SECURITY CONTROL SYSTEM

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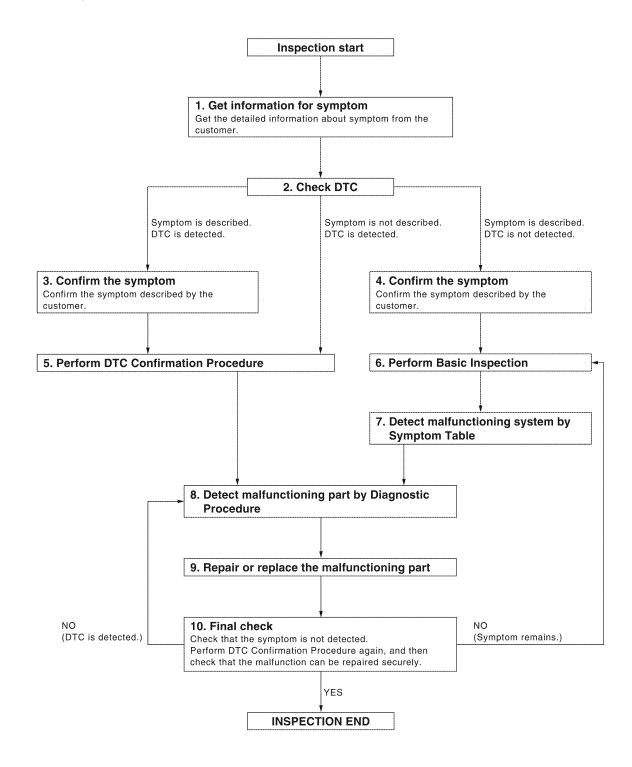
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

$oldsymbol{1}$ -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

- Check DTC for Intelligent Key unit and BCM.
- 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 SEC-70, "DTC Inspection Priority Chart" (Intelligent Key unit) SEC-70, "DTC Inspection Priority Chart" (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 8.

>> Refer to GI-39, "Intermittent Incident". NO

6.PERFORM BASIC INSPECTION

Perform Basic Inspection. Refer to SEC-4, "Work Flow".

/.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

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

>> GO TO 8.

>> GO TO 7.

f 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.

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

9. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 10.

10. FINAL CHECK

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

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

Does the symptom reappear?

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

YES (Symptom remains)>>GO TO 6.

NO >> INSPECTION END

INSPECTION AND ADJUSTMENT

[WITH 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:0000000001365728 Refer to the CONSULT-III Operation Manual-NATS. ECM RE-COMMUNICATING FUNCTION ECM RE-COMMUNICATING FUNCTION: Description INFOID:0000000001365729 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:0000000001365730 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. Maintain ignition switch in "ON" position for at least 5 seconds. Turn ignition switch to "OFF". 5. Start engine. Can engine be started? YES >> Procedure is completed. NO >> Initialize control unit. Refer to CONSULT-III Operation Manual NATS.

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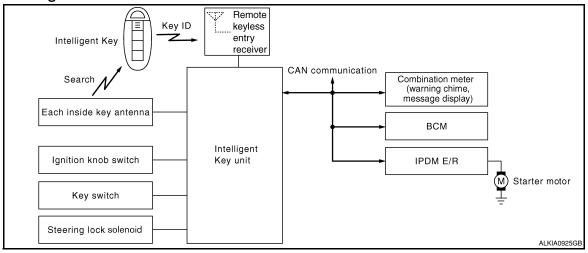
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FUNCTION DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram

INFOID:0000000001365731



System Description

INFOID:0000000001365732

INPUT/OUTPUT SIGNAL CHART

Intelligent Key Unit

intelligent Key Onit				
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 E/R)	
Steering lock unit	Steering lock (lock/unlock)	Engine start function • Inside key anten (Front and rear of	Inside key antenna (Front and rear center console, over- head console, luggage comportment)	
Inside key antenna (Front and rear center console, over- head console, luggage compartment)	Intelligent key (inside antenna detection area or not.)		 head console, luggage compartme Key interlock solenoid 	
IPDM E/R				
Switch/Input signal	Input signal to IPDM E/R	IPDM E/R function	Actuator/Output signal	
Park/neutral position 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 compartment)	

SYSTEM DESCRIPTION

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

The driver should carry the Intelligent Key at all times.

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- Intelligent Key has 2 IDs (for Intelligent Key and for NATS). It can perform the door lock/unlock operation and the engine start operation when the registered Intelligent Key is carried.
- When the Intelligent Key battery is discharged, it can be used as emergency back-up by inserting the mechanical key set in the Intelligent Key to the ignition key cylinder. At that time, perform the NATS ID verification. If it is used when the Intelligent Key is carried, perform the Intelligent Key ID verification.
- If the ID is successfully verified, and when the ignition knob switch is pressed, steering lock will be released and initiating the engine will be possible.
- The door lock/unlock operation can be performed when the Intelligent Key battery is discharged, by operating the driver door key cylinder using the mechanical key set in the Intelligent Key.
- Up to 4 Intelligent Keys can be registered (including the standard Intelligent Key) on request from the owner.
 NOTE:
 - Refer to <u>SEC-19</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.
- 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-99, "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.
- 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-12, "System Description".

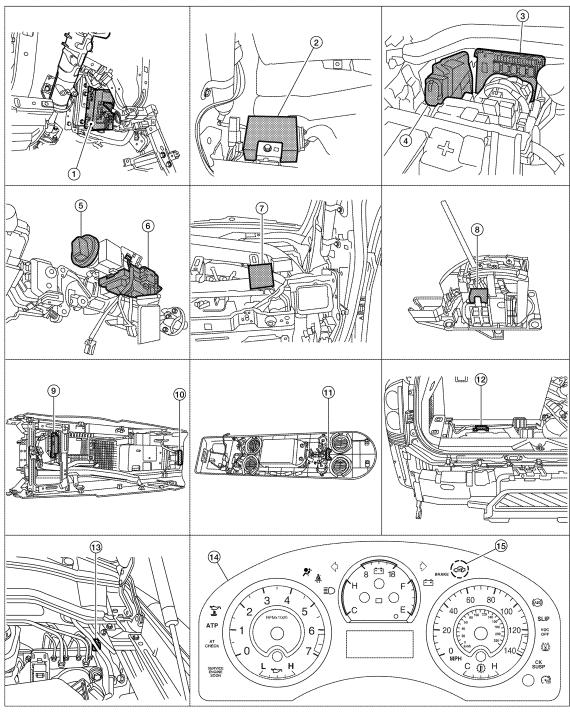
STEERING LOCK OPERATION

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).

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Component Parts Location



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- BCM M18, M19, 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 device (detention switch key) M203 9. (view with center console removed)
- 3. IPDM E/R E119, E120, E122, E124
 - Steering lock solenoid M15
- Inside key antenna 3 (front of center console) M210 (view with center console removed)

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

- < FUNCTION DIAGNOSIS >
- 10. Inside key antenna 1 (rear of center con- 11. Inside key antenna 4 (overhead console 12. Inside key antenna 2 (luggage sole) M209
 - area) R210 (view with overhead console removed)
- compartment) B76
- (view with rear carpet removed)

- 13. Intelligent Key warning buzzer E25
- 14. Combination meter M23, M24
- 15. Vehicle security indicator lamp

Component Description

INFOID:0000000001365734

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 device (detention key switch)	Detects whether the shift lever is in park.		

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

Mechanical key

NATS antenna amp.

Security indicator

BCM
(NATS IMMU)

Intelligent
Key unit

Steering lock solenoid

System Description

INFOID:0000000001365736

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)			
Key switch	Mechanical key (Insert/remove)	NATS	Steering lock unit	
Steering lock unit	Steering (lock/unlock)			
ECM	Engine status signal			

BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal
NATS antenna amp.	Key ID	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-16</u>, <u>"System Description"</u>.
- 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

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

< FUNCTION DIAGNOSIS >

- 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-4</u>, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-7, "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.

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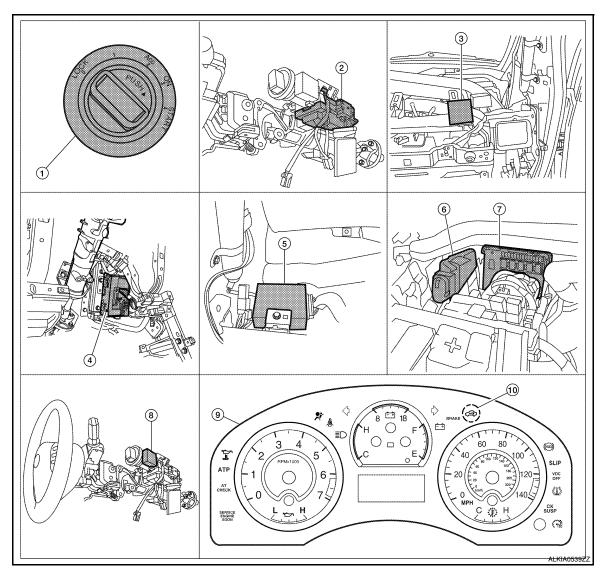
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Component Parts Location

INFOID:0000000001365737



- Key switch and ignition knob switch M12
- BCM M18, M19, M20
 (view with instrument panel LH removed)
- 7. IPDM E/R E122, E124 (view with cover removed)
- 10. Security indicator lamp

- Steering lock solenoid M15 (view with steering column removed)
- Intelligent Key unit M70 (view with instrument panel LH removed)
- 8. NATS antenna amp. M21
- Remote keyless entry receiver M25 (view with instrument panel RH removed)
- 6. ECM E16
- 9. Combination meter M23, M24

Component Description

INFOID:0000000001365738

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.

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

< FUNCTION DIAGNOSIS >

Item	Function	
Inside key antenna	Detects if Intelligent Key is inside the vehicle.	
Intelligent Key warning buzzer	Warns the user of the lock/unlock condition and inappropriate operations with the buzzer sound.	
A/T device (detention key switch)	Detects whether the shift lever is in park.	
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.	

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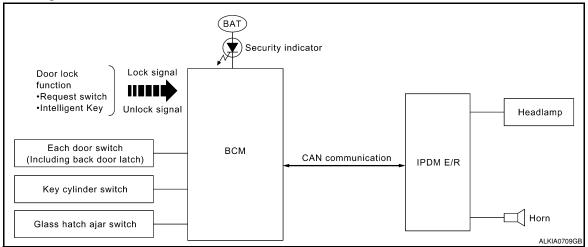
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VEHICLE SECURITY SYSTEM

System Diagram

INFOID:0000000001365739



System Description

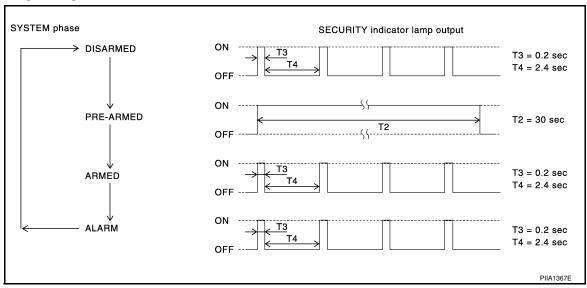
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DESCRIPTION

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

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

OPERATION FLOW



Disarmed Phase

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

Pre-Armed Phase And Armed Phase

The vehicle security system turns into the pre-armed phase when ignition switch is in OFF position, all doors are closed and locked (using 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 30 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:0000000001365741

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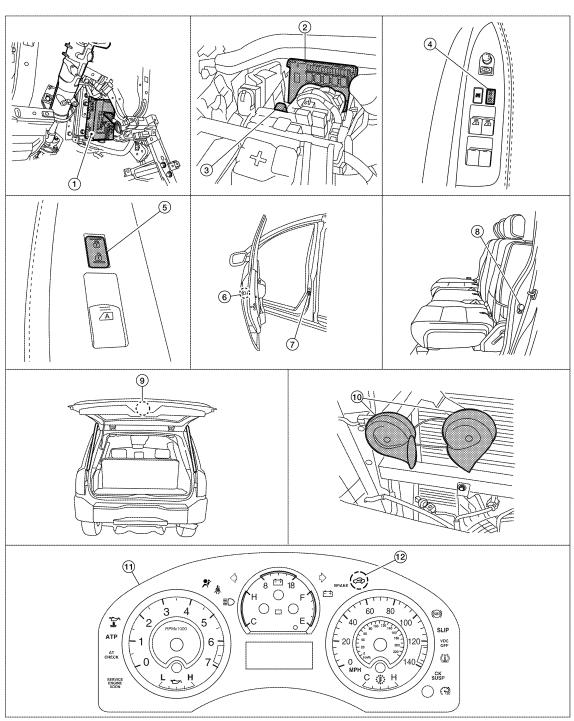
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- BCM M18, M19, M20 (view with instrument panel LH removed)
- Main power window and door lock/ unlock switch D7, D8
- P. IPDM E/R E122, E124 (view with cover removed)
- Power window and door lock/unlock switch RH D105
- 3. Horn relay H-1
- Front door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

SEC-17

VEHICLE SECURITY SYSTEM

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- 7. Front door switch LH B8 RH B108
- Horn E3
 (view with front grille removed)
- 8. Rear door switch LH B18 RH B116
- 11. Combination meter M23, M24
- 9. Back door latch (door ajar switch) D503 Glass hatch ajar switch D707
- 12. Security indicator lamp

Component Description

INFOID:0000000001365742

Item	Function
ВСМ	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.

