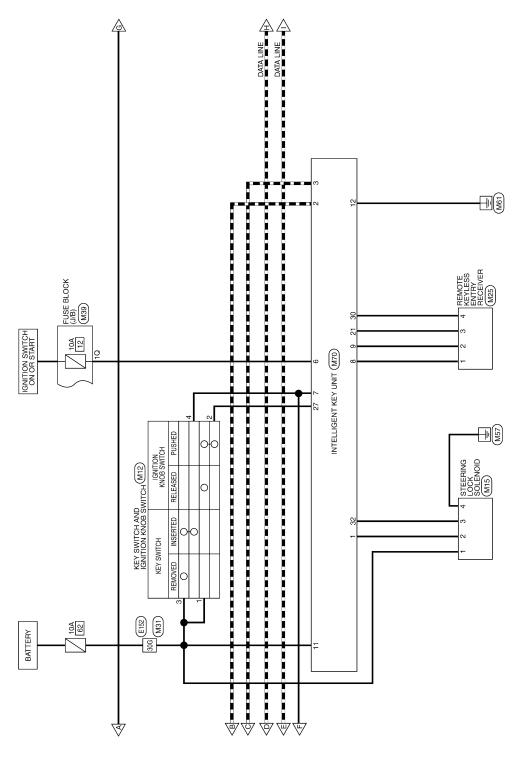
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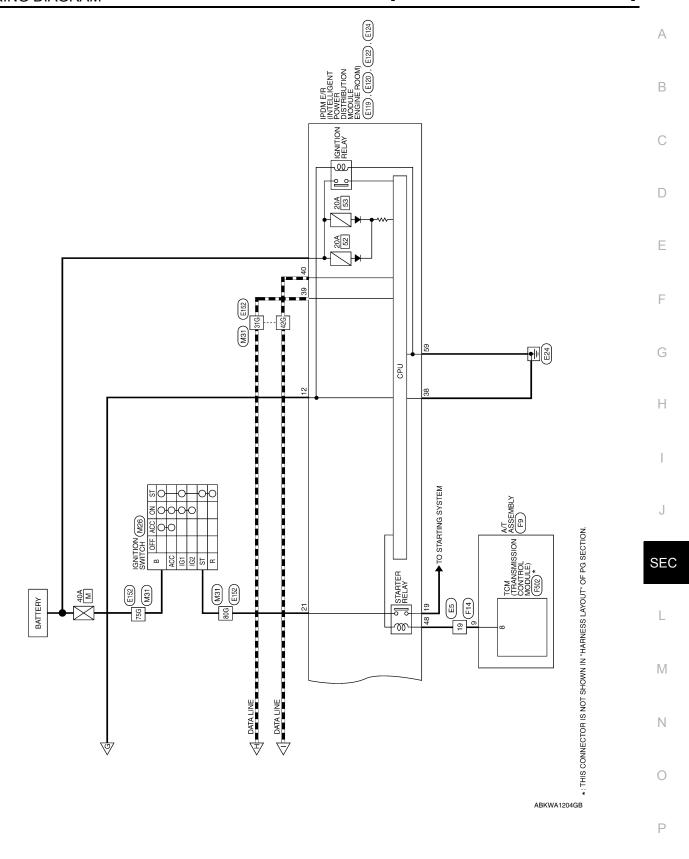
ABKWA1199GB

BATTERY

< WIRING DIAGRAM > **NVIS** Α Wiring Diagram - With Intelligent Key System INFOID:0000000006418319 В C JOINT CONNECTOR-M10 (M175) D Е **P** F G BCM (BODY CONTROL MODULE) (M18), (M20) Н IGNITION SWITCH ON OR START 7G E152 M31 10A FUSE BLOCK (J/B) (M3), (M4) J SECURITY SEC NVIS - WITH INTELLIGENT KEY SYSTEM 15A L NATS ANTENNA AMP. (M21) M 50A Ν 0 (M31)



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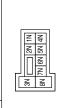
Connector Name | KEY SWITCH AND | IGNITION KNOB SWITCH

Connector No. M12

Connector Color GRAY

NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

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





8N 7N 6N 5N 4N	Signal	
N8	Color of Wire	Y/R
H.S.	Terminal No.	N.

	Connector Name FUSE BLOCK (J/B)	HTE	77 (89 (59 (49 ()) () () () () () () () ()	f Signal Name	1
. M4	me FU	lor W	7P 6P 16P 15P	Color o Wire	۵
Connector No.	Connector Na	Connector Color WHITE	赋 H.S.	Terminal No. Wire	13P
	e FUSE BLOCK (J/B)	11	3N	Signal Name	I
M3	e FUS	r WHITE	₩ 88 N8	olor of Wire	Y/R

Signal Name	1	
Color of Wire	Ы	
Terminal No.	13P	

Signal Name

Color of Wire

Terminal No.

R/B

N က B/R

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

BCM (BODY CONTROL MODULE)	BLACK	56 57 58 59 60 61 62 63 64 86 70 10 10 10 10 10 10 10 10 10 10 10 10 10		Signal Name	BAT (FUSE)	GND (POWER)	BAT (F/L)
	-	56 57 58 65 66		Color of Wire	Y/R	В	M/B
Connector Name	Connector Color	所 H.S.		Terminal No.	25	29	02
			,				

Connector No.	Σ 		
Connector Name		BCM (BODY CONTROL MODULE)	
Connector Color		WHITE	
雨 H.S.			
1 2 3 4 5 21 22 23 24 25	6 7 8 9	9 10 11 12 13 14 15 16 17 18 19 20 29 30 31 32 33 34 35 36 37 38 39 40	
Terminal No.	Color of Wire	Signal Name	
21	G	IMMOBILIZER ANTENNA SIGNAL (CLOCK)	
23	0/5	SECURITY INDICATOR OUTPUT	
25	BR	IMMOBILIZER ANTENNA SIGNAL (RX,TX)	
37	B/R	KEY SW	
38	M/L	IGN SW	
39	٦	CAN-H	
40	Д	CAN-L	

STEERING LOCK SOLENOID	ITE	3 4	Signal Name	B+	5V PWR	SIG	GND
	lor WHITE	1 2	Color of Wire	٨	∖	0/1	В
Connector Name	Connector Color	画 H.S.	Terminal No.	-	2	3	4

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Cornector No. M21 Cornector No. M22 Cornector No. M22 Cornector No. M22 Cornector No. M31 Cornector No. M32 Cornector No. M32 Cornector No. M31 Cornector No. M32 Cornector No. M31 Cornector No. M32 Cornector No. M32 Cornector No. M32 Cornector No. M31 Cornector No. M32 Cornector No. M32 Cornector No. M31 Cornector No. M32 Cornector No. M32 Cornector No. M32 Cornector No. M31 Cornector No. M32 Cornector No. M31 Cornector No. M32 Cornector No. M32 Cornector No. M31 Cornector No. M32 Cornector No. M32 Cornector No. M31 Cornector No. M31 Cornector No. M32 Cornector No. M31 Cornector No. M32 Cornector No. M33 Cornector No. M34 Cornector No.	REMOTE KEYLESS ENTRY RECEIVER	X F	Signal Name	GND	SIG	RSSI 5V		Signal Name	ı	_	ı	_	I	I	1		
MATS ANTENNA AMP. Connector Name COMBINATION METER		nector Color					Color of	erminal No. Wire									
MATS ANTENNA AMP. WHITE Or of Signal Name WHITE B GND B GND	3 8	8 6	22 1					<u>Т</u>		_					<u> </u>		
MATS ANTENNA AMP. WHITE Or of Signal Name WHITE B GND B GND	INATION METER		8 7 6 5 4 28 27 26 25 24	-	Signal Name	BATTERY		TO WIRE				56 46 36 26 16	06 96 86 76 66	- - - - - -	1G 17G 16G 15G 14G 13G 12G 110	90 370 380 350 340 250 240 250 250 310 310 320 310 310 310 310 310 310 310 310 310 31	
MATS ANTENNA AMP. WHITE Or of Signal Name WHITE M26 IGNITION SWITCH WHITE B SCL (TX,RX)	nector No. M24 nector Name COMB nector Color WHITE	S S	9 38 37 36 35 34 33 32 3	Color of	ninal No. Wire			nector Name WIRE	nector Color WHITE	_					21G 20G 19G 18	416 406 396 38 616 806 396 38 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	
WHITE WHITE WHITE WHITE WHITE BET GO OF			20 1		Terr			Con	Col]							
ector Name NATS ector Color of inal No. Wire ector Name IGNIT ector Color of Inal No. Wire BB G G ST BBR	S ANTENNA AMP.	4 4	Signal Name	+12V	SCL (CLOCK)	GND SCL (TX,RX)		TON SWITCH	ш			10 Ed				Signal Name	
Conne	Name NATS Color WHIT		al No. Wire					ctor Name IGNIT	ctor Color WHIT			B ST			\vdash		

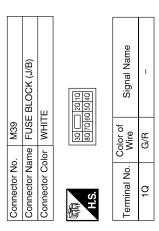
Signal Name	CAN-L	IGN SW INPUT	KEY SW INPUT	RF TUNER GND	RF TUNER SIGNAL	BAT	GND	RF TUNER RSSI	PUSH SW INPUT	RF TUNER 5V OUT	STRG C/U SIG
Color of Wire	Д	G/R	B/R	ŋ	GR	\	В	B/W	B/B	G/B	Γ/0
Terminal No.	က	9	2	8	6	11	12	21	27	90	32

STRG C/U 5V OUTPUT

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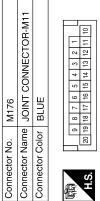
CAN-H



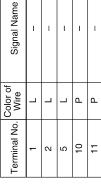


E5	WIRE TO WIRE	WHITE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color	

אווא ס	111	1 2 3 4 5 6 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	I
מו	or WHITE	2 3 4 5 6 2 13 14 15 16 17	Color of Wire	B/R
אוואך ו אוואר ו אוואר ו אוואר	Connector Color WHITE	H.S.	Terminal No.	19



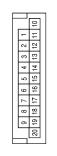




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				:								
Connector Name JOINT CONNECTOR-M10	Nar	ne	>	_	╘	8	ΙZ	岁	ပြ	0	7-M1	0
Connector Color BLUE	Col	or	В	\Box	ш							
N TIME	\neg	6	9 8 7 6 5 4 3	7	9	2	4	က	2	1	_	
S	20	20 19 18 17 16 15 14 13 12 11 10	18	17	16	15	14	13	12	11	10	





Signal Name	ı	I	ſ	-
Color of Wire	٦	7	Д	Ь
Terminal No. Wire	-	9	10	15

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Connector No. M175

	-	
Connector No.	. E121	
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	lor BROWN	NMO
南南 H.S.	29 28 36 35 3	29 28 3 27 26 25 36 35 34 33 32 31 30
Terminal No.	Color of Wire	Signal Name
30	Μ	ECM BAT