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000001365743

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APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to SEC-70, "DTC Index".
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	 Enables to read and save the vehicle specification. Enables to write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

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

IMMU

IMMU: CONSULT-III Function (BCM - IMMU)

INFOID:0000000001365744

APPLICATION ITEM

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

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

DATA MONITOR

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

ACTIVE TEST

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

THEFT ALM

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

INFOID:0000000001365745

APPLICATION ITEM

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

Diagnosis mode	Function Description	
WORK SUPPORT	Changes the setting for each system function.	
DATA MONITOR	The BCM input/output signals are displayed.	
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.	

DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
PUSH SW	Indicates [ON/OFF] condition of ignition knob switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
I-KEY LOCK	Indicates [ON/OFF] condition of lock signal from Intelligent Key.
I-KEY UNLOCK	Indicates [ON/OFF] condition of unlock signal from Intelligent Key.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.

ACTIVE TEST

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

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

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DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

CONSULT-III Function (INTELLIGENT KEY)

INFOID:0000000001365746

APPLICATION ITEM

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

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

WORK SUPPORT

Support item	Description	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)	ON	Active
TARE OUT FROM WINDOW WARN	mode can be changed.	OFF	Inactive
LOW BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can	ON	Active
LOW BATT OF RET FOR WARIN	be changed.	OFF	Inactive
KEYLESS FUNCTION	Door lock function with Intelligent Key can be	ON	Active
RETLESS FONCTION	changed.	OFF	Inactive
ANSWER BACK FUNCTION	Buzzer reminder operation can be changed.	ON	Active
ANSWER BACK FUNCTION	buzzer reminder operation can be changed.	OFF	Inactive
SELECTIVE UNLOCK FUNCTION	Anti biindanada ana ba abanad	ON	Active
SELECTIVE UNLOCK FUNCTION	Anti-hijack mode can be changed.	OFF	Inactive
HAZARD ANSWER BACK	Hazard reminder operation mode can be changed.	Refer to SEC-19.	
	Buzzer reminder operation (lock operation)	BUZZER	Active
ANSWER BACK WITH I-KEY LOCK	mode by each door request switch can be changed.	OFF	Inactive
	Buzzer reminder operation (unlock operation)	BUZZER	Active
ANSWER BACK WITH I-KEY UNLOCK	mode by each door request switch can be changed.	OFF	Inactive
AUTO RELOCK TIMER	Auto door lock operation mode can be	OFF	Inactive
ACTO TILLOCK TIME!	changed.	1 min	Active
ENGINE START BY I-KEY	Engine start function (by Intelligent Key)	ON	Active
ENGINE START DI FILE	mode can be changed.	OFF	Inactive
LOCK/UNLOCK BY I-KEY	Door lock function by door request switch can	ON	Active
ESSIVENCE DI TRET	be changed.	OFF	Inactive

SELF-DIAG RESULT

Refer to SEC-70, "DTC Index".

DATA MONITOR

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

< FUNCTION DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

ACTIVE TEST

Test item	Description	
DOOR LOCK/UNLOCK	This test is able to check door lock/unlock operation. ALL UNLK: All door lock actuators are unlocked. DR UNLK: Door lock actuator (driver side) is unlocked. AS UNLK: Door lock actuator (passenger side) is unlocked. BK UNLK: This item is indicated, but inactive. LOCK: All door lock actuator is locked.	
ANTENNA	 This test is able to check Intelligent Key antenna operation. When the following condition are met, hazard warning lamps flash. ROOM ANT1: Inside key antenna (console) detects Intelligent Key, when "ROOM ANT1" is selected. ROOM ANT2: Inside key antenna (instrument center/rear seat) detects Intelligent Key, when "ROOM ANT2"is selected. DRIVER ANT: Outside key antenna (driver side) detects Intelligent Key, when "DRIVER ANT" is selected. ASSIST ANT: Outside key antenna (passenger side) detects Intelligent Key, when "ASSIST ANT" is selected. BK DOOR ANT: Outside key antenna (rear bumper) detects Intelligent Key, when "BK DOOR ANT" is selected. 	
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. ON OFF	
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		

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COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000001365568

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

DTC Logic

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:0000000001365570

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-39, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

U1010 CONTROL UNIT (CAN)

Description INFOID:000000001365571

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

CAN Communication Signal Chart, refer to LAN-46, "CAN Communication Signal Chart".

D DTC Logic INFOID:0000000001365572

DTC DETECTION LOGIC

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

Diagnosis Procedure

1. REPLACE INTELLIGENT KEY UNIT

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

>> Replace Intelligent Key unit. Refer to <u>SEC-91, "Removal and Installation"</u>.

Special Repair Requirement

>> Work end.

 ${f 1}$.required work when replacing intelligent key unit

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

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B2013 ID DISCORD I-KEY-STRG

Description INFOID:000000001365575

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

DTC Logic

DTC DETECTION LOGIC

DTC No. Trouble diagnosis name DTC detecting condition		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 unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to <u>SEC-26</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001365577

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?

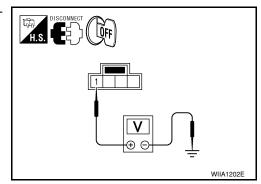
YES >> Steering lock solenoid was unregistered.

NO >> GO TO 2

2.CHECK STEERING LOCK SOLENOID POWER SUPPLY-1

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

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



Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3.check steering lock solenoid ground circuit

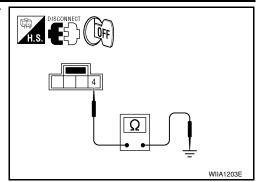
B2013 ID DISCORD I-KEY-STRG

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Check continuity between steering lock solenoid harness connector and ground.

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



Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

4. CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUITS

1. 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	Terminal	Continuity
M15	2	M70	1	Yes
IVITO	3	IVI7O	32	163

H.S. DISCONNECT B

2 3 1 32

2 , 3 1 , 32

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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
MIS	3	Ground	INO

Is the inspection result normal?

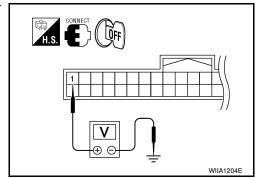
YES >> GO TO 5

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	V II 00		
(+)	(-)	Voltage (V) (Approx.)	
Intelligent Key unit connector	(-)	, , , , , , , , , , , , , , , , , , ,	
M70	1	Ground	5



Is the inspection result normal?

YES >> GO TO 6

NO >> Replace Intelligent Key unit. Refer to <u>SEC-91</u>, "Removal and Installation".

6. CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUIT

1. Connect steering lock solenoid connector.

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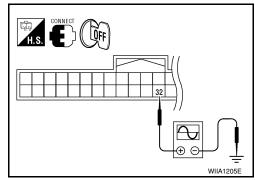
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B2013 ID DISCORD I-KEY-STRG

< COMPONENT 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 SIIA1911J	
				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-91, "Removal and Installation"</u>. NO

B2190, P1614 NATS ANTENNA AMP.

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2190, P1614 NATS ANTENNA AMP.

Description INFOID:000000001365578

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

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190			Harness or connectors
P1614	NATS ANTENNA AMP	 Inactive communication between NATS antenna amp. and BCM. Mechanical key is malfunctioning. 	(The NATS antenna amp. circuit is open or shorted)Mechanical keyNATS antenna amp.BCM

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-29</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END.

Diagnosis Procedure

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-91, "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.

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INFOID:0000000001538902

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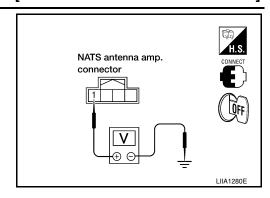
[WITH INTELLIGENT KEY SYSTEM]

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.

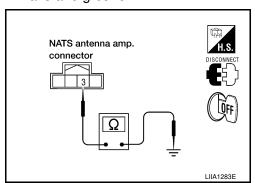
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

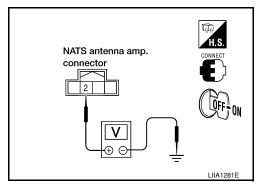
NOTE:

If harness is OK, replace BCM, 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)	
(+)	(-)	T osition or ignition key cylinder	(Approx.)	
		Before inserting ignition key	Battery voltage	
2	Ground	After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage	
		Just after turning ignition switch ON	Pointer of tester should move for approx. 1 second, then return to battery voltage	

Is the inspection result normal?

YES >> GO TO 6

NO >> • Repair or replace harness.

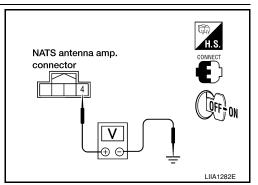
NOTE:

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



6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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



Terminals (-)		Position of ignition key cylinder	Voltage (V) (Approx.)	
		1 Osition of ignition key cylinder		
		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 XX-XX, "*****". Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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B2191, P1615 DIFFERENCE OF KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2191, P1615 DIFFERENCE OF KEY

Description INFOID:000000001365581

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	The ID verification results between BCM and me-	Mechanical key
P1615	KEY	chanical 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. Press the ignition knob switch.
- 3. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

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

NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001365583

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-54, "Removal and Installation".
 - · Perform initialization again

B2192, P1611 ID DISCORD, IMMU-ECM

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2192, P1611 ID DISCORD, IMMU-ECM

Description INFOID:0000000001365584

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:0000000001365585

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-24. "DTC Logic".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-25, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD BCM-	The ID verification results between BCM and ECM	• BCM
P1611	ECM	are NG. The registration is necessary.	• 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-33, "Diagnosis Procedure". YES

>> 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 >> ID was unregistered.

NO >> GO TO 2

2.PEPLACE BCM

- Replace BCM. Refer to BCS-54, "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-39, "Intermittent Incident".

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B2192, P1611 ID DISCORD, IMMU-ECM

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> INSPECTION END

B2193, P1612 CHAIN OF ECM-IMMU

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2193, P1612 CHAIN OF ECM-IMMU

Description

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

DTC Logic

DTC DETECTION LOGIC

NOTE:

 If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-24, "DTC Logic"</u>.

• If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-25</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
P1612			

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-35</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

Diagnosis Procedure

1.REPLACE BCM

- Replace BCM. Refer to <u>BCS-54, "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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SEC-35

[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000001365592

B2194 ID DISCORD IMMU-I-KEY

Description INFOID:000000001365590

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:0000000001365591

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-36, "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-54</u>, "<u>Removal and Installation</u>". Perform initialization with CONSULT-III. Re-register all mechanical keys. For initialization and registration of mechanical key. Refer to "CONSULT-III Operation Manual".

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

YES >> BCM is malfunctioning.

NO >> GO TO 3

3.check intermittent incident

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END

B2552 INTELLIGENT KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2552 INTELLIGENT KEY

Description INFOID:000000001365599

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

DTC Logic INFOID:0000000001365600

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

>> INSPECTION END. NO

Diagnosis Procedure

1. REPLACE INTELLIGENT KEY UNIT

- Replace Intelligent Key unit.
- 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 <u>SEC-37, "DTC Logic"</u>.

Special Repair Requirement

1. REQUIRED WORK WHEN REPLACING INTELLIGENT KEY UNIT

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

>> Work end.

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INFOID:0000000001365603

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B2590 ID DISCORD BCM-I-KEY

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2590 ID DISCORD BCM-I-KEY

Description INFOID:000000001365603

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-24, "DTC Logic".
- If DTC B2590 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-25</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-38</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000001365605

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 REMOVAL PROCEDURE.
 - · Perform initialization again

P1610 LOCK MODE

_	COMPO	NENT	DIAGN	OSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1610 LOCK MODE

Description INFOID:000000001365606

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-39</u>. "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

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-39, "Intermittent Incident".

>> INSPECTION END

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INFOID:0000000001365608

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT INTELLIGENT KEY UNIT

INTELLIGENT KEY UNIT: Diagnosis Procedure

INFOID:0000000001365609

Refer to <u>DLK-55</u>, "INTELLIGENT KEY UNIT : <u>Diagnosis Procedure"</u>. **BCM**

BCM: Diagnosis Procedure

INFOID:0000000001365613

Refer to DLK-55, "BCM (BODY CONTROL MODULE): Diagnosis Procedure".

KEY CYLINDER SWITCH

Description INFOID:000000001367530

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:0000000001367531

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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 EN-SW	Neutral / Unlock	: OFF
KEY CYL UN-SW	Unlock	: ON
KET CTL UN-SW	Neutral / Lock	: OFF

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to <u>SEC-41, "Diagnosis Procedure"</u>.

Diagnosis Procedure

INFOID:0000000001367532

1. CHECK DOOR KEY CYLINDER SWITCH LH

(E)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

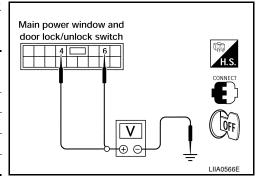
When key inserted in left front key cylinder is turned to UNLOCK:

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 symmetry	(Approx.)	
	4	Ground	Neutral/Unlock	5	
D.7	_		Lock	0	
D7	6		Neutral/Lock	5	
			Unlock	0	



Is the inspection result normal?

YES >> Key cylinder switch signal is OK.

NO >> GO TO 2

2.CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

- Turn ignition switch OFF.
- 2. Disconnect front door lock assembly LH (key cylinder switch).

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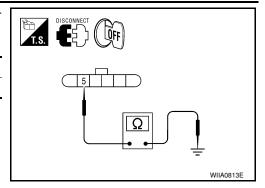
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Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 5 and body ground.

•	Connector	Terminals	Continuity
	D14	5 – Ground	Yes



Is the inspection result normal?

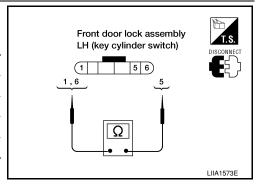
YES >> GO TO 3

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	Terminals Condition	
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?

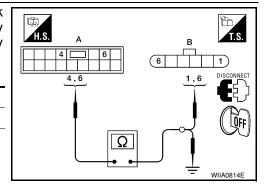
YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-205, "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
A: Main power win- dow and door lock/ unlock switch	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

Ignition Knob Switch Check

1. CHECK IGNITION KNOB SWITCH

(P)With CONSULT-III

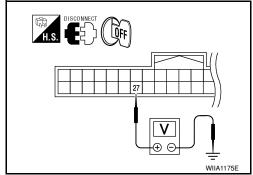
Display "PUSH SW" on DATA MONITOR screen, and check if ON/OFF display is linked to ignition switch operation.

Monitor item	Condition	
PUSH SW	Ignition switch is pushed: ON	
1 0311 3W	Ignition switch is released: OFF	

Without CONSULT-III

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

Connector	Terminals		Condition	Voltage (V)
Oomiector	(+)	(-)	Condition	(Approx.)
M70	27	27 Ground -	Ignition switch is pushed	Battery voltage
1017 0	21		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

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

1 - Ground

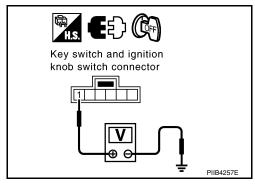
: Battery voltage

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or

>> Repair or replace key switch and ignition knob switch power supply circuit.



3.check ignition knob switch operation

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

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IGNITION KNOB SWITCH

< COMPONENT DIAGNOSIS >

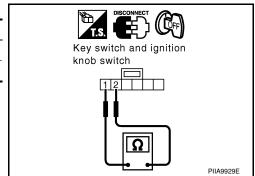
[WITH INTELLIGENT KEY SYSTEM]

Component	Terminals		Condition	Continuity
Ignition	on ₁		Ignition switch is pushed	Yes
knob switch	Į.	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 (A) M70 terminal 27 and key switch and ignition knob switch harness connector (B) M12 terminal 2.

27 - 2 : Continuity should exist.

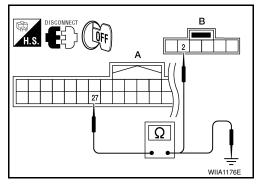
2. Check continuity between Intelligent Key unit harness connector M70 terminal 27 and ground.

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 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 <u>DLK-8</u>, "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".	DLK-40
(Horn reminder operate.)	2.	Check hazard function.	DLK-96
	3.	Check Intermittent Incident.	<u>GI-39</u>
Hazard reminder does not operate by Intelligent Key.	1.	Check "HAZARD ANSWER BACK" setting in "WORK SUPPORT".	DLK-40
(Horn reminder operate.)	2.	Check hazard function.	DLK-96
	3.	Check Intelligent Key battery inspection.	DLK-90
Horn reminder does not operate by request switch.	1.	Check "ANSWER BACK WITH I-KEY LOCK" or "ANSWER BACK WITH I-KEY UNLOCK" setting in "WORK SUPPORT".	DLK-40
(Hazard reminder operate.)	2.	Check Intelligent Key warning buzzer.	DLK-79
	3.	Check Intermittent Incident.	<u>GI-39</u>
Horn reminder does not operate by Intelligent Key.		Check "HORN WITH KEYLESS LOCK" setting in "WORK SUPPORT".	DLK-40
(Hazard reminder operate.)	2.	Check horn function.	DLK-92
	3.	Check Intermittent Incident.	<u>GI-39</u>

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VEHICLE SECURITY INDICATOR

Description INFOID:000000001365633

- 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:0000000001365634

1. CHECK FUNCTION

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

Test it	em	Descript	ion
THEET IND	ON	Vehicle security indicator	ON
THEFT IND	OFF		OFF

Is the inspection result normal?

YES >> INSPECTION END.

NO >> Refer to <u>SEC-46</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

INFOID:0000000001365635

1. SECURITY INDICATOR LAMP ACTIVE TEST

(I) With CONSULT-III

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

Without CONSULT-III

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

Connector	Tern	ninals	Condition	Voltage (V)	
Oomector	(+)		Condition	(Approx.)	
M1Q	M18 23 Ground		ON	0	
IVI I 8	23	Ground	Ground	OFF	Battery voltage

BCM connectors H.S. DISCONNECT DISCONNECT LIIA0523E

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.

${f 3.}$ CHECK HARNESS CONTINUITY

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

VEHICLE SECURITY INDICATOR

< COMPONENT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

23 - 28

: Continuity should exist.

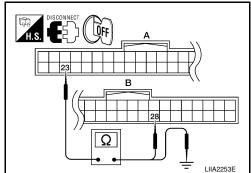
4. Check continuity between BCM connector (A) M18 terminal 23 and ground.

23 - Ground

: Continuity should not exist.

Is the inspection result normal?

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



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ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Ignition switch OFF Ignition switch ACC or ON ON	Monitor Item	Condition	Value/Status
Ignition switch ACC or ON	ACC ON SW	Ignition switch OFF	OFF
AIR COND SW A/C switch ON ON BACK DOOR SW Back door closed OFF BUCKLE SW Driver's seat belt unfastened OFF Driver's seat belt fastened ON CDL LOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON ON DOOR SW-DR Driver door closed OFF DOOR SW-RL Rear LH door closed OFF DOOR SW-RL Rear LH door opened ON DOOR SW-RR Rear RH door opened ON ENGINE RUN Engine stopped OFF Engine stopped OFF Engine switch OFF OFF Fan switch OFF OFF For twiper switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF OFF	ACC ON SW	Ignition switch ACC or ON	ON
A/C switch ON	AID COND CW	A/C switch OFF	OFF
BACK DOOR SW Back door opened ON BUCKLE SW Driver's seat belt unfastened OFF Driver's seat belt fastened ON CDL LOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the LOCK side ON CDL UNLOCK SW Door lock/unlock switch does not operate OFF Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-DR Driver door closed OFF DOOR SW-RL Rear LH door closed OFF Rear LH door opened ON ON DOOR SW-RR Rear RH door closed OFF Rear RH door opened ON ON ENGINE RUN Engine stopped OFF Engine stopped OFF OFF Fan switch OFF OFF Fan switch ON ON Front wiper switch LO ON	AIR COND SW	A/C switch ON	ON
Back door opened	DACK DOOD OW	Back door closed	OFF
Driver's seat belt fastened	BACK DOOR SW	Back door opened	ON
Driver's seat belt fastened	DUCKLE CW	Driver's seat belt unfastened	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 Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON ON DOOR SW-DR Driver door closed OFF DOOR SW-RL Rear LH door closed OFF Rear LH door opened ON DOOR SW-RR Rear RH door closed OFF Rear RH door opened ON ENGINE RUN Engine stopped OFF Engine running ON FAN ON SIG Fan switch OFF OFF Fan switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON	BUCKLE SW	Driver's seat belt fastened	ON
Press door lock/unlock switch to the LOCK side	ODL LOOK OW	Door lock/unlock switch does not operate	OFF
CDL UNLOCK SW Press door lock/unlock switch to the UNLOCK side ON DOOR SW-AS Passenger door closed OFF DOOR SW-DR Driver door opened ON DOOR SW-DR Driver door opened ON DOOR SW-RL Rear LH door closed OFF Rear LH door opened ON DOOR SW-RR Rear RH door closed OFF Rear RH door opened ON ENGINE RUN Engine stopped OFF FAN ON SIG Fan switch OFF OFF Fan switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch OFF OFF Front wiper switch OFF OFF	CDL LOCK SW	Press door lock/unlock switch to the LOCK side	ON
Press door lock/unlock switch to the UNLOCK side	ODL HNI OOK OM	Door lock/unlock switch does not operate	OFF
DOOR SW-AS Passenger door opened ON DOOR SW-DR Driver door closed OFF DOOR SW-RL Rear LH door closed OFF DOOR SW-RR Rear LH door opened ON DOOR SW-RR Rear RH door closed OFF Rear RH door opened ON ON ENGINE RUN Engine stopped OFF Engine running ON OFF FAN ON SIG Fan switch OFF OFF FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON OFF Front wiper switch OFF OFF Front wiper switch OFF OFF	CDL UNLOCK SW	Press door lock/unlock switch to the UNLOCK side	ON
Passenger door opened ON	DOOD OW AC	Passenger door closed	OFF
DOOR SW-DR Driver door opened ON DOOR SW-RL Rear LH door closed OFF DOOR SW-RR Rear RH door closed OFF DOOR SW-RR Rear RH door opened ON ENGINE RUN Engine stopped OFF Engine running ON FAN ON SIG Fan switch OFF OFF Fan switch ON ON Front wiper switch OFF OFF Front wiper switch LO ON Front wiper switch OFF OFF	DOOR SW-AS	Passenger door opened	ON
Driver door opened ON	DOOD OW DD	Driver door closed	OFF
DOOR SW-RL Rear LH door opened ON DOOR SW-RR Rear RH door closed OFF Rear RH door opened ON ENGINE RUN Engine stopped OFF Engine running ON FAN ON SIG Fan switch OFF OFF Fan switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON Front wiper switch OFF OFF	DOOR SW-DR	Driver door opened	ON
Rear LH door opened ON	DOOD OW DI	Rear LH door closed	OFF
DOOR SW-RR Rear RH door opened ON ENGINE RUN Engine stopped OFF Engine running ON FAN ON SIG Fan switch OFF OFF Fan switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON Front wiper switch OFF OFF	DOOR SW-RL	Rear LH door opened	ON
Rear RH door opened	DOOD OW DD	Rear RH door closed	OFF
ENGINE RUN Engine running ON FAN ON SIG Fan switch OFF OFF Fan switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON Front wiper switch OFF OFF	DOOR SW-RR	Rear RH door opened	ON
Engine running	ENCINE DUN	Engine stopped	OFF
FAN ON SIG Fan switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON Front wiper switch OFF OFF	ENGINE HON	Engine running	ON
Fan switch ON ON FR WIPER LOW Front wiper switch OFF OFF Front wiper switch LO ON Front wiper switch OFF OFF	EANLON CIC	Fan switch OFF	OFF
FR WIPER LOW Front wiper switch LO ON Front wiper switch OFF OFF	PAN ON SIG	Fan switch ON	ON
Front wiper switch LO ON Front wiper switch OFF OFF	ED WIDED LOW	Front wiper switch OFF	OFF
Front wiper switch OFF OFF	FR WIFER LOW	Front wiper switch LO	ON
	FR WIPER HI	Front wiper switch OFF	OFF
Front wiper switch HI ON	FR WIFER HI	Front wiper switch HI	ON
FR WIPER INT Front wiper switch OFF OFF	ED WIDED INT	Front wiper switch OFF	OFF
Front wiper switch INT ON	FR WIFER IIVI	Front wiper switch INT	ON
FR WIPER STOP Any position other than front wiper stop position OFF	ED WIDED STOD	Any position other than front wiper stop position	OFF
Front wiper stop position ON	FR WIFER STOP	Front wiper stop position	ON
When hazard switch is not pressed OFF	HAZADD CW/	When hazard switch is not pressed	OFF
HAZARD SW When hazard switch is pressed ON	HAZAND SW	When hazard switch is pressed	ON
Lighting switch OFF OFF	HEAD LAMP OW 4	Lighting switch OFF	OFF
HEAD LAMP SW 1 Lighting switch 2ND ON	HEAD LAIVIP SW 1	Lighting switch 2ND	ON
Lighting switch OFF OFF	HEAD LAMP OW O	Lighting switch OFF	OFF
HEAD LAMP SW 2 Lighting switch 2ND ON	HEAD LAIVIP SW 2	Lighting switch 2ND	ON