D ≥	3 _	30
Color of Wire	Cole	Terminal No.
29 28 36 35 34	[4]	国 H.S.
BROV	lor	Connector Color
POWE	me	Connector Name

0.	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	ITE	22 22 22 22 22 22 22 22 22 22 22 22 22	Signal Name	STARTER MTR	(LS) MS N5I
. E120		lor WH	21	Color of Wire	W/R	BR
Connector No.	Connector Name	Connector Color WHITE	明 H.S.	Terminal No.	19	21

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

Connector No.). E124	4
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor BLACK	CK
H.S.		29 88 57 20 11 60
Terminal No.	Color of Wire	Signal Name
29	В	GND (POWER)

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

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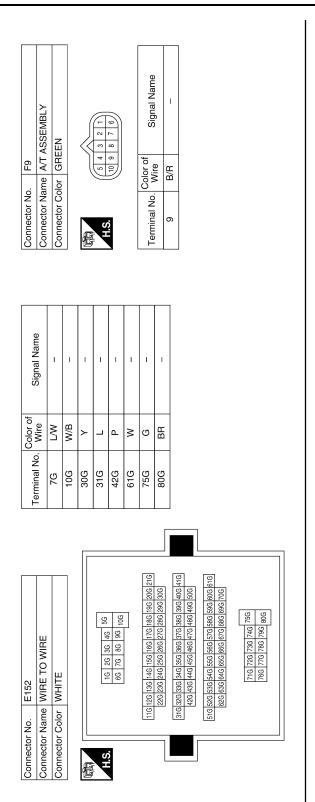
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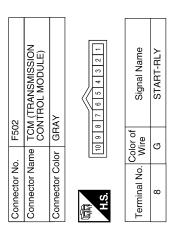
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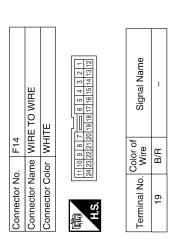
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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SYMPTOMS [WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SYMPTOMS

Symptom Table INFOID:0000000006146923

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.	<u>SEC-30</u>
[LCD displays "KEY DETECTED"]	2.	Replace Intelligent Key unit.	SEC-121
	1.	Check Intelligent Key unit power supply and ground circuit.	DLK-71
	2.	Check ignition knob switch.	DLK-118
Ignition switch does not turn on with Intelligent Key. [LCD does not display "KEY DETECTED"]	3.	Check key switch (BCM input).	DLK-117
[200 000 000 000 000 000 000 000 000 000	4.	Check key switch (Intelligent Key unit input).	DLK-115
	5.	Replace Intelligent Key unit.	SEC-121
	1a.	Check center console area antenna (rear).	DLK-63
	1b.	Check luggage area antenna.	DLK-69
Ignition switch does not turn on with Intelligent Key. [LCD displays " NO KEY DETECTED"]	1c.	Check center console area antenna (front).	DLK-65
[200 000,00,00 000 000 000 000 000 000 00	1d.	Check overhead console area antenna.	DLK-67
		Replace Intelligent Key unit.	SEC-121
Ignition switch does not turn on with mechanical key	1.	Check key switch (BCM input).	DLK-117
ignition switch does not turn on with methanical key	2.	Check key switch (Intelligent Key unit input).	DLK-115
Engine cannot be cranked with transmission in "Park"	1.	Check transmission signal.	<u>TM-45</u>
or in "Neutral" position with brake pedal depressed	2.	Check stop lamp switch.	SEC-84

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SEC-115 2011 Armada Revision: July 2010

VEHICLE SECURITY SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

Procedure		dure	Diagnostic procedure	Refer to page
	Symp	tom	Diagnostic procedure	Refer to page
		Door switch	Check door switch (LF, RF, LR, RR, back)	<u>DLK-74</u>
	Vehicle security sys-	Glass ajar switch	Check glass ajar switch	DLK-129
	tem cannot be set by	Intelligent Key	Check Intelligent Key system	DLK-8
1	••••	Key cylinder switch	Check key cylinder switch	DLK-82
		_	Check Intermittent Incident	<u>GI-38</u>
	Coourity indicator door	a not turn ON	Check vehicle security indicator	<u>SEC-58</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-74</u>
2	system does not	Glass ajar switch	Check glass ajar switch	DLK-129
	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-82
	celed by ····	_	Check Intermittent Incident	<u>GI-38</u>

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

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS M DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

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-58</u>
decurity indicator does not turn on or mash.	2. Check Intermittent Incident	<u>GI-38</u>

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Revision: July 2010 SEC-117 2011 Armada

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:0000000006146927

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 >

[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.

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NATS ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

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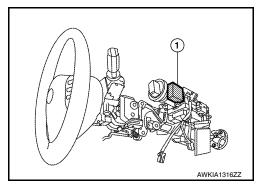
NATS ANTENNA AMP

NOTE:

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

Removal

- 1. Disconnect the battery negative terminal.
- 2. Remove the cluster lid A. Refer to IP-15, "Removal and Installation".
- 3. Remove the bolt, disconnect the electrical connector, and remove the NATS antenna amp (1).



Installation

Installation is in the reverse order of removal.

INTELLIGENT KEY UNIT

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

INTELLIGENT KEY UNIT

Removal and Installation

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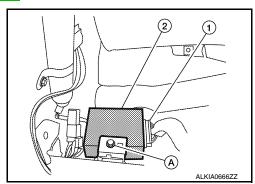
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INTELLIGENT KEY UNIT

Removal

- 1. Remove the cluster lid A. Refer to IP-15, "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.

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REMOTE KEYLESS ENTRY RECEIVER

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

REMOTE KEYLESS ENTRY RECEIVER

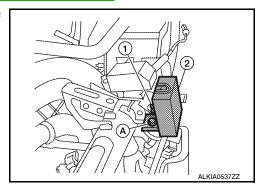
Removal and Installation

INFOID:0000000006669451

REMOTE KEYLESS ENTRY RECEIVER

Removal

- 1. Remove the instrument lower panel RH. Refer to IP-13, "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.

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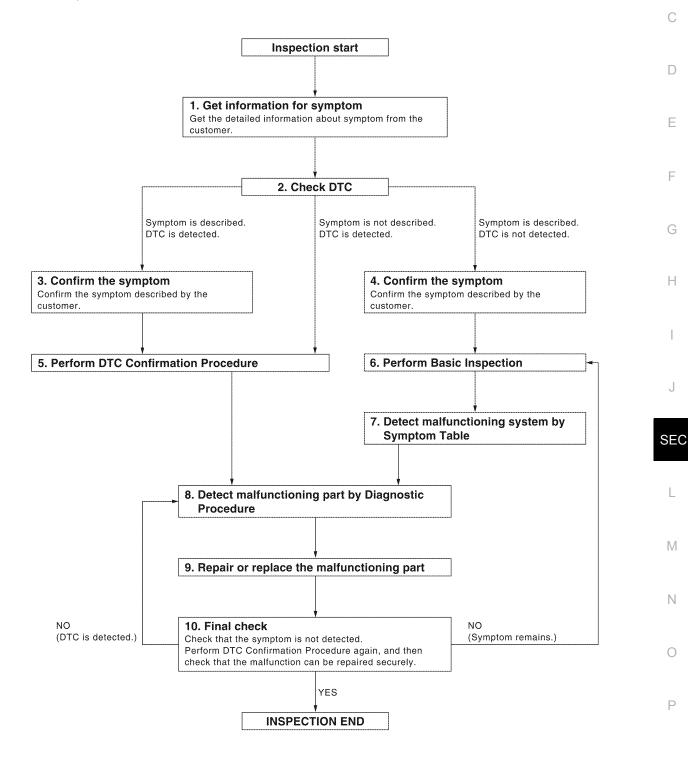
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000006146929 В

OVERALL SEQUENCE



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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[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

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 BCS-46, "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-126, "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 SEC-159, "Component Function Check".

3. CHECK ALARM FUNCTION

- 1. After 30 seconds, security indicator lamp will start to blink.
- 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-196, "Symptom Table"</u>.
 - Alarm (horn and headlamps) does not operate. Refer to SEC-196, "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-252</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:0000000006146931 Refer to the CONSULT-III Operation Manual-NATS. ECM RE-COMMUNICATING FUNCTION ECM RE-COMMUNICATING FUNCTION: Description INFOID:0000000006146932 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:0000000006146933 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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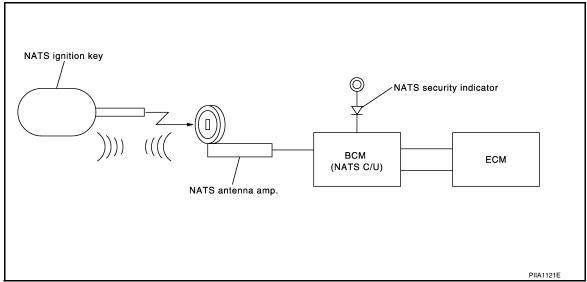
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SYSTEM DESCRIPTION

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

INFOID:0000000006146934



System Description

INFOID:0000000006146935

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-131.</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)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

- Possible symptom of NATS malfunction is "Engine cannot start". Identify the possible causes according to "Work Flow", Refer to SEC-123, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-127, "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

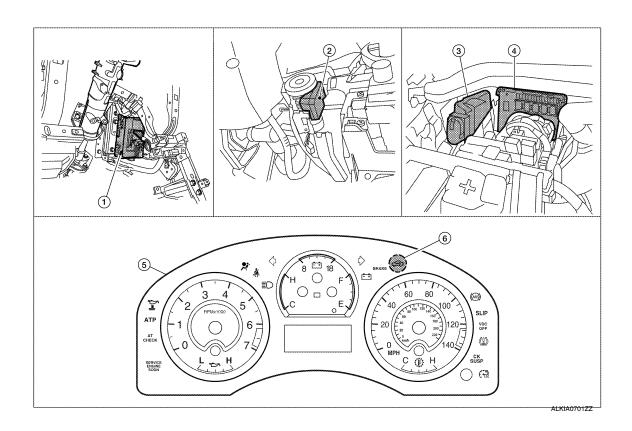
CAUTION:

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) SCRIPTION > [WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

BCM M18, M20
 NATS antenna amp. M21
 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)

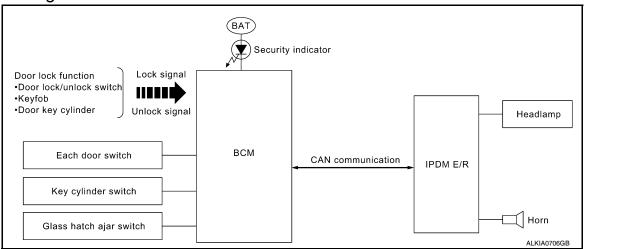
Component Description

INFOID:0000000006146937

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.