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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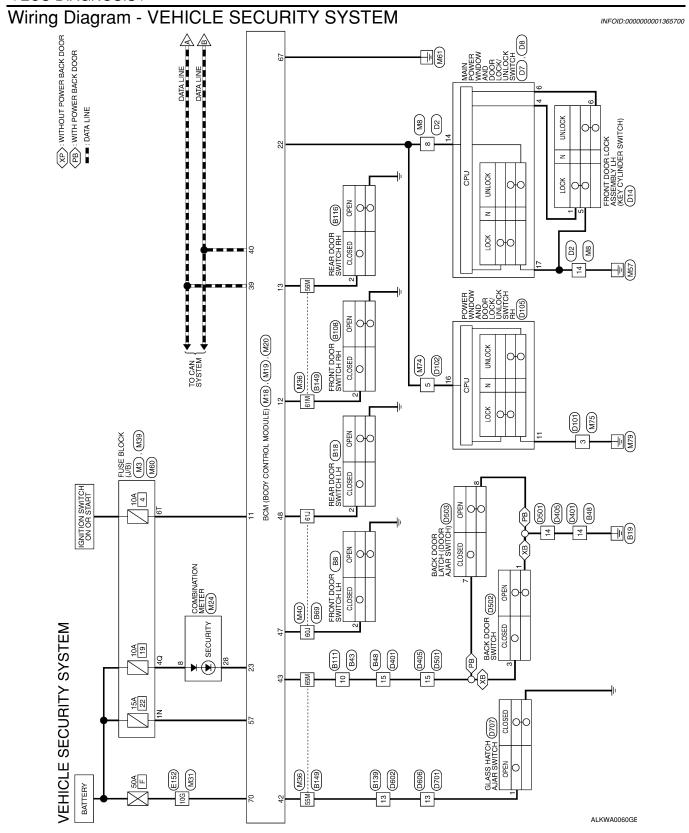
Monitor Item	Condition	Value/Status	_
LIL DE AM CVA	Lighting switch OFF	OFF	_
HI BEAM SW	Lighting switch HI	ON	_
IONI ONI CIM	Ignition switch OFF or ACC	OFF	_
IGN ON SW	Ignition switch ON	ON	_
IONI CIM CANI	Ignition switch OFF or ACC	OFF	_
IGN SW CAN	Ignition switch ON	ON	_
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	_
LKEVLOOK	LOCK button of Intelligent Key is not pressed	OFF	_
I-KEY LOCK	LOCK button of Intelligent Key is pressed	ON	_
LIZEVIJNI OOK	UNLOCK button of Intelligent Key is not pressed	OFF	=
I-KEY UNLOCK	UNLOCK button of Intelligent Key is pressed	ON	=
KEV ON OW	Mechanical key is removed from key cylinder	OFF	-
KEY ON SW	Mechanical key is inserted to key cylinder	ON	-
VEVI FOR LOOK	LOCK button of key fob is not pressed	OFF	-
KEYLESS LOCK	LOCK button of key fob is pressed	ON	_
VEVI EGG LINII GGV	UNLOCK button of key fob is not pressed	OFF	-
KEYLESS UNLOCK	UNLOCK button of key fob is pressed	ON	_
OIL PRESS SW	Ignition switch OFF or ACC Engine running	OFF	_
	Ignition switch ON	ON	=
PASSING SW	Other than lighting switch PASS	OFF	_
PASSING SW	Lighting switch PASS	ON	=
DUCLION	Return to ignition switch to LOCK position	OFF	=
PUSH SW	Press ignition switch	ON	=
DEAD DEE OW	Rear window defogger switch OFF	OFF	_
REAR DEF SW	Rear window defogger switch ON	ON	
RKE LOCK AND UN-	NOTE:	OFF	
LOCK	The item is indicated, but not monitored	ON	_
DD EOG SW	Rear fog lamp switch OFF	OFF	-
RR FOG SW	Rear fog lamp switch ON	ON	-
TAIL LAMD CW	Lighting switch OFF	OFF	_
TAIL LAMP SW	Lighting switch 1ST	ON	_
TUDNI CIONALI	Turn signal switch OFF	OFF	_
TURN SIGNAL L	Turn signal switch LH	ON	-
TUDNI CICNIAL D	Turn signal switch OFF	OFF	_
TURN SIGNAL R	Turn signal switch RH	ON	_
VEHICLE SPEED	While driving	Equivalent to speedometer reading	_

TERMINAL LAYOUT

Refer to DLK-126, "Reference Value".

PHYSICAL VALUES

Refer to <u>DLK-126</u>, "Reference Value".



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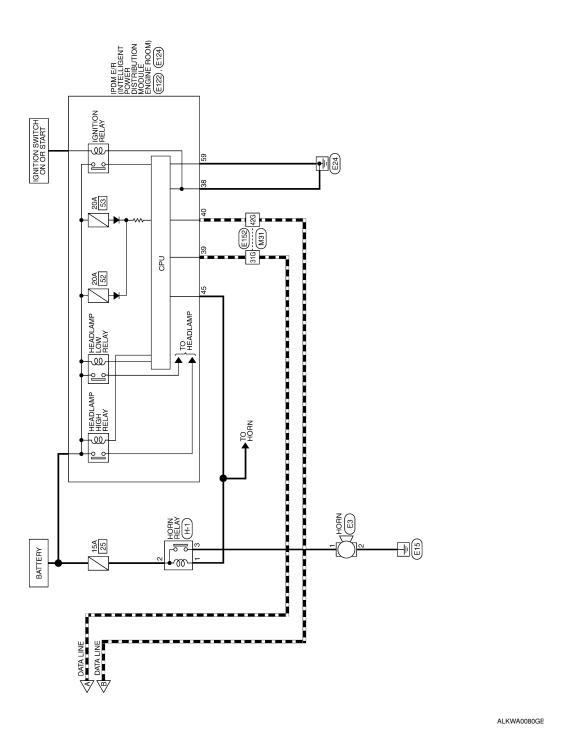
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SECURITY INDICATOR

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CAN-L

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DOOR_SW_RR

BUS

DR_SW_AS

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ACC SW

Signal Name

Color of wire

Terminal No.

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8 28

Connector Name BCM (BODY CONTROL MODULE)

M18

Connector No.

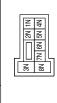
WHITE

Connector Color

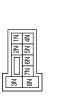
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VEHICLE SECURITY SYSTEM CONNECTORS

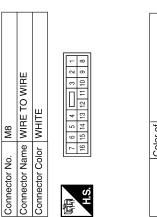
Connector No.	M3
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE











E

Signal Name

Color of Wire

Terminal No.

Signal Name	ı	1	
Color of Wire	N/M	В	
Terminal No.	8	14	

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

BCM (BODY CONTROL MODULE)

Connector Name Connector Color

M19

Connector No.

WHITE

Connector Name COMBINATION METER

Connector No.

Connector Color WHITE



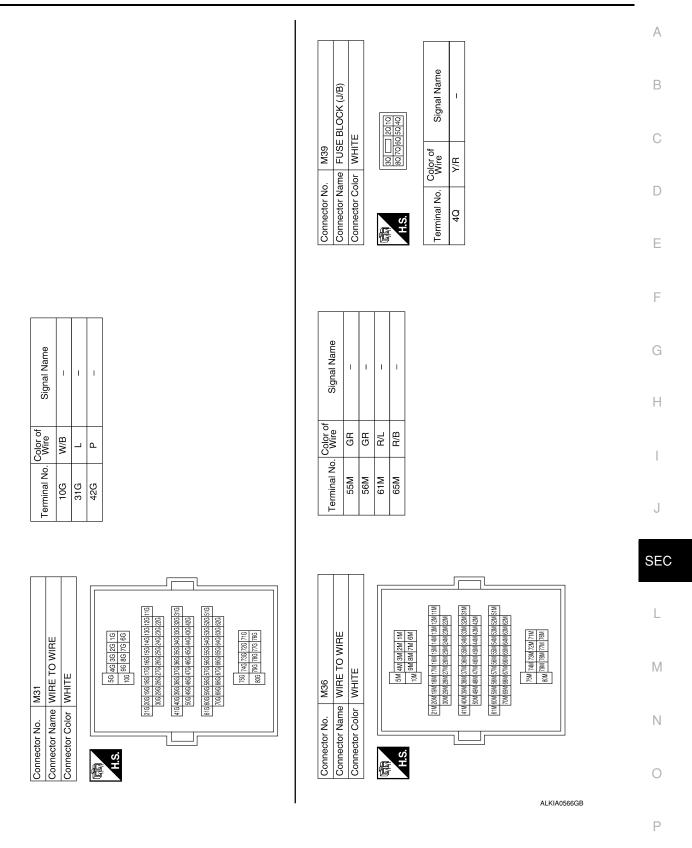
| 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 65 | 67 | 68 | 69 | 70 |

Signal Name	BAT	GND (POWER)	BATT (FL)
Color of Wire	Y/R	В	M/B
Terminal No.	22	29	20

Signal Name	BAT	GND (POWER)	BATT (FL)
Color of Wire	Y/R	В	M/B
Terminal No.	29	29	0/

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

ALKIA0565GB



BCM (BODY CONTROL MODULE)

Connector No. M60 Connector Name FUSE BLOCK (J/B) Connector Color WHITE Terminal No. Wire Signal Name 6T O -	Connector No. E3 Connector Name HORN Connector Color BLACK H.S. Terminal No. Wire Signal Name 1 B
Vo. Wire Signal Name SB - R/Y -	Connector No. M75 Connector Name WIRE TO WIRE Connector Color WHITE A.S. \$ 4 1 \qua
Terminal No. Terminal No.	Name
Connector No. M40 WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE St. 44 31 21 11 11 12 11 13 12 11 13 13	M74 Connector No. M74 Connector Name WIRE TO WIRE Connector Color WHITE MHTE MHTE

ALKIA0567GB

BCM (BODY CONTROL MODULE)

[WITH INTELLIGENT KEY SYSTEM]

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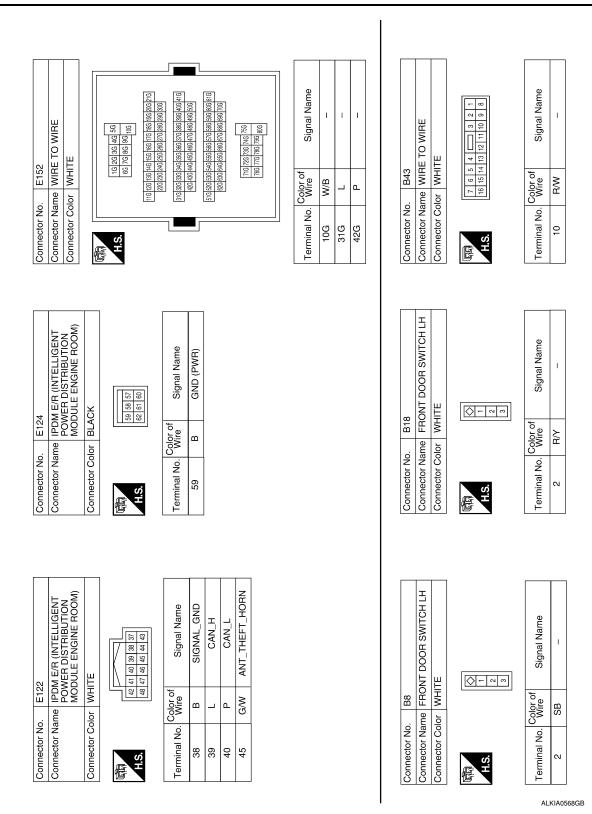
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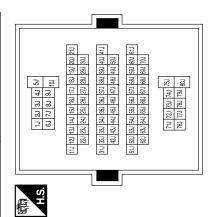
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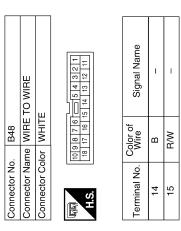


Signal Name	-	ı
Color of Wire	SB	R∕
Terminal No.	F09	61J

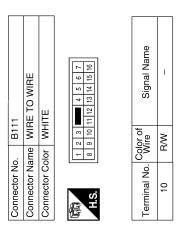
Connector No. B69
Connector Name WIRE TO WIRE

Connector Color WHITE





_			-		
16	REAR DOOR SWITCH RH	WHITE		Signal Name	I
B116	_e	-		Color of Wire	GR
Connector No.	Connector Name	Connector Color	H.S.	Terminal No. Wire	2



	_	_			
8	FRONT DOOR SWITCH RH	ITE		Signal Name	ı
. B108	me FR	lor WH		Color of Wire	R/L
Connector No.	Connector Name	Connector Color WHITE	励 H.S.	Terminal No.	2

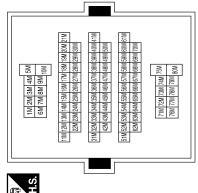
ALKIA0569GB

Signal Name	R/B –
-	R/B
Color Color Wire GR GR GR	
Color of Color of Wire	MS9

Connector Name WIRE TO WIRE

Connector No. B149

Connector Color WHITE



				lame	
39	WIRE TO WIRE	WHITE	8 9 10 11 12 13 14 15 16 7	Signal Name	1
. B139		lor WF	8 9 10	Color of Wire	GR
Connector No.	Connector Name	Connector Color	H.S.	Terminal No. Wire	13

Connector No.	D8	
Connector Name	e e	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color WHITE	olor WH	<u>I</u> E
H.S.		61 81
Terminal No. Wire	Color of Wire	Signal Name
17	В	GND

	Connector Name MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH	E	3 4 5 6 7 10 11 12 13 14 15 16	Signal Name	TOCK	UNLOCK	ANTI_PNCH_ SERIAL_LINK
. D7	me MAIN PO AND DOO SWITCH	lor WHIT	1 2 3 4 8 9 10 11	Color of Wire	٦	Œ	LG/W
Connector No.	Connector Na	Connector Color WHITE	管	 Terminal No.	4	9	14

No. D2	Connector Name WIRE TO WIRE	Connector Color WHITE	7 6 5 4 5 14 13 12 11 10 9 8	Color of Signal Name		ı ac
Connector No.	Connector N	Connector (H.S.	Terminal No. Wire	80	14

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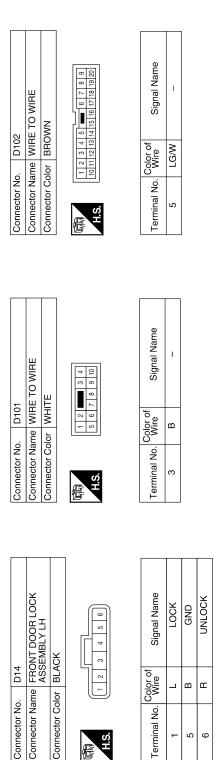
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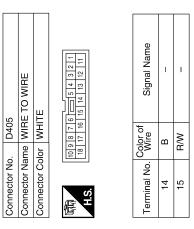
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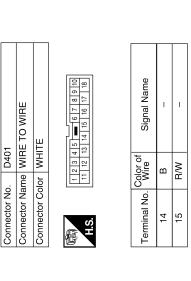
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D105

Connector No.

ALKIA0571GB

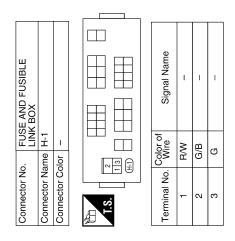
BCM (BODY CONTROL MODULE)

[WITH INTELLIGENT KEY SYSTEM]

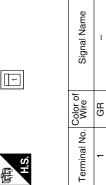
< ECU DIAGNOSIS >

					А
В ГАТСН	<u> </u>	Signal Name	1 E TO WIRE TE 11 12 13 14 15 16	Signal Name	В
D503 BACK DOO WHITE	1 4 5 6 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		D701 WIRE TO V WHITE	Color of GR GR	С
Connector No. D503 Connector Name BACK DOOR LATCH Connector Color WHITE		Terminal No. Color of Wire 7 R/W 8 B	ctor No.	Terminal No. WW W	D
Conne	H.S.	Temi	Conne	Term	Е
					F
SWITCH		Signal Name	7 0 0	Signal Name	G
D502 BACK DOOR SWITCH WHITE			Connector No. D606 Connector Name WIRE TO WIRE Connector Color WHITE		Н
		No. Color of Wire B B R/W	or No. D606 or Name WIRE T or Color WHITE	No. Color of GR	I
Connector No. Connector Name Connector Color	赋 H.S.	Terminal No.	Connector No. Connector Name Connector Color	Terminal No.	J
					SEC
	9 10	Signal Name - -	T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	L
D501 WIRE TO WIRE	13 14 15 16 17 8	Signal	TO WIR		M
Connector No. D501 Connector Name WIRE T Connector Color WHITE	1 2 3 4	Color of Wire B B R/W	r No. D602 rr Name WIRE rr Color WHIT	No. Color of GR Wire GR	N
Connector No. Connector Name Connector Color	H.S.	Terminal No. 14 15	Connector No. Connector Color Connector Color	Terminal No.	0
			1	ALKIA0684GB	

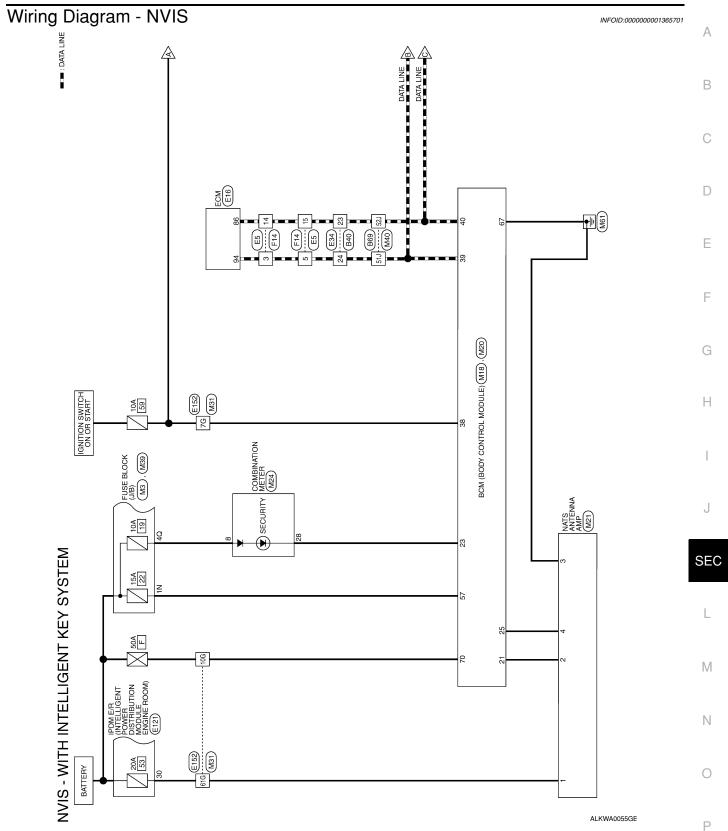
SEC-59



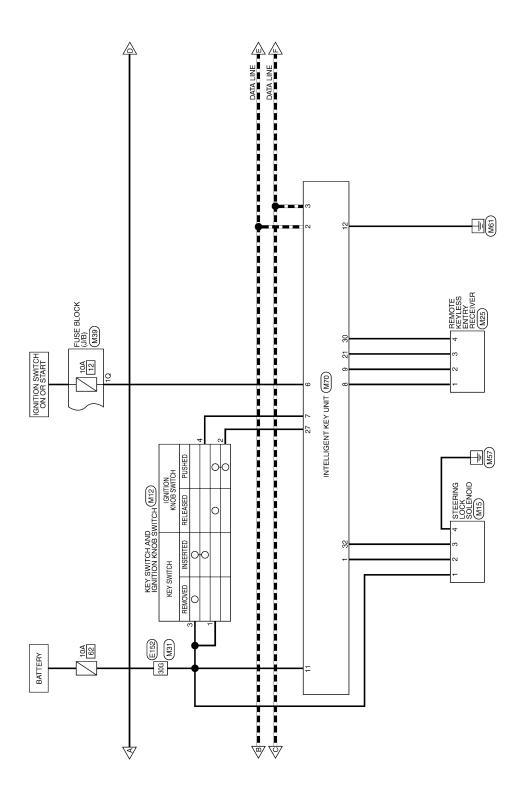
Connector No.	D707
Connector Name	Connector Name GLASS HATCH AJAR SWITCH
Connector Color BLACK	BLACK



ALKIA0685GB



■ : DATA LINE



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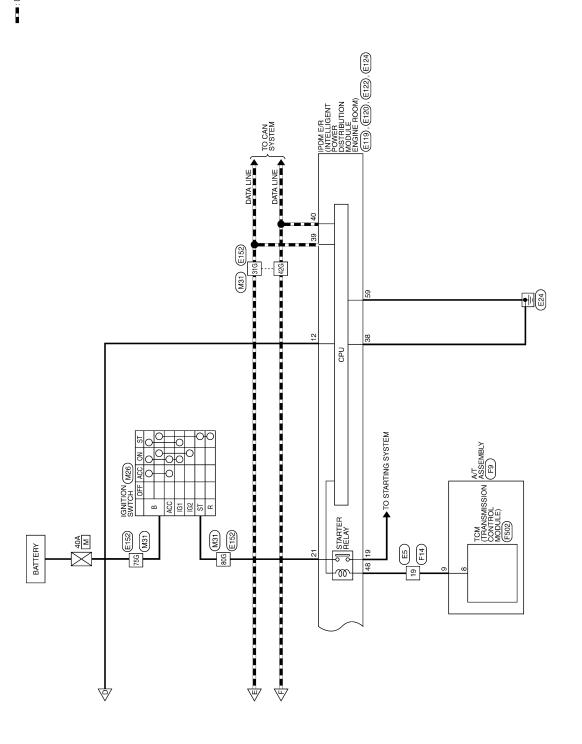
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ALKWA0057GE

SEC-63

Connector Name BCM (BODY CONTROL MODULE)

Connector No. M20

BLACK

Connector Color

GND (POWER)

BAT

Υ'n В

BATT (FL)

W/B

67 22

Signal Name

Color of Wire

Terminal No.