VEHICLE SECURITY SYSTEM

System Diagram



System Description

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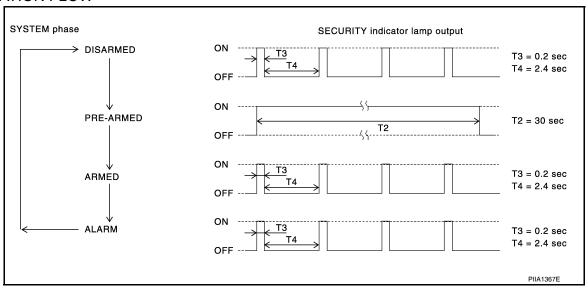
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DESCRIPTION

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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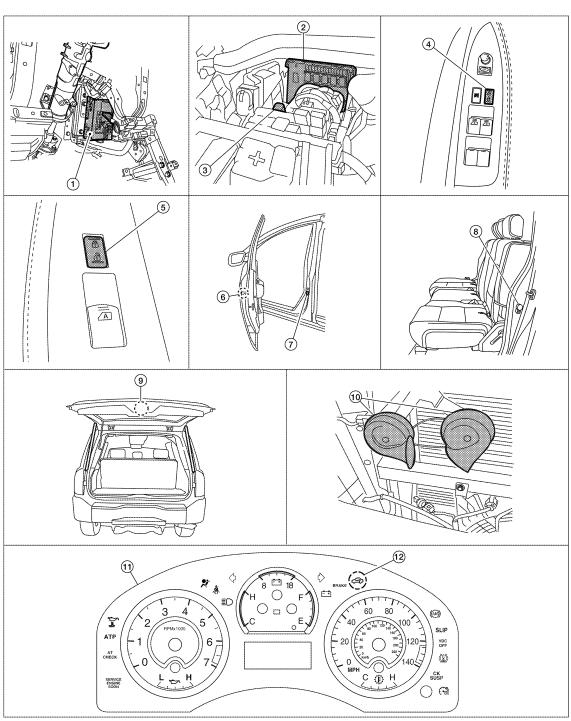
Condition of Deactivating The System

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

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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
- IPDM E/R E122, E124 (view with cover removed)
- Power window and door lock/unlock switch RH D105

Horn relay H-1

Front door lock assembly LH (key cylinder switch) D14

VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

7. Front door switch LH B8 RH B108

10. Horn E3

- 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
- 11. Combination meter M24 12. Security indicator lamp

Component Description

(view with front grille removed)

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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Revision: July 2010 SEC-133 2011 Armada

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:0000000006628797

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	 The vehicle specification can be read and saved. The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions.

		Direct Diagnostic Mode						
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY			×				
Combination switch	COMB SW			×				
BCM	ВСМ	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Back door open	TRUNK			×	×			
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×	×	×		
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

DIAGNOSIS SYSTEM (BCM)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

IMMU

IMMU: CONSULT-III Function (BCM - IMMU)

INFOID:0000000006751673

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DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator operation [Off/On].

THEFT ALM

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

INFOID:0000000006751674

DATA MONITOR

Monitor Item [Unit]	Description	_
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.	
I-KEY LOCK* [On/Off]	Indicates condition of lock signal from Intelligent Key.	
I-KEY UNLOCK* [On/Off]	Indicates condition of unlock signal from Intelligent Key.	
KEYLESS LOCK** [On/Off]	Indicates condition of lock signal from keyfob.	
KEYLESS UNLOCK** [On/Off]	Indicates condition of unlock signal from keyfob.	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.	
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.	
BACK DOOR SW [On/Off]	Indicates condition of back door switch.	
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.	
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.	
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.	
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.	

^{*:} with Intelligent Key

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation [Off/On].
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].

WORK SUPPORT

Support Item	Setting	Description
SECURITY ALARM SET	Off	Security alarm OFF.
	On*	Security alarm ON.

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^{** :} without Intelligent Key

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Support Item	Setting	Description
THEFT ALM TRG	Off/On	The switch which triggered vehicle security alarm is recorded [On]. This mode is able
	CLEAR	to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching [CLEAR].

^{*:} Initial setting

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000000146945

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

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:0000000006146947

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".

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

U1010 CONTROL UNIT (CAN)

Description INFOID:000000006146948

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

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

INFOID:0000000006146950

1.REPLACE BCM

When DTC [U1010] is detected, replace BCM.

>> Replace BCM. Refer to BCS-56, "Removal and Installation".

Special Repair Requirement

INFOID:0000000006146951

1. REQUIRED WORK WHEN REPLACING BCM

Initialize BCM. Refer to CONSULT-III Operation Manual.

>> Inspection End.

B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2190 NATS ANTENNA AMP.

Description INFOID:0000000006146952

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:0000000006146953

DTC DETECTION LOGIC

				D
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	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 <u>SEC-139</u>, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-190, "Wiring Diagram - Without Intelligent Key System".

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp, installation, Refer to SEC-199, "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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B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

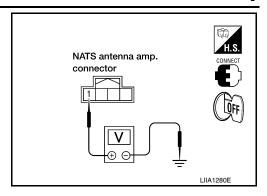
[WITHOUT INTELLIGENT KEY SYSTEM]

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.

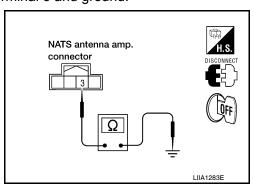
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

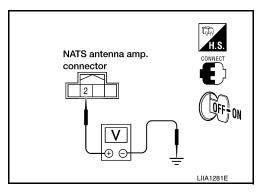
NOTE:

If harness is OK, replace BCM, refer to <u>BCS-56</u>, "Removal and Installation". 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.)	
	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-56</u>, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

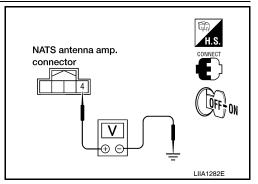
B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT 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.)	
	Ground	Before inserting ignition key	Battery voltage	
4		After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage	
		Just after turning ignition switch ON	Pointer of tester should move for approx. 1 second, then return to battery voltage	

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to BCS-56, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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B2191 DIFFERENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2191 DIFFERENCE OF KEY

Description INFOID:000000006146955

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

- 1. Insert mechanical key into the key cylinder.
- 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:0000000006146957

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-56, "Removal and Installation".
- · Perform initialization again

B2192 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2192 ID DISCORD. IMMU-ECM

Description INFOID:0000000006146958

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:0000000006146959

DTC DETECTION LOGIC

NOTE:

 If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-137, "DTC Logic".

 If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-138, "DTC Logic".

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

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

Is DTC detected?

YES >> Refer to <u>SEC-143</u>, "<u>Diagnosis Procedure</u>".

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-56, "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

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

>> Inpection End.

B2193 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2193 CHAIN OF ECM-IMMU

Description INFOID:000000006146961

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 B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-137, "DTC Logic".

• If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-138, "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

SEC-145

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

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000006146963

1.REPLACE BCM

Replace BCM. Refer to <u>BCS-56, "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.

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P1610 LOCK MODE

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1610 LOCK MODE

Description INFOID:000000006146964

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

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

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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

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

Is DTC detected?

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

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000006146966

1. CHECK ENGINE START FUNCTION

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

Does the engine start?

YES >> Inspection End.

NO >> GO TO 2

2.CHECK INTERMITTENT INCIDENT

Refer to GI-38, "Intermittent Incident".

>> Inspection End.

P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1611 ID DISCORD. IMMU-ECM

Description INFOID:0000000006146967

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:0000000006146968

DTC DETECTION LOGIC

NOTE:

 If DTC P1611 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-137, "DTC Logic"

 If DTC P1611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-138, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1611	ID DISCORD IMMU- ECM	The ID verification results between BCM and ECM are NG. 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-147, "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-56, "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

- 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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P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1612 CHAIN OF ECM-IMMU

Description INFOID:000000006146970

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-137, "DTC Logic".

• If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-138, "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-149</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000006146972

1.REPLACE BCM

- Replace BCM. Refer to <u>BCS-56, "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.

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P1614 CHAIN OF IMMU-KEY

[WITHOUT INTELLIGENT KEY SYSTEM]

INFOID:0000000006146975

P1614 CHAIN OF IMMU-KEY

Description INFOID:000000006146973

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
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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to <u>SEC-150</u>, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-190, "Wiring Diagram - Without Intelligent Key System".

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-199, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

YES >> • Ignition key ID chip is malfunctioning.

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

NO >> GO TO 3

3. CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

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

P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT DIAGNOSIS >

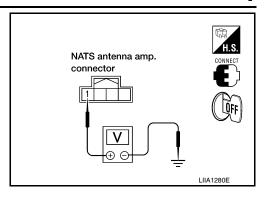
[WITHOUT INTELLIGENT KEY SYSTEM]

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.

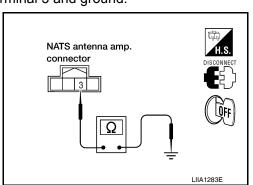
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

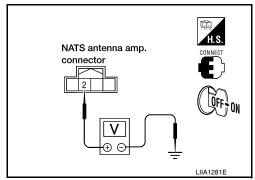
NOTE:

If harness is OK, replace BCM, refer to <u>BCS-56</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.



Tern	ninals	Position of ignition key cylinder	Voltage (V) (Approx.)	
(+)	(-)	- 1 Osition of Ignition key cylinder		
		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-56, "Removal and Installation"</u>. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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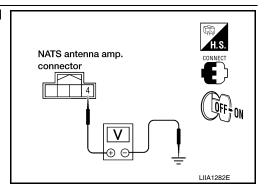
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P1614 CHAIN OF IMMU-KEY

[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-56</u>, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

P1615 DIFFRENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1615 DIFFRENCE OF KEY

Description INFOID:0000000006146976

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:0000000006146977

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.
- Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-153, "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 <u>BCS-56</u>, "Removal and Installation".
- Perform initialization again

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM: Diagnosis Procedure

INFOID:0000000006751675

Regarding Wiring Diagram information, refer to BCS-48, "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	Battery power supply	22 (15A)
70	Battery power suppry	F (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	59 (10A)

Is the fuse blown?

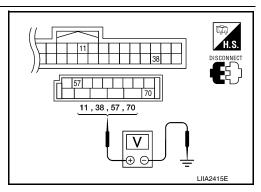
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

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	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
M20	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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

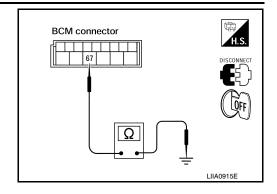
Check continuity between BCM harness connector and ground.

В	СМ		Continuity
Connector Terminal		Ground	Continuity
M20	M20 67		Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



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KEY CYLINDER SWITCH

Description INFOID:000000006146980

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:0000000006146981

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 GTE ER-SW	Neutral / Unlock	: OFF
KEY CYL UN-SW	Unlock	: ON
RETUTE ON-SW	Neutral / Lock	: OFF

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to <u>SEC-156</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

INFOID:0000000006146982

Regarding Wiring Diagram information, refer to SEC-179. "Wiring Diagram".