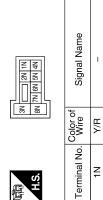
NVIS CONNECTORS - WITH INTELLIGENT KEY

M12	Connector Name KEY SWITCH AND	IGNITION KNOB SWITCH	GBAY
Connector No.	Connector Name		Connector Color GBA)
M3	Connector Name FUSE BLOCK (J/B)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	



GRAY

Color



	STEERING LOCK UNIT	TE		4	5	Signal Name	B+	5V_PWR	SIG	GND
. M15		lor WHITE				Color of Wire	G/Y	\sim	0/1	В
Connector No.	Connector Name	Connector Color		匠	H.S.	Terminal No.	-	2	8	4
	•	•	•		_		•	•	•	•

Signal Name	1	1	I	ı	
Color of Wire	Υ	B/B	Υ	B/R	
Terminal No. Wire	-	2	3	4	

Signal Name
Color of
Terminal No

Connector Name BCM (BODY CONTROL MODULE)

Connector No. M18

WHITE

Connector Color

F

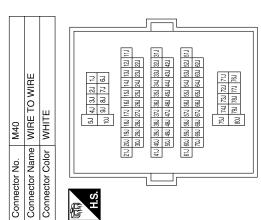
Terminal No.	Color of Wire	Signal Name
21	ŋ	IMMOBILIZER SCL
23	9/0	SECURITY IND_OUTPUT
25	BR	IMMOBILIZER SCI (RX,TX)
38	M/L	IGN
39	_	CAN-H
40	Д	CAN-L

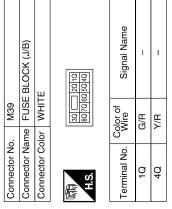
Signal Name	IMMOBILIZER SCL	SECURITY IND_OUTF	IMMOBILIZER SCI (RX,TX)	IGN	CAN-H	CAN-L
Color of Wire	9	G/O	BR	M/L	_	۵
Terminal No.	21	23	25	38	39	40
		•				

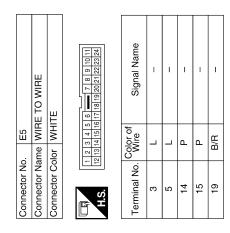
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M25 REMOTE KEYLESS ENTRY RECIEVER BLACK	14	Signal Name	GND	SIG	50		Signal Name	1	1	ı	I	1	1	I	1		E
	1 2 3	Color of wire	9 g	BW GH	G/B	olor of	wire	M/L	W/B	- .		L	> (5	BB B		(
Connector No. Connector Name Connector Color	Ø	Terminal No.	- 0	N 60) 4		ė Š	7.6	10G	306	316	2 4 2	5 6	750	900		
Conr	H.S.	Term					Lem										E
	F	22 21															F
AETER		27 26 25 24 23 2	Name										126 116	3 22 G	9 22G 31G 9 42G 8 52G 51G 162G		(
Connector No. M24 Connector Name COMBINATION METER Connector Color WHITE		11 10 9 8 31 30 29 28	Signal Name				WIRE TO WIRE	ш			56 46 36 26 16	20 20 20 20 20 20 20 20 20 20 20 20 20 2	216 206 196 196 176 166 156 146 136 126 116	30G 29G 28G 27G 26G 25G 24G 23G 22G	1021 1022 1023 1024 1024 1024 1024 1024 1024 1024 1025	736 746 776 776 776 776 776 776 776 776 77	ı
Vo. M24 Vame COMBI		16 15 14 13 12 36 35 34 33 32	Color of wire		G/O	M31		Solor WHITE	-		47		21G 20G 19G 18	306 296 28	410 400 390 38 500 495 48 610 600 590 58 700 699 68	8 8	
Connector No. Connector Color		20 19 18 17 1 40 39 38 37 3	Terminal No.	80	28	Connector No.	Connector Name	Connector Color		E	H.S.						
									_								S
Connector No. M21 Connector Name NATS ANTENNA AMP Connector Color WHITE	—	Signal Name	VB (12V)	GND	RX, TX		IGNITION SWITCH					1		Signal Name			1
M21 ne NATS A or WHITE	1 2 3	Color of wire	× ©	5 M	BB	M26	e	or WHITE		TO a	R ACC IGS			Color of wire	B BB		
Connector No. M21 Connector Name NATS A Connector Color WHITE	H.S.	al No.	1 0	ı e	4	Connector No.	Connector Name	Connector Color		Œ.	H.S.			Terminal No.			(
<u> </u>		[<u> </u>					<u> </u> ŏ	၂ၓ	J [L	<u> </u>		ALKIA0555GB	,

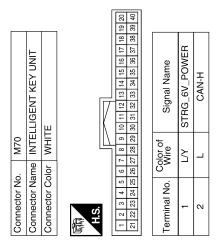
Signal Name	I	-
Color of Wire	٦	Ь
Terminal No.	51J	52J







3 P CAN-L 6 G/R IGN_SW_INPUT 7 B/R KEY_SW_INPUT 8 G RF_TUNER_GND 9 GR RF_TUNER_GND 11 Y BAT 12 B GND 21 B/W RF_TUNER_RSSI 27 R/B PUSH_SW_INPUT 30 G/B RF_TUNER_SSI 32 L/O STRG_LOCK_SIG	Terminal No.	Color of Wire	Signal Name
G/R B/R CGR CGR CGR WW B/W B/W CG/B	8	Ь	CAN-L
B/R GR GR BW	9	G/R	IGN_SW_INPUT
G GR GR W Y Y N R BW	7	B/R	KEY_SW_INPUT
GR	8	g	RF_TUNER_GND
Y B B W Y B/B L/O	6	GR	RF_TUNER_SIG
B/W B/B G/B	11	Υ	BAT
B/W B/B G/B	12	В	GND
R/B G/B	21	B/W	RF_TUNER_RSSI
G/B L/O	27	R/B	PUSH_SW_INPUT
0/1	30	G/B	RF_TUNER_5V_OUT
	32	0/7	STRG_LOCK_SIG



ALKIA0556GB

BCM (BODY CONTROL MODULE)

[WITH INTELLIGENT KEY SYSTEM]

CAN-H

CAN-L INHIBIT

P R

39 49 48

Signal Name GND (SIG)

Color of Wire

Terminal No.

В

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Signal Name
HEAD_L_LEVELIZER

Color of Wire W

Terminal No.

< ECU DIAGNOSIS >

Connector No. E119	Connector Name IPDM E/R (INTELLIGENT	MODULE ENGINE ROOM)	Connector Color WHITE	(明朝) (9 8 7 6 <u> </u>	Terminal No. Wire Signal Name	12 L/W IGN SW (IG)	
	WIRE		-	17 16 15 14 13 12	Signal Name	1	
Connector No. E34	Connector Name WIRE TO WIRE	Connector Color WHITE		24 23 22 21 20 19 18 17 16 15 14 13 12	Ferminal No. Wire Signal Name	- П	

114 115 116

Signal Name

Color of Wire

Terminal No. 86 94

CAN-L

Connector No. E16
Connector Name ECM
Connector Color BLACK

Ō	Connector No. E121	E121	Connector No. E122	E122
Ő	nnector Name	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Name	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Ö	onnector Color BROWN	BROWN	Connector Color WHITE	WHITE
E T	Ś	29 28 (CCC) 27 26 25 36 35 34 33 32 31 30	顾 H.S.	42 41 40 39 38 37 48 47 46 45 44 43

ir No. E120	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Color WHITE	21 20 19 24 23 22	No. Wire Signal Name	W/R ST	BD ION SW (CT)
Connector No.	Connector Na	Connector Col	际 H.S.	Terminal No. Wire	19	21

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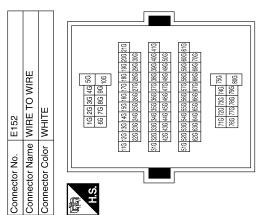
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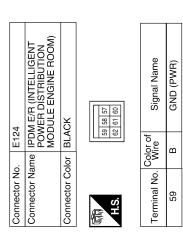
START-RLY

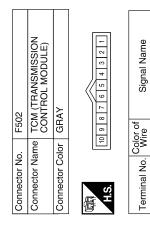
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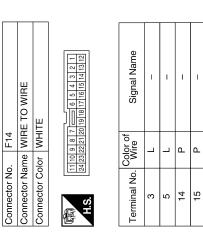
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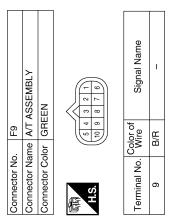
Signal Name	ı	ı	ı	_	-	_	ı	_
	M/L	W/B	\	Г	Ь	Μ	g	BR
Terminal No.	76	10G	30G	31G	42G	61G	75G	80G











ALKIA0558GB

B/R

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BCM (BODY CONTROL MODULE)

[WITH INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

Signal Name	1	-	
Color of Wire	7	Ь	
Terminal No.	51J	52J	

Connector No. Connector Name Connector Color H.S.

Connector No.). B40	
Connector Name WIRE TO WIRE	ıme WIRE	TO WIRE
Connector Color WHITE	lor WHITI	111
(所) H.S.	12 3 4 5 6 12 13 14 15 16 17	1 2 3 4 5 6 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Terminal No.	Color of Wire	Signal Name
23	Ь	1
24	٦	I

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ALKIA0559GB

Fail Safe

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

DTC Inspection Priority Chart

INFOID:0000000001365703

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN) B2552: INTELLIGENT KEY
2	B2013: STRG COMM 1 B2590: NATS MALFUNCTION

DTC Index

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1
 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter
 remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch
 OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Detection condition	Fail-safe	Diagnosis
No DTC is detected. further testing may be required.	_	_	_
U1000: CAN COMM CIRCUIT	Intelligent Key unit cannot receive CAN communication signal continuously for 2 seconds or more.		Check CAN communication system. Refer to SEC-24
U1010: CONTROL UNIT (CAN)	Intelligent Key unit detects internal CAN communication circuit malfunction.	_	Replace Intelligent Key unit.
B2013: STRG COMM 1	The ID verification result between Intelligent key unit and steering lock solenoid are NG. Or Intelligent Key unit cannot communicate with steering lock solenoid.	×	Perform steering lock unit ID registration with CONSULT-III
B2552: INTELLIGENT KEY	Intelligent Key unit internal malfunction.	×	Replace Intelligent Key unit.
B2590: NATS MALFUNCTION	The ID verification result between Intelligent key unit and BCM are NG. Or Intelligent Key unit cannot communicate with BCM.	×	Check NATS Refer to SEC-38

[WITH INTELLIGENT KEY SYSTEM]

INTELLIGENT KEY UNIT

Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item		Condition	Value/Status
DUCH CW	Ignition knob	Release	OFF
PUSH SW	Ignition knob	Press	ON
KEN ON CM	Machaniaal kay	Removed	OFF
KEY ON SW	Y ON SW Mechanical key		ON
DD DEO CW	Door request switch	Release	OFF
DR REQ SW	(driver)	Press	ON
AS DEO SW	Door request switch	Release	OFF
AS REQ SW	(passenger)	Press	ON
PD/TD DEO SW	Door request switch	Release	OFF
BD/TR REQ SW	(back door)	Press	ON
IGN SW	lamition quitab	Other than ON position	OFF
IGN 5W	Ignition switch	ON position	ON
ACC SW	lanition quitob	Other than ACC or ON position	OFF
ACC SVV	Ignition switch	ACC or ON position	ON
OTOD LAND OW	Duelse e edel	Press	OFF
STOP LAMP SW	Brake pedal	Release	ON
DOOD LOOK SIC	Lock button of	Release	OFF
DOOR LOCK SIG	Intelligent Key	Press	ON
	Unlock button of	Release	OFF
DOOR UNLOCK SIG	Intelligent Key	Press	ON
DOOD OW DD	Dear (driver side)	Close	OFF
DOOR SW DR	Door (driver side)	Open	ON
DOOR SW AS Door (passenger side)	Close	OFF	
DOOR SW AS	Door (passenger side)	Open	ON
DOOR SW RR	Deer (reer DII)	Close	OFF
DOOR SW RR	Door (rear RH)	Open	ON
	Door (roor LH)	Close	OFF
DOOR SW RL	Door (rear LH)	Open	ON
OOOD DK SW	Pack door	Close	OFF
DOOR BK SW	Back door	Open	ON
VEHICLE SPEED	While driving		Equivalent to speedometer reading

TERMINAL LAYOUT

Refer to <u>DLK-139</u>. "Reference Value - Intelligent Key Unit".

PHYSICAL VALUES

Refer to <u>DLK-139</u>, "Reference Value - Intelligent Key Unit".