1. CHECK DOOR KEY CYLINDER SWITCH LH

(II) 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:

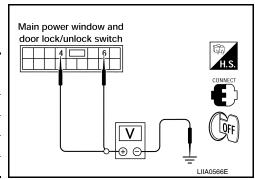
KEY CYL LK-SW : ON

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

KEY CYL UN-SW : ON

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)	
Comicotor	(+)	(–)	Condition of left from key symmetr	(Approx.)	
	4		Neutral/Unlock	5	
5.7	7		Lock	0	
D7	6	Ground	Neutral/Lock	5	
			Unlock	0	



Is the inspection result normal?

YES >> Key cylinder switch signal is OK.

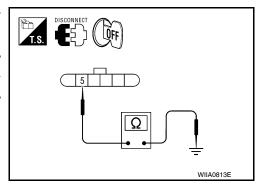
< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 2

$2.\mathsf{CHECK}$ 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?

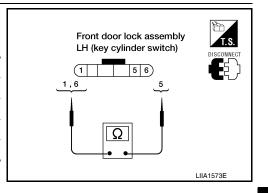
YES >> GO TO 3

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?

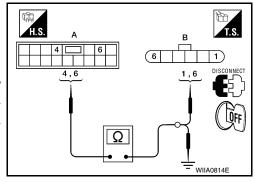
YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-393, "Removal and Installation"</u>.

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
SWILCIT	4, 6	G	round	No



Is the inspection result normal?

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

NO >> Repair or replace harness.

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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		
	1.	Check "HAZARD LAMP SET" setting in "WORK SUPPORT".	BCS-28	
Hazard reminder does not operate by keyfob. (Horn reminder operate.)	2.	Check hazard function.	DLK-114	
(· · · · · · · · · · · · · · · · · · ·	3.	Check keyfob battery.	DLK-292	
Horn reminder does not operate by keyfob.	1.	Check "HORN WITH KEYLESS LOCK" setting in "WORK SUPPORT".	BCS-28	
(Hazard reminder operate.)	2.	Check horn function.	DLK-110	
	3.	Check Intermittent Incident.	<u>GI-38</u>	

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY INDICATOR

Description INFOID:0000000006146984

- 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

1. CHECK FUNCTION

- 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 coourity indicator	ON	
INEFIIND	OFF	Vehicle security indicator	OFF	

Is the inspection result normal?

YES >> Inspection End.

>> Refer to SEC-159, "Diagnosis Procedure". NO

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-179, "Wiring Diagram".

${f 1}$. 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	Ground	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.

BCM connectors

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VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

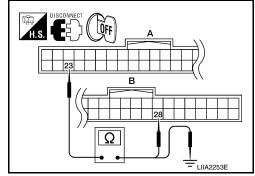
23 - 28 : Continuity should exist.

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.



< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value INFOID:0000000006628798 В

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
ACC ON SW	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
AIR COND SW	Ignition switch OFF or ON Ignition switch ACC A/C switch OFF A/C switch ON Front left tire air pressure value Front right tire air pressure value Rear left tire air pressure value Rear right tire air pressure value Lighting switch OFF Lighting switch AUTO Back door closed Back door opened Brake pedal released Brake pedal released Brake pedal applied Seat belt buckle unfastened Seat belt buckle fastened Buzzer in combination meter OFF Buzzer in combination meter ON Cargo lamp switch OFF Cargo lamp switch ON Door lock/unlock switch does not operate Press door lock/unlock switch to the LOCK side Door lock/unlock switch does not operate Press door lock/unlock switch to the UNLOCK side Front door RH closed Front door LH closed Front door LH closed Rear door LH opened Rear door LH opened Rear door RH closed	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm ² , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm ² , psi
AUTO LIGHT SW BACK DOOR SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
BACK DOOD SW	Back door closed	Off
BACK DOOR SW	Back door opened	On
BRAKE SW	Brake pedal released	Off
DRANE SW	Brake pedal applied	On
BUCKLE SW	Seat belt buckle unfastened	Off
BUCKLE SW	Seat belt buckle fastened	On
BUZZER	Buzzer in combination meter OFF	Off
DUZZER	Buzzer in combination meter ON	On
CARGO LAMP SW	Cargo lamp switch OFF	Off
CARGO LAWF 3W	Cargo lamp switch ON	On
CDI TOCK 8/W	Door lock/unlock switch does not operate	Off
CDL LOCK SW	Press door lock/unlock switch to the LOCK side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
CDL UNLOCK SW	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
DOON OW-AO	Front door RH opened	On
DOOR SW-DR	Front door LH closed	Off
DOOK SW-DK	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
DOON OW-NE	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On
FAN ON SIG	Blower motor fan switch OFF	Off
I AN ON SIG	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
11110000	Front fog lamp switch ON	On

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< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
FR WASHER SW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
FR WIPER LOW	Front wiper switch OFF	Off
FR WIPER LOW	Front wiper switch LO	On
FR WIPER HI	Front wiper switch OFF	Off
FR WIPER TI	Front wiper switch HI	On
ED WIDED INT	Front wiper switch OFF	Off
FR WIPER INT	Front wiper switch INT	On
ED WIDED STOD	Any position other than front wiper stop position	Off
FR WIPER STOP	Front wiper stop position	On
LIAZADD CM	When hazard switch is not pressed	Off
HAZARD SW	When hazard switch is pressed	On
LIEAD LAMB CVA	Headlamp switch OFF	Off
HEAD LAMP SW1	Headlamp switch 1st	On
LIEAD LAMB OMO	Headlamp switch OFF	Off
HEAD LAMP SW2	Headlamp switch 1st	On
	High beam switch OFF	Off
HI BEAM SW	High beam switch HI	On
	ID registration of front left tire incomplete	YET
ID REGST FL1	ID registration of front left tire complete	DONE
	ID registration of front right tire incomplete	YET
ID REGST FR1	ID registration of front right tire complete	DONE
	ID registration of rear left tire incomplete	YET
ID REGST RL1	ID registration of rear left tire complete	DONE
	ID registration of rear right tire incomplete	YET
ID REGST RR1	ID registration of rear right tire complete	DONE
	Ignition switch OFF or ACC	Off
IGN ON SW	Ignition switch ON	On
	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
	LOCK button of Intelligent Key is not pressed	Off
I-KEY LOCK ¹	LOCK button of Intelligent Key is pressed	On
	PANIC button of Intelligent Key is not pressed	Off
I-KEY PANIC ¹	PANIC button of Intelligent Key is pressed	On
	UNLOCK button of Intelligent Key is not pressed	Off
I-KEY PW DWN ¹	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction	On
	UNLOCK button of Intelligent Key is not pressed	Off
I-KEY UNLOCK ¹	UNLOCK button of Intelligent Key is pressed	On
	Door key cylinder LOCK position	Off
KEY CYL LK-SW	Door key cylinder other than LOCK position	On
	Door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Door key cylinder other than UNLOCK position	<u> </u>

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
KEV ON OW	Mechanical key is removed from key cylinder	Off
KEY ON SW	Mechanical key is inserted to key cylinder	On
	LOCK button of key fob is not pressed	Off
KEYLESS LOCK ²	LOCK button of key fob is pressed	On
	PANIC button of key fob is not pressed	Off
KEYLESS PANIC ²	PANIC 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
LICHT CW 4CT	Lighting switch OFF	Off
LIGHT SW 1ST	Mechanical key is removed from key cylinder Mechanical key is inserted to key cylinder LOCK button of key fob is not pressed LOCK button of key fob is pressed PANIC button of key fob is not pressed PANIC button of key fob is not pressed UNLOCK button of key fob is not pressed UNLOCK button of key fob is pressed UNLOCK button of key fob is pressed Lighting switch OFF Lighting switch OFF Lighting switch OFF or ACC Engine running Ignition switch ON Bright outside of the vehicle Other than lighting switch PASS Lighting switch PASS Return to ignition switch to LOCK position Press ignition switch Rear window defogger switch OFF Rear window defogger switch ON Rear washer switch OFF Rear washer switch OFF Rear wiper switch OFF Rear wiper switch OFF Rear wiper switch ON Rear wiper switch OFF Rear wiper switch ON Rear wiper switch OFF Rear wiper switch ON Rear wiper switch ON Rear wiper switch ON Rear wiper switch OFF Rear wiper switch ON Rear wiper stop position Other than rear wiper stop position Turn signal switch OFF Turn signal switch LH Turn signal switch CFF	On
OIL PRESS SW		Off
	Ignition switch ON	On
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0V
DA COINO OM	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
DUGU 0141	Return to ignition switch to LOCK position	Off
PUSH SW ¹	Press ignition switch	On
DEAD DEE CW	Rear window defogger switch OFF	Off
REAR DEF SW	Lighting switch PASS Return to ignition switch to LOCK position Press ignition switch Rear window defogger switch OFF Rear window defogger switch ON Rear washer switch OFF	On
RR WASHER SW	Rear washer switch OFF	Off
KK WASHER SW	Rear washer switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
KK WIPEK 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 WIFER STF2	Other than rear wiper stop position	On
TURN SIGNAL L	Turn signal switch OFF	Off
TORN SIGNAL L	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
IUKIN SIGNAL K	Turn signal switch RH	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
MADNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
WARNING LAMP	Low tire pressure warning lamp in combination meter ON	On

^{1:} With Intelligent Key

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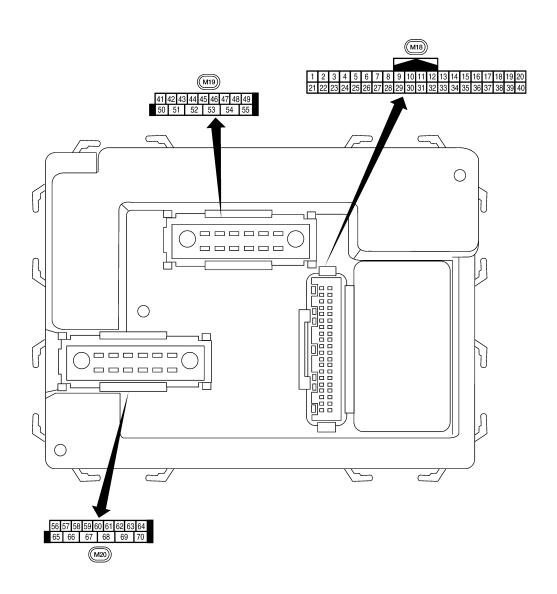
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^{2:} With remote keyless entry system

Terminal Layout

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Physical Values

[WITHOUT INTELLIGENT KEY SYSTEM]