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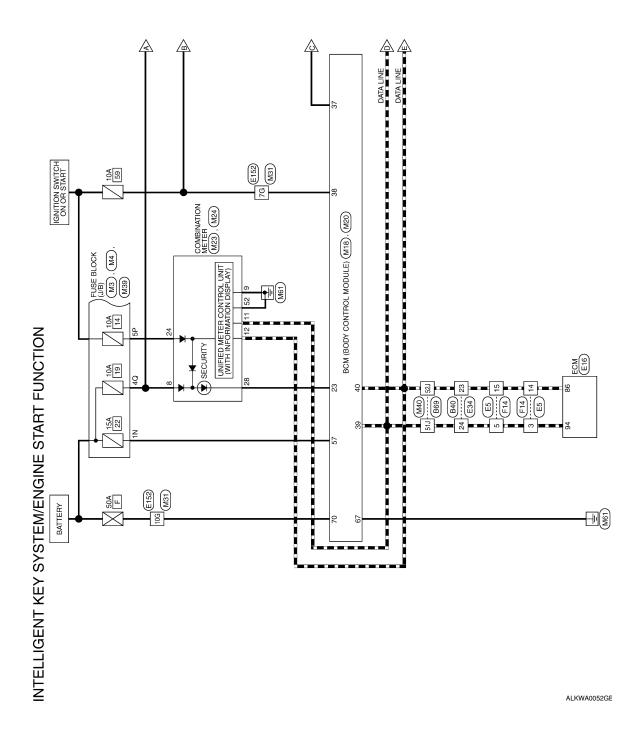
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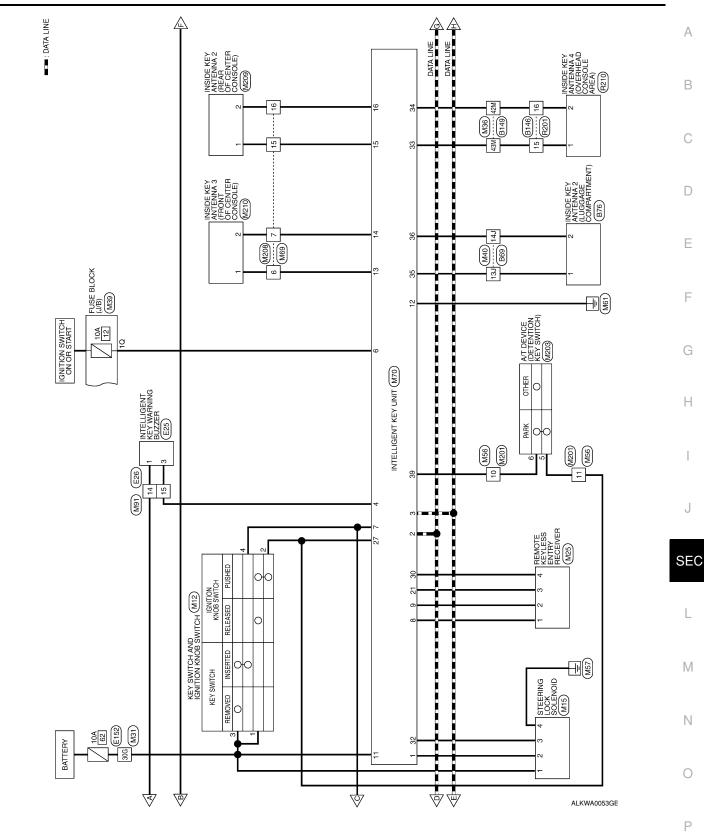
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Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -

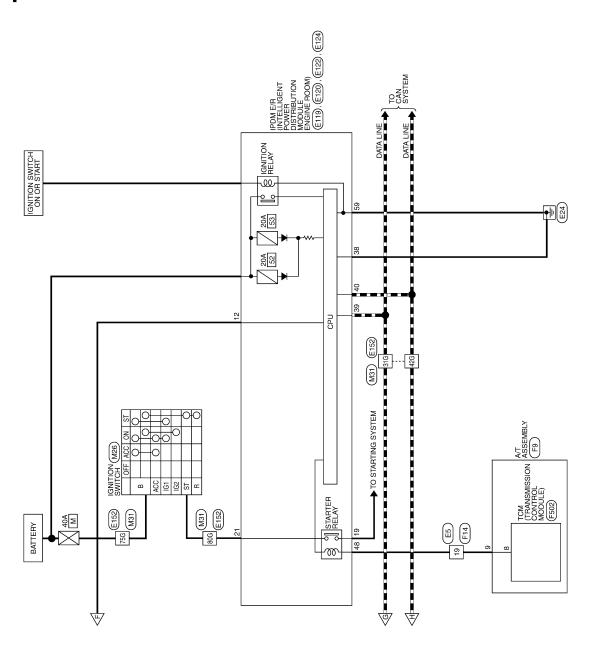
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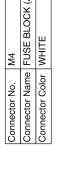


---: DATA LINE



ALKWA0054GE

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS





Color of Wire	7/O	
Terminal No.	5P	

Signal Name

Color of Wire Y/R

Terminal No.

₽

6,7		
Color of Wire	J/O	
Terminal No.	4S	

Signal Name	1	
Color of Wire	J/O	
minal No.	5P	

Signal Name

Color of Wire

Terminal No.

R/B

N က

-	
B/R	
4	

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

65 66 67 68 69 70	Signal Name	BAT	GND (POWEF	BATT (FL)
56571	Color of Wire	Y/R	В	W/B
原和 H.S.	Terminal No.	22	29	20

Connoctor No	r	M		
	7	2		
Connector Name		BCM	BCM (BODY CONTROL MODULE)	
Connector Color	-	WHITE	11	
H.S.		<u> </u>		
1 2 3 4 5 21 22 23 24 25	6 7 26 27	8 88	10 11 12 13 14 15 16 17 18 19 30 31 32 33 34 35 36 37 38 39	8 6
Terminal No.	Color of Wire	g e	Signal Name	
23	0/9		SECURITY IND OUTPUT	
37	B/R	_	KEY_SW	
38	W/L		IGN	
68	٦		CAN-H	
40	Ь		I-NAC	

Connector No.	M15
Connector Name	Connector Name STEERING LOCK SOLENOID
Connector Color WHITE	WHITE
H.S.	1 2 3 4



Signal Name	B+	5V_PWR	SIG	GND	
Color of Wire	G/Y	5	9	В	
Ferminal No.	-	2	က	4	

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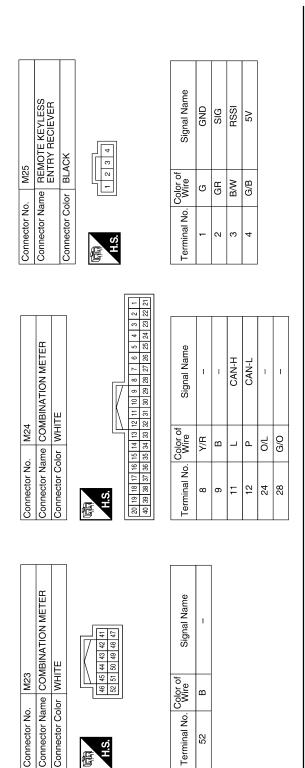
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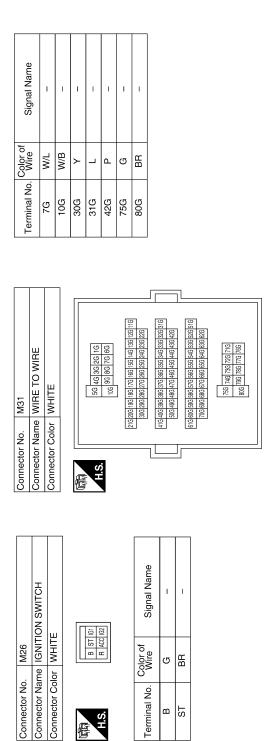
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		А
OCK (J/B) Signal Name	WIRE	В
M39	M56 WIRE TO W WHITE Or of 10 11 12 13 1.1 RR //R	С
Olor CO CO		D
Connector N. Connector Connector O. Connector O. Terminal No. 10 40	Connector No Connector No Connector No Connector No Connector Connector Connector No Terminal No.	Е
		F
Signal Name	Signal Name	G
		Н
Mire Wire	No. Color of Mire of Part of P	
42M 43M 43M	7 Terminal No. 13J 14J 55J 52J	J
		SEC
M CZW W M CZW	10 mm	L
M36	M40 WIRE TO WIRE St 40 30 120 141 St 50 30	M
ctor Nar	ctor No.	N
Conne Conne Conne H.S.		0
'	ALKIA0544GB	

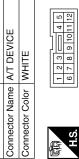
Signal Name	RF_TUNER_SIG	BAT	GND	RM_ANT_FR_CNSL+	RM_ANT_FR_CNSL-	RM_ANT_RR_CNSL+	RM_ANT_RR_CNSL-	RF_TUNER_RSSI	PUSH_SW_INPUT	RF_TUNER_5V_OUT	STRG_LOCK_SIG	RM_ANT_O/H_CNSL+	RM_ANT_O/H_CNSL-	RM_ANT_LUGGAGE+	RM_ANT_LUGGAGE-	P_RANGE_SW
Color of Wire	GR	\	В	B/W	W/G	G	Γ	B/W	B/B	G/B	9	Α	BR	0	щ	L/R
Terminal No.	6	11	12	13	14	15	16	21	27	30	32	33	34	35	36	39

Signal Name	RF_TUNER_SIG	BAT	GND	RM_ANT_FR_CNSL+	RM_ANT_FR_CNSL-	HM_ANT_RR_CNSL+	RM_ANT_RR_CNSL-	RF_TUNER_RSSI	TU9NI_WS_HSU9	RF_TUNER_5V_OUT	STRG_LOCK_SIG	RM_ANT_O/H_CNSL+	-BM_ANT_O/H_CNSL	RM_ANT_LUGGAGE+	RM_ANT_LUGGAGE-	P_RANGE_SW
Color of Wire	GR	>	В	B/W	W/G	9	٦	B/W	B/B	G/B	0/1	Λ	НB	0	В	Ľ
Terminal No.	6	11	12	13	14	15	16	21	27	30	32	33	34	35	36	39

Signal Name	RF_TUNER_SIG	BAT	GND	RM_ANT_FR_CNSL+	RM_ANT_FR_CNSL-	RM_ANT_RR_CNSL+	RM_ANT_RR_CNSL-	RF_TUNER_RSSI	PUSH_SW_INPUT	RF_TUNER_5V_OUT	STRG_LOCK_SIG	RM_ANT_O/H_CNSL+	RM_ANT_O/H_CNSL-	RM_ANT_LUGGAGE+	RM_ANT_LUGGAGE-	P_RANGE_SW	
Wire	GR	٨	В	B/W	W/G	G		B/W	B/B	G/B	0/1	M	BR	0	В	L/R	
Terminal No.	6	11	12	13	14	15	16	21	27	30	32	33	34	35	36	39	

l

Connector No. M203





Signal Name	-	1
Color of Wire	B/B	L/R
Terminal No.	2	9

Connector No.	M70
Connector Name	Connector Name INTELLIGENT KEY UNIT
Connector Color WHITE	WHITE



Signal Name	STRG_6V_POWER	CAN-H	CAN-L	OUTSIDE_BUZZER_ OUT	IGN_SW_INPUT	KEY_SW_INPUT	RF_TUNER_GND
Color of Wire	Š	_	۵	GR	G/R	B/R	g
Terminal No.	1	2	ဗ	4	9	2	8

Connector No. M201	Sonnector Name WIRE TO WIRE	Sonnector Color WHITE		7 6 5 4 3 2 1	
Connec	Connec	Connec	4	F	



Signal Name	_	I
Color of Wire	L/R	B/B
Terminal No.	10	11

Connector No.	M69
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color	BROWN
	9 8 7 6 5 4 3 2 1 20 9 8 7 6 5 4 3 2 1 10

Connector No.

Signal Name	ı	I	Í	-
Color of Wire	B/W	M/G	g	Г
Terminal No.	9	7	15	16

M91	WIRE TO WIRE	WHITE	7 6 5 4 6 5 7 1 1 10 9 8
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	7 6 7 6 H.S.