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	Wire		Signal		Measuring condition	Deference value or waveform
Terminal	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
ı	BR/W	nation	Output	OFF	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 SKIA5291E
5	G/B	Combination switch input 2				(V)
6	V	Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	* + 5ms SKIA5292E
	OD/D	Rear window defogger switch	efogger Input	ON	Rear window defogger switch ON	0V
9	GR/R			ON	Rear window defogger switch OFF	5V
10		Hazard lama fleeb	lnn:+	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)	0V
14	IVL	OFF (closed)	Battery voltage			
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
	5.1	. tour door ownton fail	put	5.1	OFF (closed)	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

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[WITHOUT INTELLIGENT KEY SYSTEM]

			Signal		Measuring condition	
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 supply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 50 ms
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	(V) 6 4 2 0 •• 50 ms
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 0 • • • 50 ms
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 → 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	p ===		A/C switch ON	0V

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

	Wire		Signal		Measuring condition	Reference value or waveform	
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)	
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage	
20	L/K	From blower monitor	iliput	ON	Front blower motor ON	0V	
29	W/B	Hazard switch	Input	OFF	ON	0V	
29	VV/D	Hazaru Switch	iliput	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) 6 4 2 0 ***5ms	
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms SKIA5291E	
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	
37 ¹	B/R	Key switch and igni-	Input	OFF	Intelligent Key inserted	Battery voltage	
31 ·	D/K	tion knob switch	input	OFF	Intelligent Key inserted	0V	
37 ²	B/R	Key switch and key	Input	OFF	Key inserted	Battery voltage	
31-	D/K	lock solenoid	mput	OFF	Key inserted	0V	
38	W/L	Ignition switch (ON)	Input	ON	_	Battery voltage	
39	L	CAN-H	_	_	_	_	
40	Р	CAN-L	_	_	_	_	
42	GR	Glass hatch ajar	Input	ON	Glass hatch open	0	
14	O.C	switch	put	J. V	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	

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< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

	l						
	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 counterclock- wise stop position)	0V	
					Reverse sweep (clockwise direction)	Fluctuating	
47	SB	Front door switch LH	Input	OFF	ON (open)	0V	
47	SD	FIGHT GOOL SWITCH FLE	Input	OFF	OFF (closed)	Battery voltage	
	501				ON (open)	0V	
48	R/Y	Rear door switch LH	Input	OFF	OFF (closed)	Battery voltage	
					Any door open (ON)	0V	
49	R	Cargo lamp	Output	OFF	All doors closed (OFF)	Battery voltage	
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	15 10 5 0 500 ms SKIA3009J	
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	10 5 0 500 ms SKIA3009J	
					Rise up position (rear wiper arm on stopper)	0V	
					A Position (full clockwise stop position)	0V	
54	Y	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 cir-	Output	ON	OFF	0	
55	35	cuit 1	Output	OIV.	ON	Battery voltage	
56	R/G	Battery saver output	Output	OFF	15 minutes after ignition switch is turned OFF	0V	
				ON		Battery voltage	
57	Y/R	Battery power supply	Input	OFF	_	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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	Wire		Signal		Measuring condition Operation or condition		Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch			(Approx.)
5 0	W//D	Ontinal	land	ON	When optical s nated	ensor is illumi-	3.1V or more
58	W/R	Optical sensor	Input	ON	When optical so	ensor 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	Turn left ON		(V) 15 10 5 0 500 ms
61	G/Y	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 5 0 500 ms SKIA3009J
60	D/M/	Cton John III and DII	Output	OFF	ON (any door o	open)	0V
62	R/W	Step lamp LH and RH	Output	OFF	OFF (all doors	closed)	Battery voltage
63		Interior room/map	Output	OFF	Any door	ON (open)	0V
03	L	lamp	Output	OFF	switch	OFF (closed)	Battery voltage
65	V	All door lock actuators	Output	OFF	OFF (neutral)		0V
03	V	(lock)	Output	OH	ON (lock)		Battery voltage
66	G/Y	Front door lock actuator RH, rear door lock actuators LH/RH and back door lock actuator (unlock)	Output	OFF	OFF (neutral) ON (unlock)		0V Battery voltage
67	В	Ground	Input	ON	_	_	0V
					Ignition switch	ON	Battery voltage
					Within 45 seco tion switch OFF		Battery voltage
68	W/L	Power window power supply (RAP)	Output	_	More than 45 seconds after ignition switch OFF		0V
					When front doc open or power operates		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

Fail Safe

Fail-safe index

^{2:} With remote keyless entry system

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

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:0000000006628802

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 C1711: [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] RR C1719: [PRESSDATA ERR] RR C1720: [CODE ERR] FL C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RR C1724: [BATT VOLT LOW] FL C1725: [BATT VOLT LOW] RR C1726: [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-29

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2013: STRG COMM 1	_	_	_	SEC-30
B2190: NATS ANTENNA AMP	_	_	_	SEC-33 (with I- Key), SEC-139 (without I-Key)
B2191: DIFFERENCE OF KEY	_	_	_	SEC-36 (with I- Key), SEC-142 (without I-Key)
B2192: ID DISCORD BCM-ECM	_	_	_	SEC-37 (with I- Key), SEC-143 (without I-Key)
B2193: CHAIN OF BCM-ECM	_	_	_	SEC-39 (with I- Key), SEC-145 (without I-Key)
B2552: INTELLIGENT KEY	_	_	_	SEC-41
B2590: NATS MALFUNCTION	_	_	_	SEC-42
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) [WITHOUT INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000006628804

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.	1, 2, 3, 4					
A/C COMP DEO	A/C switch OFF							
A/C COMP REQ	A/C switch ON		On					
TAIL&CLR REQ	Lighting switch OFF		Off					
IAIL&ULK REQ	Lighting switch 1ST, 2ND, HI or AU	TO (Light is illuminated)	On					
HL LO REQ	Lighting switch OFF		Off					
FIL LU REQ	Lighting switch 2ND HI or AUTO (Li	ight is illuminated)	On					
III III DEO	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					
		Front wiper switch OFF	Stop					
ED 14/10 DEO	Leaving and Mark ON	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	Front wiper stops at fail-safe operation	BLOCK					
ST RLY REQ	Ignition switch OFF or ACC		Off					
SI KLI KEQ	Ignition switch START	On						
IGN RLY	Ignition switch OFF or ACC		Off					
IGN RL1	Ignition switch ON	On						
DD DEE DEO	Rear defogger switch OFF	Off						
RR DEF REQ	Rear defogger switch ON	On						
OII D SW	Ignition switch OFF, ACC or engine	running	Open					
OIL P SW	Ignition switch ON	Close						
DTRL REQ	Not operated		Off					
DIKL KEK	Daytime Running Lights ON		On					
	Not operated	Off						
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE S TEM	Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYS-						

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

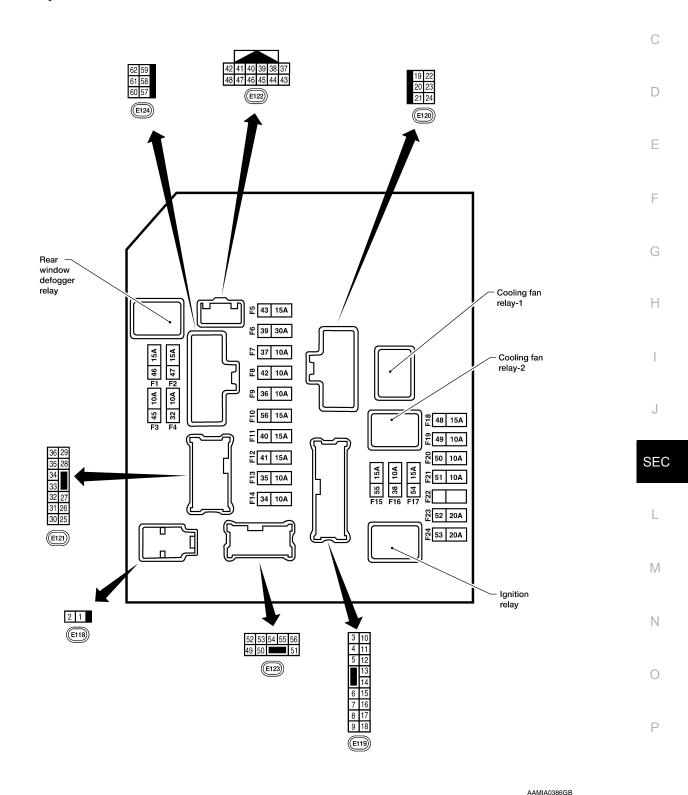
< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
HORN CHIRP	Not operated	Off
HOIM OF HIM	Door locking with keyfob or Intelligent Key (if equipped) (horn chirp mode)	On

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Terminal Layout INFOID:0000000006628805



NOTE:

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.

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

< ECU DIAGNOSIS INFORMATION >

Physical Values INFOID:0000000006628806

PHYSICAL VALUES

					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	
	D.D.	FOMl-	0.1.1		Ignition switch ON or START	Battery voltage	
3	BR	ECM relay	Output	_	Ignition switch OFF or ACC	0V	
	\A//I	FOM release	0		Ignition switch ON or START	Battery voltage	
4	W/L	ECM relay	Output	_	Ignition switch OFF or ACC	0V	
	L	Throttle control motor	Outout		Ignition switch ON or START	Battery voltage	
6	L	relay	Output	_	Ignition switch OFF or ACC	0V	
7	W/B	ECM relay control	Innut		Ignition switch ON or START	0V	
7	VV/D	ECIVITEIAY CONTION	Input	_	Ignition switch OFF or ACC	Battery voltage	
8	R/B	Fuse 54	Output		Ignition switch ON or START	Battery voltage	
0	N/D	ruse 54	Output	_	Ignition switch OFF or ACC	0V	
10	G	Fuse 45	Output	ON	Daytime light system active	0V	
10	G	(Canada only)	Output	ON	Daytime light system inactive	Battery voltage	
11	Y/B	B A/C compressor	Outract	ON or START	A/C switch ON or defrost A/C switch	Battery voltage	
11	176		Output		A/C switch OFF or defrost A/C switch	0V	
12	L/W	Ignition switch sup-	Input		OFF or ACC	0V	
12	L/ V V	plied power	IIIput		ON or START	Battery voltage	
13	B/Y	Fuel pump relay	Output		Ignition switch ON or START	Battery voltage	
10	D/ I	r der pump relay	Output		Ignition switch OFF or ACC	0V	
14	Y/R	Fuse 49	Output		Ignition switch ON or START	Battery voltage	
	1713	1 400 40	σαιραι		Ignition switch OFF or ACC	0V	
15	LG/B	Fuse 50	Output		Ignition switch ON or START	Battery voltage	
	LOIB	1 400 00	σαιραί		Ignition switch OFF or ACC	0V	
16	G	Fuse 51	Output		Ignition switch ON or START	Battery voltage	
	J	1 400 0 1	σαιραί		Ignition switch OFF or ACC	0V	
17	W	Fuse 55	Output		Ignition switch ON or START	Battery voltage	
		1 400 00	σαιραί		Ignition switch OFF or ACC	0V	
19	W/R	Starter motor	Output	START	-	Battery voltage	
21	BR	Ignition switch sup-	Input	_	OFF or ACC	0V	
		plied power			START	Battery voltage	
22	G	Battery power supply	Output	OFF	_	Battery voltage	
23	GR/W	Door mirror defogger output signal	Output	_	When rear defogger switch is ON When raker defogger switch is	Battery voltage	
					OFF	0V	

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

< ECU DIAGNOSIS INFORMATION >

				l			
			Cianal		Measuring condition		
Terminal	Wire color	Signal name	Signal input/ output	Igni- tion switch	Operation	or condition	Reference value (Approx.)
0.4			0		Conditions cor fan operation	rect for cooling	Battery voltage
24	L	Cooling fan relay	Output	_	Conditions not cooling fan ope		0V
07	W//D	Fuse 38	0		Ignition switch	ON or START	Battery voltage
27	W/B	(With trailer tow)	Output	_	Ignition switch	OFF or ACC	0V
20	10/	Funo 52	Output		Ignition switch	ON or START	Battery voltage
30	W	Fuse 53	Output	_	Ignition switch	OFF or ACC	0V
00		Wiper low speed sig-	0.1-1	ON or	VAP	OFF	Battery voltage
32	L	nal	Output	START	Wiper switch	LO or INT	0V
0.5	1.15	Wiper high speed sig-	0 1 1	ON or	147 77 1	OFF, LO, INT	Battery voltage
35	L/B	nal	Output	START	Wiper switch	HI	0V
37	Y	Power generation command signal	Output	_	Ignition switch 40% is set on ' "ALTERNATOR"	'Active test,"	V 2ms JPMIA0001GB 6.3 V (V) 6 4 2 0 3.8 V (V) 6 (V)
38	В	Ground	Input	_	40% is set on ' "ALTERNATOF "ENGINE"		4 2 0
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
		Daytime light relay			Daytime light s	system active	0V
44	BR	control	Input	ON	Daytime light system active Daytime light system inactive		

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

< ECU DIAGNOSIS INFORMATION >

		O INI ORIMATION					
	14 5		Signal		Measuring con	dition	Defended at
Terminal	Wire color	Signal name	input/ output	lgni- 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		0V
		trol			Ignition switch		Battery voltage
47	0	Throttle control motor	Input	_	Ignition switch		0V
		relay control			Ignition switch		Battery voltage
40	D /D	Starter relay (inhibit	1	ON or	Selector lever	in "P" or "N"	0V
48	B/R	switch)	Input	START	Selector lever tion	any other posi-	Battery voltage
		Trailer tow relay			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
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
60	B/W	Rear window defog- ger relay	Output	ON or START	Rear defogger switch ON Rear defogger switch OFF		Battery voltage 0V
61	BR	Fuse 32 (With trailer tow)	Output	OFF	-	_	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

*: When horn reminder is ON

Fail Safe INFOID:0000000006628807

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.

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

< ECU DIAGNOSIS INFORMATION >

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

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:

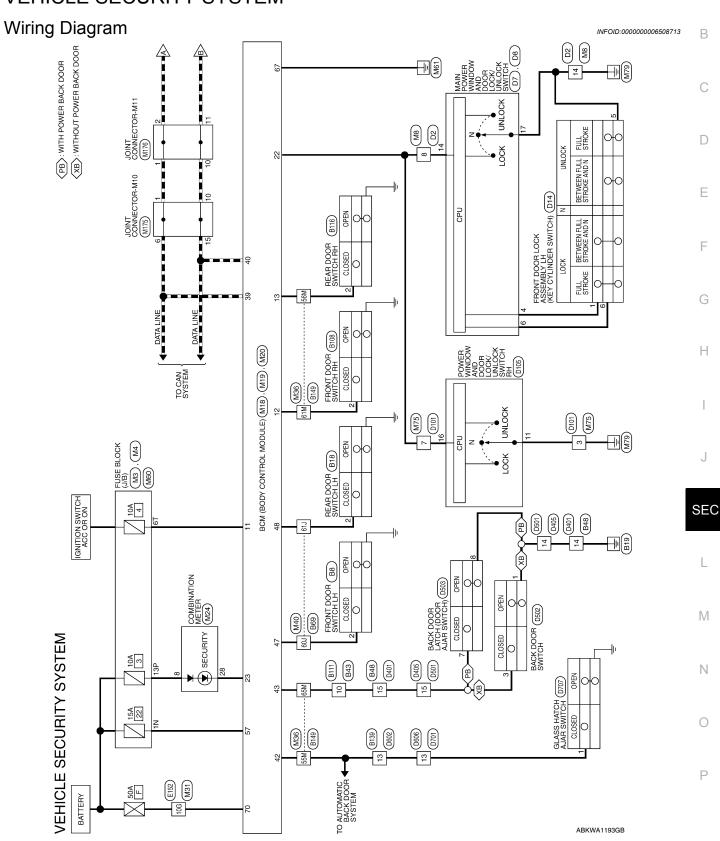
The details of TIME display are as follows.

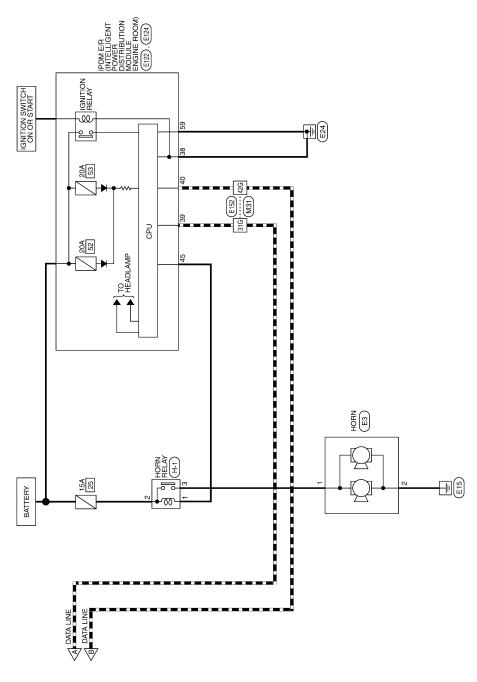
- CRNT: The malfunctions that are detected now
- 1 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like $0 \rightarrow 1 \rightarrow 2 \cdots 38 \rightarrow 39$ after returning to the normal condition whenever IGN OFF \rightarrow ON. It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

Α

WIRING DIAGRAM

VEHICLE SECURITY SYSTEM





ABKWA0440GB

BCM (BODY CONTROL MODULE)

Connector Name Connector Color

Connector No.

BLACK

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

GND (POWER)

В

67 22

BAT (F/L)

M/B

BAT(FUSE)

Ϋ́R

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

Signal Name

Color of Wire

Terminal No.

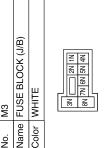
Connector Name | WIRE TO WIRE

Connector No. M8

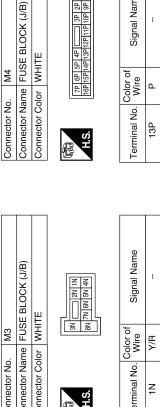
Connector Color WHITE

VEHICLE SECURITY SYSTEM CONNECTORS

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



Z	NB N7 N8	o. Wire Signal Name	
		Terminal No.	Z Z



Color of Wire	N/M	В	
Terminal No. Wire	8	14	
Signal Name	ı		
Color of Wire	Ь		
Terminal No. Wire	13P		

Signal Name

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

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

		20	40
		19	39
		18	38 39
		17	36 37
		16	36
		10 11 12 13 14 15 16 17 18 19 20	35
		14	34
		13	33
	117	12	32
	IV	Ξ	31
쁘	IN	10	30
ΙΞ		6	29
∣≥		8	28
		7	27
I호		9	26
ပြ		2	25
ğ		4	24
ec	(6	က	23
Connector Color WHITE	H.S.	2	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
ပြ	惨	-	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	0/5	٦	Р
Terminal No. Wire	=	12	13	22	23	39	40

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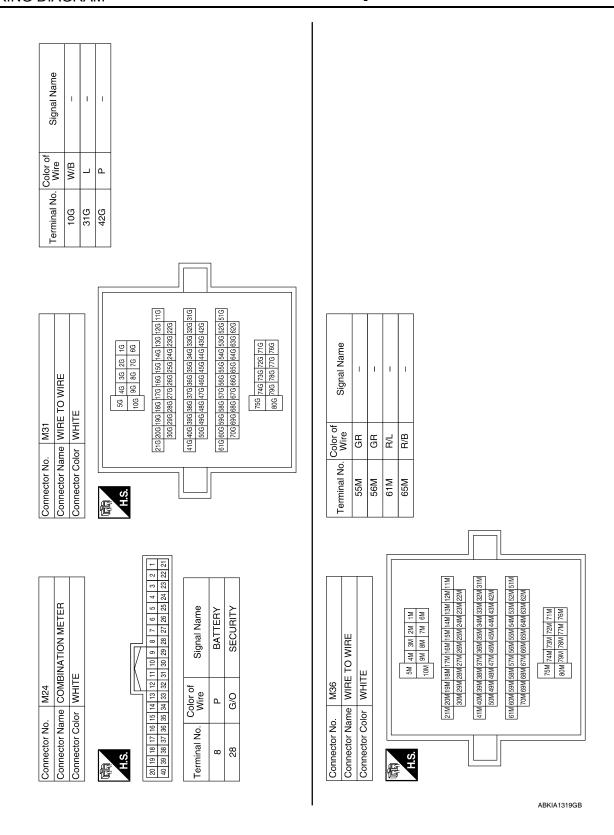
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[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

Connector No. M60 Connector Name FUSE BLOCK (J/B) Connector Color WHITE Terminal No. Color of Signal Name 6T O -	Connector No. M176 Connector Name JOINT CONNECTOR-M11 Connector Color BLUE	A B C
Terminal No. Wire Signal Name 60J SB - 61J R/Y -	Connector No. M175 Connector Name JOINT CONNECTOR-M10 Connector Color BLUE	F G H
Connector No. WHE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE Su 41 31 21 11 Su 22 12 21 Su 22 22 22 22 22 22 22 Su 23 22 22 22 22 22 Su 42 32 32 32 32 31 Su 42 32 32 32 32 32 Su 42 32 32 32 Su 42 32 32 3	Connector No. M75 Connector Name WIRE TO WIRE Connector Color WHITE Terminal No. Wire 3 B - 7 W/V Townstydd Townstydd ASSTARSTALL ASSTALL AND AND AND AND AND AND AND	L M N O P

Revision: July 2010 SEC-183 2011 Armada

Connector No. E124 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BLACK Terminal No. Color of Signal Name 59 B GND (POWER)	Connector No. B8 Connector Name FRONT DOOR SWITCH LH Connector Color WHITE H.S. Terminal No. Wire Signal Name 2 SB -
PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Terminal No. Wire Signal Name 10G W/B - 31G L - 42G P -
Connector No. E3	Connector No. E152 Connector Name WIRE TO WIRE Connector Color WHITE 16 26 36 46 56 16 76 86 96 106 226 205 246 256 266 276 286 286 306 236 226 286 246 256 286 276 286 286 306 316 226 289 349 456 466 476 486 486 486 506 516 226 536 346 556 556 556 586 586 666 616 516 226 536 546 556 556 556 586 586 616 516 226 536 546 556 556 576 586 586 616 516 226 536 546 556 576 586 586 616 517 576 776 776 778 778 778 778 778 778 778 7

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Connector No. B48 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	O O	15 R/W -	Connector No. B111 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 1 2 3 4 5 6 7	Terminal No. Color of Signal Name 10 R/W -				
Connector No. B43 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 16 15 14 13 12 11 10 9 8	Terminal No. Wire Signal Name		Connector No. B108 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE	H.S.	Terminal No. Wire Signal Name				
nector No. B18 nector Name RE/	H.S.	Terminal No. Wire Signal Name 2 R/Y –		Connector No. B69 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 10 20 30 40 50 100 100 100 100 100 100 100 100 100	11 222 234 244 255 264 274 264 264 274 264 274 264 274	771 724 734 734 737 734 737 734	Color of Signa Wire	61J R/Y -	

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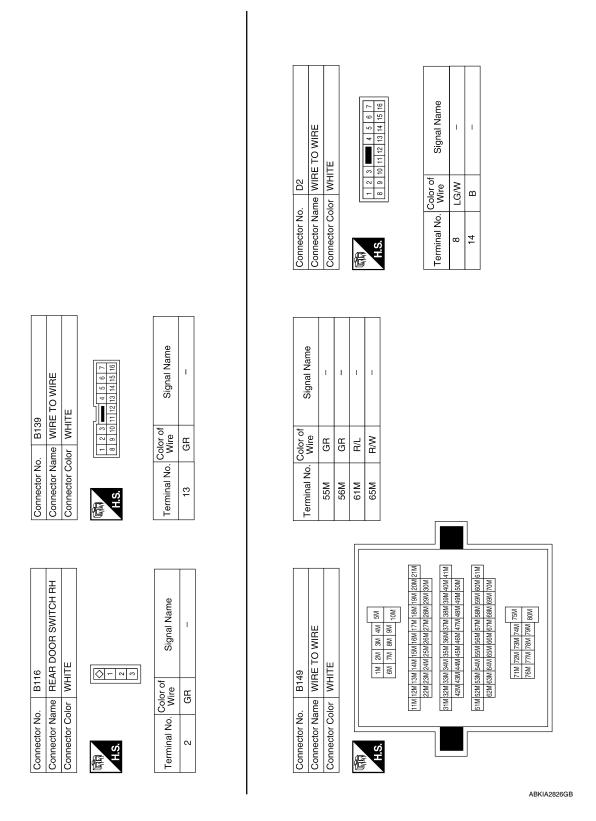
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[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

	ı ı	7						
	Connector Name FRONT DOOR LOCK ASSEMBLY LH Connector Color BLACK		8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Signal Name	LOCK	GND	UNLOCK	
D14	ASSE DI BLAC			color of Wire		В	ш	
Connector No.	Connector Name FRONT ASSEM Connector Color BLACK		H.S.	Terminal No. Wire	1	9	9	
	VINDOW OK/UNLOCK			Signal Name	GND			
D8	Connector Name AND DOOR LOCK/UNLOCK	WHITE	17 18 19					
	r Name	r Color		No. Color	В			
Connector No.	Connecto	Connector Color WHITE	H.S.	Terminal No. Wire	17			
						_		
	Connector Name AND DOOR LOCK/UNLOCK	ш	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Signal Name	LOCK	UNLOCK	HONIG IENV	SERIAL LINK
D7	MAIN Ne AND	or WHIT	1 2 3 4 9 10 11	Color of Wire	_	ھ		LG/W
Connector No.	Connector Nan	Connector Color WHITE	H.S.	Terminal No. Wire	4	9		<u>4</u>

1	WIRE TO WIRE	ITE	4 5 mm 6 7 8 9 10 13 14 15 16 17 18	Signal Name	ı	ı
. D401	me WIF	lor WH	1 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Color of Wire	В	B/W
Connector No.	Connector Name	Connector Color WHITE	H.S.	Terminal No.	14	15

15	Connector Name AND DOOR LOCK/UNLOCK SWITCH RH	ITE	2 3 4	Signal Name	GND	LG/W ANTI PINCH SFRIAL LINK
D105	ne ANI	or WH	8 9 5 7	Color of Wire	В	LG/W
Connector No.	Connector Nar	Connector Color WHITE	昏昏 H.S.	Terminal No.	11	16

_	E TO WIRE	<u> </u>	7 8 0 10 4 0 10 10 10 10 10 10 10 10 10 10 10 10 1	Signal Name	I	1
D101	me WIF	or WH	- L L	Color of Wire	a	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No.	က	7

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[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

DI	AG	iK/	4M >		
32	Connector Name BACK DOOR SWITCH	IITE		Signal Name	ı
. D5	me BA	lor W		Color of Wire	В
Connector No. D502	Connector Na	Connector Color WHITE	H.S.	Terminal No. Wire	-
	E TO WIRE	TE	2 3 4 5 m 6 7 8 9 10 10 11 12 13 14 15 16 17 18 9 10 10 10 10 10 10 10	Signal Name	I
D20	me WIR	or WHI	1 2 3 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Color of Wire	В
Connector No. D501	Connector Name WIRE TO WIRE	Connector Color WHITE	斯 H.S.	Terminal No. Wire	14

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B/W

15

Signal Name

Color of Wire B N N

Terminal No.

14

Connector No. D405
Connector Name WIRE TO WIRE

Connector Color WHITE

90	RE TO WIRE	ITE	4 13 11 11 10 0 8 1 1 1 1 10 10 10 10 10 10 10 10 10 10 1	Signal Name	1
. D606	me WIF	lor WH	7 6 5 4	Color of Wire	GR
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	雨 H.S.	Terminal No.	13

Connector No.). D602	2
Connector Name WIRE TO WIRE	me WIF	E TO WIRE
Connector Color WHITE	olor WH	TE
雨 H.S.	16 15	7 6 5 4 6 5 4 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Terminal No.	Color of Wire	Signal Name
13	a (1

r	
or No.	D503
or Name B	or Name BACK DOOR LATCH
or Color WHITE	HITE
- 4	7 2 3

Signal Name	1	1
Color of Wire	B/W	В
Terminal No. Wire	7	8

3	Connector Name BACK DOOR LATCH	ITE	2 2 3 2 2 2 3 2 3 2 3 3 3 3 3 3 3 3 3 3	Signal Name	ı	
D503	ne BAC	or WHITE	- 4 - 2	Color of Wire	R/W	٥
Connector No.	Connector Nam	Connector Color	H.S.	Terminal No.	7	c

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[WITHOUT INTELLIGENT KEY SYSTEM]

	FUSE AND FUSIBLE LINK BOX (HORN RELAY)			Signal Name	ı	ı	I
	me FUS BO	l l		Color of Wire	B/W	g/B	g
Connector No.	Connector Name	Connector Color	L'S.	Terminal No. Wire	-	2	8

Connector No.		D707
Connector Name	ame	GLASS HATCH AJAR SWITCH
Connector Color	-	BLACK
赋 H.S.		-
Terminal No.	Color of Wire	r of Signal Name
-	GR	1

	_	_			_
_	E TO WIRE		11 12 13 14 15 16	Signal Name	ı
. D701	me WIF	lor WH	8 9 10	Color of Wire	GB
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	原 H.S.	Terminal No.	13

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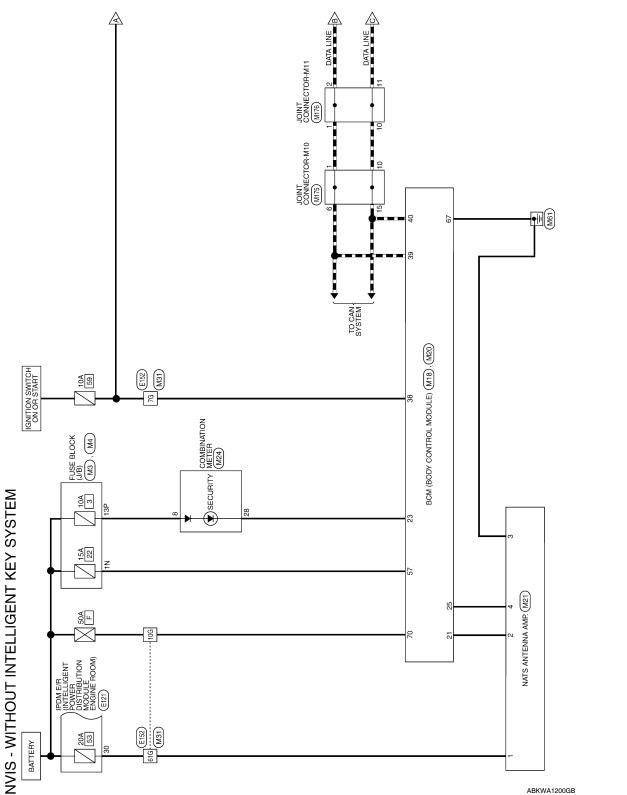
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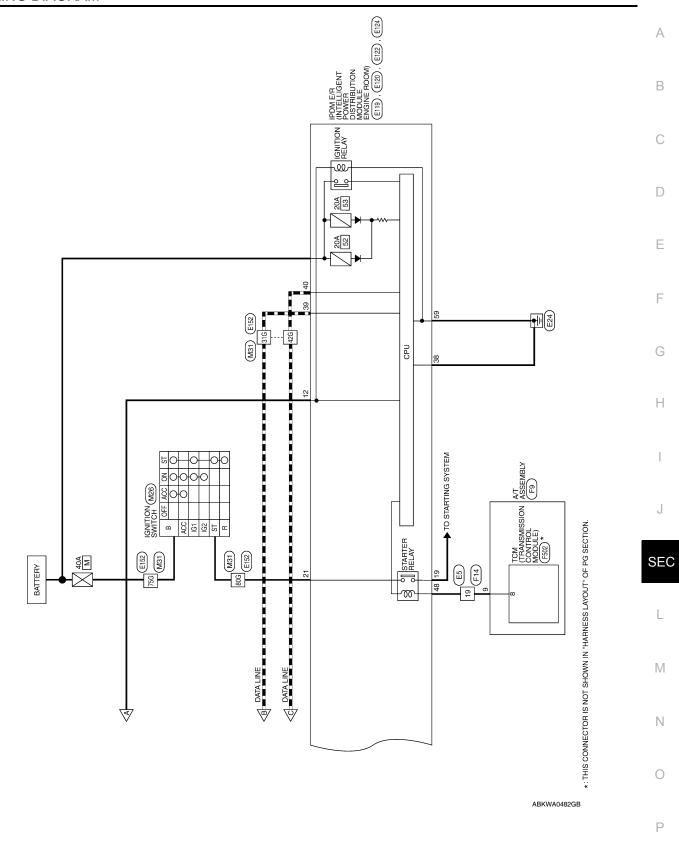
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NVIS

Wiring Diagram - Without Intelligent Key System



[WITHOUT INTELLIGENT KEY SYSTEM]



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Connector Name BCM (BODY CONTROL MODULE) WHITE

Connector Color

Connector No. M18

NVIS CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

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

3N 2N 1N 8N 7N 6N 5N 4N	Signal Nan
N8 N8	Color of Wire
明.S.	Terminal No.

Z

Connector No. M4	OCK (J/B) Connector Name FUSE BLOCK (J/B)	Connector Color WHITE		Signal Name Terminal No. Wire Signal Nam	
3	e FUSE BLOCK (J/B)	r WHITE	3N	-	
M3	e E	>		olor of Wire	

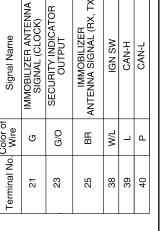
7P 6P 5P 4P 3P 2P 1P 1P 1SP 1SP 1SP 1P

Signal Name

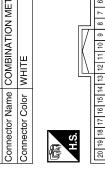
Terminal No. 13P

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		וה							
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 19 19 19 20 20 20 20 20 20 20 20 20 30 30 30 30 30 30 30 30 30 30 30 30 30		Signal Name	IMMOBILIZER ANTENNA SIGNAL (CLOCK)	SECURITY INDICATOR OUTPUT	IMMOBILIZER ANTENNA SIGNAL (RX, TX)	IGN SW	CAN-H	CAN-L
	6 7 8 9	2 2 2	Color of Wire	5	0/9	BR	M/L	L	Ф
Ŋ.	1 2 3 4 5	21 11 11	Terminal No. Wire	21	23	25	38	39	40







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\sqcup	8	28	
117	6	53	
W	9	30	
IN.	Ξ	3	
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	14	34	
	15	35	
	16	38	
	17	37	
	18	38	
	19	39	
	20	40	
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	—	72				
	2	23				
	က	23 22 21				
	4	24				
	2	25 24		မြ		Ļ
	9	56		an	≿	lΕ
	7	28 27 26		Signal Name	BATTERY	SECURITY
	8	28		na	Ę	[근
Τ	6	30 29) ig	B/	7
/	19 18 17 16 15 14 13 12 11 10	30		",		
(F	36 35 34 33 32 31				
\	12	32				-
ī	13	33		5 e		٥
	14	34		용충	₾	0/5
	15	35		<u>0</u>		
	16	36		<u>o</u>		
	1	38 37		=		
	8	88		l a	ω	88
		33		Ξ		
	20	40		Terminal No. Color of Wire		
Ī			-		•	

or Name NATS ANTENNA AMP.		14
NATS A	WHITE	2 3
or Name	or Color	

M21

Connector No.

	Signal Name	+12V	SCL (CLOCK)	GND	SCL (TX,RX)
Color of Wire W G G B B B B B B	Color of Wire	8	5	В	BR
Color of Wire 1 W Wire 2 G G G A BR BR	Terminal No.	-	2	ဇ	4

Connector No.	Connector Nam	Connector Colo	原动 H.S.	

Connector Name		BCM (BODY CONTROL MODULE)
Connector Color		BLACK
唐	56 57 58	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70
112		
Terminal No. Wire	Color of Wire	Signal Name
22	Y/R	BAT (FUSE)
29	В	GND (POWER)
70	M/B	BAT (F/L)

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Signal Name	1	ı	ı	1	1	1	1									TO WIRE	Ш		12 13 14 15 16 17 18 19 20 21 22 23 24			Signal Name	ı				
Color of Wire	M/L	M/B	_	۵	8	ŋ	BR). E5	ıme WIRE	olor WHITE		2 13 14 15 16		Color of		B/B				
Terminal No.	76	10G	31G	42G	61G	75G	80G								Connector No.	Connector Name WIRE TO WIRE	Connector Color		ν <u>i</u>			reminal No.	19				
		7																							r		
M31 WIRE TO WIRE				56 46 36 26 16	96 86		21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G 30G 29G 28G 27G 26G 25G 24G 23G 22G		41G 40G 39G 38G 37G 36G 35G 34G 33G 32G 31G		70G 69G 68G 67G 66G 65G 64G 63G 62G	75G 74G 73G 72G 71G	80G 79G 77G 77G 76G			JOINT CONNECTOR-M11			6 5 4 3 2 1 16 15 14 13 12 11 10			Olyllal Ivallie	I	1	1	1	
	_	_			_		21G 20G 19G 18 30G 29G 28		41G 40G 39G 38		70G 69G 68		8			_	olor BLUE		20 19 18 17		Color of	Wire		Г	۵	۵	
Connector No.	Connector Color			Ü	į.			1							Connector No.	Connector Name	Connector Color	E C	\(\sigma\)	I		i ellillal NO.	1	2	10	11	
																											ı
M26 IGNITION SWITCH			F	I=1				Signal Name	ı	1						Connector Name JOINT CONNECTOR-M10			15 14 13 12 11 10		= = = = = = = = = = = = = = = = = = = =	Olgilal Ivalile	ı	_	ı	ı	
		_		ST	R ACC IG2		Color of	Wire	ŋ	BR). M175	me JOINT	olor BLUE	-	20 19 18 17 16		Color of	Wire		L	а.	Ъ	
Connector No.	Connector Color			2	Ö.			Terminal No.	В	ST					Connector No.	onnector Na	Connector Color		H.S.			ellilla V	-	9	10	15	
0 0) IC	<u>)</u>	<u> </u>		3			<u> </u>	<u> </u>						<u>υ</u>	υŢ	<u>U</u>				<u> </u>	-				ABŁ	KIA2815GB

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Connector No.). E121	-
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor BROWN	NMO
赋 H.S.	29 28 [18]	28 28 C 34 33 32 31 30
Terminal No.	Color of Wire	Signal Name
30	8	ECM BAT

Connector No.	E120	0	
Connector Name		M M M	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	Μ	쁘	
1	L		
NATION AND ADDRESS OF THE PARTY	21	21 20	19
H.S.	24	24 23 22	22

STARTER MTR IGN SW (ST)

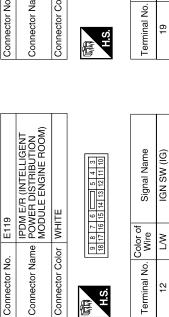
W/R BR

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Signal Name

Color of Wire



Connector No.). E124	4
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BLACK	lor BLA	CK
斯 H.S.		59 58 57 62 61 60
Terminal No.	Color of Wire	Signal Name
29	В	GND (POWER)

2	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	ITE	40 39 38 37 44 44 43	Signal Name	GND (SIGNAL)	CAN-H	CAN-L	RANGE SW
. E122		lor WHITE	42 41	Color of Wire	В	_	Ь	B/R
Connector No.	Connector Name	Connector Color	南 H.S.	Terminal No.	38	39	40	48
					•	•		

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No. E152 Terminal No. Wire To Wife To Wife	A B C D			Terminal No. Wire Signal Name	عد مداد ر	010	S. (5 4 3 2 (10 9 8 7	⟨⟨┤ۥ		Connector Color GREEN	Connector No. F9 Connector Name A/T ASSEMBLY
F152	Signal Name START-RLY T G	TRANSMISSION ROL MODULE)		1	1 1	1	1	1	1	ı	Signal Name
No. E152 Name WIRE TO WIRE Color WHITE	Color of Wire G										Terminal No. Wire
Connector Connector Connector Connector Connector Connector Terminal N 19	N. Color of Wire B/R N. Wire N	nector N nector N nector C	426 436 446 456 466 476 486 496 506 436 506	11G 17G 17G 17G 17G 17G 17G 17G 17G 17G	200 200 200 200 200 200 200 200 200 200	96 97 99 90	S. 16 26 36 46			Connector Color WHITE	Connector No. E152 Connector Name WIRE TO WIRE

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VEHICLE SECURITY SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

	Proce	dure	- Diagnostic procedure	Defer to nego
	Symp	tom	- Diagnostic procedure	Refer to page
		Door switch	Check door switch (LF, RF, LR, RR, back)	DLK-273
	Vehicle security sys-	Glass ajar switch	Check glass ajar switch	DLK-309
	tem cannot be set by	Key cylinder switch	Check key cylinder switch	DLK-281
1		_	Check Intermittent Incident	<u>GI-38</u>
	Consider in disease and on		Check vehicle security indicator	SEC-159
	Security indicator does	s not turn on.	Check Intermittent Incident	<u>GI-38</u>
2	* Vehicle security	Any door is opened.	Check door switch (LF, RF, LR, RR, back)	DLK-273
	system does not	Glass ajar switch	Check glass ajar switch	DLK-309
	sound alarm when ····	_	Check Intermittent Incident	<u>GI-38</u>
	Vehicle security		Check horn switch	_
3	alarm does not acti- vate.	Horn alarm	Check Intermittent Incident	<u>GI-38</u>
	Vehicle security sys-		Check key cylinder switch	DLK-298
4	tem cannot be can- celed by ····	Key cylinder switch	Check Intermittent Incident	<u>GI-38</u>

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

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

< SYMPTOM DIAGNOSIS >

Symptom Table

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

THIODAIN VEHICLE IIVIIVIODILIZEIX OTOTEIVI-NATO OTIVII TOIVIO

NOTE:

- Before performing the diagnosis in the following table, check "SEC-123, "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-159</u>		
Security indicator does not turn on or hash.	2. Check Intermittent Incident	<u>GI-38</u>		

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PRECAUTIONS

[WITHOUT INTELLIGENT KEY SYSTEM]

PRECAUTION

PRECAUTIONS

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

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

NATS ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

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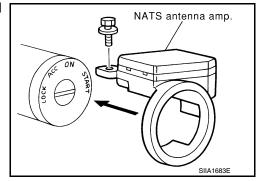
NATS ANTENNA AMP

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 cluster lid A. Refer to IP-15, "Removal and Installation".
- 3. Remove the bolt, disconnect the electrical connector, and remove the NATS antenna amp.



Installation

Installation is in the reverse order of removal.

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Revision: July 2010 SEC-199 2011 Armada

REMOTE KEYLESS ENTRY RECEIVER

< REMOVAL AND INSTALLATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

REMOTE KEYLESS ENTRY RECEIVER

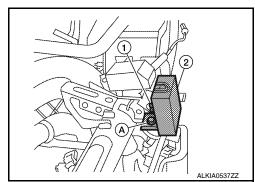
Removal and Installation

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REMOTE KEYLESS ENTRY RECEIVER

Removal

- 1. Remove the instrument lower panel RH. Refer to IP-13, "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.