4 3 2 1	16 15 14 13 12 11 10 9 8	Signal Name	_	-
7 6 5 4	16 15 14 1	Color of Wire	Y/R	GR
THE STATE OF THE S	SI	Terminal No.	14	15

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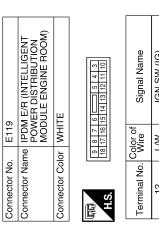
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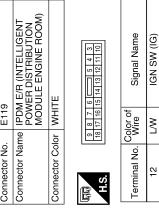
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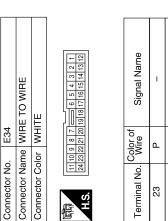
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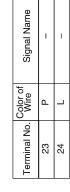
Connector No	MOOR	C	Connector No M209	Coppector No M210
Connector Name WIRE TO WIBE	ame WIRE	F TO WIRE	٩	٩
Connector Color	olor BROWN	I NW	(REAR OF CENTER CONSOLE)	(FRONT OF CENTER CONSOLE)
			Connector Color WHITE	Connector Color WHITE
ý	10 11 12 13 1	1 2 3 4 5	原本 H.S.	H.S.
Terminal No.	Color of Wire	Signal Name	Terminal No. Wire Signal Name	Terminal No. Wire Signal Name
9	B/W	ı	2	1 B/W -
7	M/G	1	2 L –	2 W/G -
15	ŋ	ı		
16	7	1		
Connector No.	o. E5		Connector No. E16	Connector No. E25
Connector Name WIRE TO WIRE	ame WIRE	E TO WIRE	Connector Name ECM	Connector Name INTELLIGENT KEY
Connector Color	olor WHITE		Connector Color BLACK	Connector Color BROWN
				-
H.S.	12 13 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	1 2 8 4 5 6	H.S. (106 107/108/108/11/11/11/2/113	H.S.
				30 000
Terminal No.	. Wire	Signal Name	Terminal No. Wire Signal Name	Terminal No. Wire Signal Name
က	٦	1	86 P CAN-L	1 R/Y –
2	7	ı	94 L CAN-H	3 GR –
14	Ь	ı		
15	Д	1		
19	B/B	1		

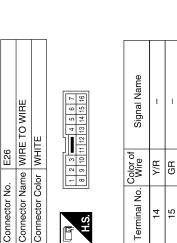


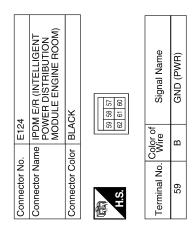


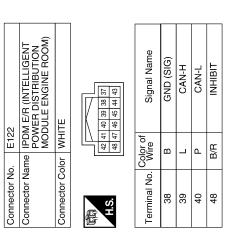


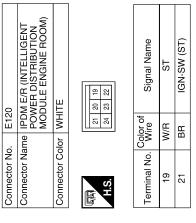
E34







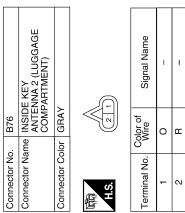




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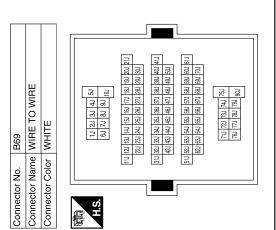
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	SSEMBLY	z			3 2 1	8 7 6		i	Signal Name		TO WIRE	ш	6	Signal Name		I						С
lo. F9	Connector Name A/T ASSEMBLY	color GREEN		(5 4	6 9		Color of	. Wire B/R		lo. B40 lame WIRE	olor WHITE	1 2 3 4 5 6 TO 7 8 12 13 14 15 16 17 18 19 20 21	Color of Wire	Ь	7						D
Connector No.	Connector N	Connector Color) I				l erminal No.		Connector No. B40 Connector Name WIRE TO WIRE	Connector Color	H.S.	Terminal No.	23	24						Е
																						F
Signal Name	מווס		1	ı		ı					SSION	JOLE)		Signal Name	r-RLY							G
S	מ מ										F502 TCM (TRANSMISSION	NI ROL MOL	6 5 4	Signal	START-RLY							Н
Color of	D	M/L	M/B	>	_	Д	g	BR					10 9 8 7 6	Color of Wire	ŋ							I
Terminal No		76	10G	30G	31G	42G	75G	80G			Connector No.	Connector Color	H.S.	Terminal No.	80							J
			_																	ĺ		SE
	IRE				26	100	2189 109 201	226 236 246 256 266 276 286 296 306	0.002 0.002 0.003 0.00	756	WIRE		5 4 3 2 1 16 15 14 13 12	Signal Name	1	_	1	I	1			L
E152	Connector Name WIRE TO WIRE	VHITE			16 26 36 46	66 7G 8G 9G _{10G}	110 110 110 110 110	236 246 256 266 27	33G 34G 35G 36G 37 43G 44G 45G 46G 47 53G 54G 55G 56G 57 63G 64G 55G 66G 57	71G 72G 73G 74G 75G 76G 77G 78G 73G 80G	F14 WIRE TO WIRE	WHITE	11 10 9 8 7 6 5 4 3 2 2 24 23 22 21 20 19 18 17 16 15 14 13						æ			M
	r Name V	Connector Color WHITE					201 211	226	316,326		-	Connector Color	11 10 9 24 23 23	Color of Wire			Ь	Ь	B/R			Ν
Connector No.	Connecto	Connecto		E	J I						Connector No.	Connect	品.S.	Terminal No.	8	5	14	15	19			0

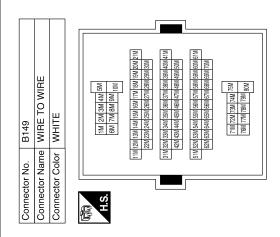


<u></u>	Signal Name	I	ı
2	Color of Wire	0	ш
H.S.	Terminal No.	-	2

Signal Name	_	1	-	-	
Color of Wire	0	Ж	Г	Ь	
Terminal No.	13J	147	51J	52J	



Signal Name	1	I	
Color of Wire	BR	>	
Terminal No.	42M	43M	
			ı

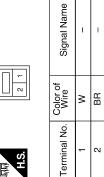


Connector No.	Ġ	B146	
Connector Name	ame	WIRE	WIRE TO WIRE
Connector Color	olor	BROWN	NN
	2 3	1 2 3 4 5 6 12 13 14 15 16 17	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Terminal No.	გ>	Color of Wire	Signal Name
15		8	ı
16		BR	1

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Connector No. R210	ctor Color WHITE	
		Connector Color WHITE







Connector No.		R201	
Connector Name	ıme	WIRE	WIRE TO WIRE
Connector Color	olor	BROWN	N,
H.S.	10 9	24 23 22 21 20 19	11 10 9 8 7 == 6 5 4 3 2 1 24 22 22 21 20 19 16 17 16 15 14 13 12
Terminal No.	W Co	Color of Wire	Signal Name
15		>	ı
16		aa	

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Fail Safe

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

DTC Inspection Priority Chart

INFOID:0000000001370535

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN) B2552: INTELLIGENT KEY
2	B2013: STRG COMM 1 B2590: NATS MALFUNCTION

DTC Index

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1
 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter
 remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch
 OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Detection condition	Fail-safe	Diagnosis
No DTC is detected. further testing may be required.	_	_	_
U1000: CAN COMM CIRCUIT	Intelligent Key unit cannot receive CAN communication signal continuously for 2 seconds or more.	_	Check CAN communication system. Refer to SEC-24
U1010: CONTROL UNIT (CAN)	Intelligent Key unit detects internal CAN communication circuit malfunction.	_	Replace Intelligent Key unit.
B2013: STRG COMM 1	The ID verification result between Intelligent key unit and steering lock solenoid are NG. Or Intelligent Key unit cannot communicate with steering lock solenoid.	×	Perform steering lock unit ID registration with CONSULT-III
B2552: INTELLIGENT KEY	Intelligent Key unit internal malfunction.	×	Replace Intelligent Key unit.
B2590: NATS MALFUNCTION	The ID verification result between Intelligent key unit and BCM are NG. Or Intelligent Key unit cannot communicate with BCM.	×	Check NATS Refer to SEC-38

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

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE Α ROOM) Reference Value INFOID:0000000001365705 В VALUES ON THE DIAGNOSIS TOOL Refer to IPDM E/R ECU Function. C TERMINAL LAYOUT Refer to IPDM E/R ECU Function. Fail Safe D INFOID:0000000001365709 Refer to PCS SECTION. Е DTC Index INFOID:0000000001365710 Refer to PCS section. G Н **SEC** M

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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:0000000001365711

NOTE:

- Before performing the diagnosis in the following table, check "SEC-4, "Work Flow"".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.
- Engine cranking is enabled when the shift lever is in the "Park" position, and in the "Neutral" position only if the brake pedal is depressed.
- If the following symptoms are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

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

Symptom		Diagnosis/service procedure	Reference page
Ignition switch does not turn on with Intelligent Key.	1.	Check steering lock solenoid.	SEC-26
[LCD displays "KEY DETECTED"]	2.	Replace Intelligent Key unit.	SEC-91
	1.	Check Intelligent Key unit power supply and ground circuit.	DLK-55
	2.	Check ignition knob switch.	DLK-100
Ignition switch does not turn on with Intelligent Key. [LCD does not display "KEY DETECTED"]	3.	Check key switch (BCM input).	DLK-99
[LOD GOOD HOL GLOPLAY THE FEET LOT LED]	4.	Check steering lock solenoid. Replace Intelligent Key unit. Check Intelligent Key unit power supply and ground circuit. Check ignition knob switch. Check key switch (BCM input). Check key switch (Intelligent Key unit input). Replace Intelligent Key unit. Check inside key antenna 1 (rear of center console). Check inside key antenna 2 (luggage compartment). Check inside key antenna 3 (front of center console). Check inside key antenna 4 (overhead console area). Replace Intelligent Key unit. Check key switch (BCM input). Check key switch (BCM input).	DLK-97
	on with Intelligent Key. DETECTED"] 3. Check key switch (BCM input). 4. Check key switch (Intelligent Key unit input). 5. Replace Intelligent Key unit. 1a. Check inside key antenna 1 (rear of center console). 1b. Check inside key antenna 2 (luggage compartment). 1c. Check inside key antenna 3 (front of center console). 1d. Check inside key antenna 4 (overhead console area).	SEC-91	
	1a.	Check inside key antenna 1 (rear of center console).	DLK-47
	1b.	Check inside key antenna 2 (luggage compartment).	DLK-49
Ignition switch does not turn on with Intelligent Key. [LCD displays " NO KEY DETECTED"]	1c.	Check inside key antenna 3 (front of center console).	DLK-51
[LOS displaye THE TELL SELECTES]	1d.	Check inside key antenna 4 (overhead console area).	DLK-53
	2.	Check steering lock solenoid. Replace Intelligent Key unit. Check Intelligent Key unit power supply and ground circuit. Check ignition knob switch. Check key switch (BCM input). Check key switch (Intelligent Key unit input). Replace Intelligent Key unit. Check inside key antenna 1 (rear of center console). Check inside key antenna 2 (luggage compartment). Check inside key antenna 3 (front of center console). Check inside key antenna 4 (overhead console area). Replace Intelligent Key unit. Check key switch (BCM input). Check key switch (Intelligent Key unit input). Check key switch (Intelligent Key unit input).	SEC-91
lenition suitab dans not turn on with most pricelles.	1.	Check key switch (BCM input).	DLK-99
Ignition switch does not turn on with mechanical key	2.	Check key switch (Intelligent Key unit input).	DLK-97
Engine cannot be cranked with transmission in "Park"	1.	Check transmission signal.	<u>TM-44</u>
or in "Neutral" position with brake pedal depressed	2.	Check stop lamp switch.	EXL-72

VEHICLE SECURITY SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

Procedure Symptom		dure	Diagnostic procedure	Refer to page
		tom	- Diagnostic procedure	Helel to page
		Door switch	Check door switch (LF, RF, LR, RR, back)	<u>DLK-57</u>
	Vehicle security sys-	Glass ajar switch	Check glass ajar switch	<u>DLK-111</u>
	tem cannot be set by	Intelligent Key	Check Intelligent Key system	DLK-8
1		Key cylinder switch	Check key cylinder switch	<u>DLK-64</u>
		_	Check Intermittent Incident	<u>GI-39</u>
	Security indicator does not turn ON.		Check vehicle security indicator	SEC-46
			Check Intermittent Incident	<u>GI-39</u>
2	* Vehicle security system does not sound alarm when ····	Any door is opened.	Check door switch (LF, RF, LR, RR, back)	<u>DLK-57</u>
		Glass ajar switch	Check glass ajar switch	<u>DLK-111</u>
		_	Check Intermittent Incident	<u>GI-39</u>
	Vehicle security		Check horn switch	_
3	alarm does not acti- vate.	Horn alarm	Check Intermittent Incident	<u>GI-39</u>
	Vehicle security system cannot be canceled by	Intelligent Key	Check Intelligent Key system	DLK-8
4		Key cylinder switch	Check key cylinder switch	DLK-64
		_	Check Intermittent Incident	<u>GI-39</u>

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

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

NOTE:

- Before performing the diagnosis in the following table, check "SEC-4. "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-46</u>
Security indicator does not turn on or hash.	2. Check Intermittent Incident	<u>GI-39</u>

ON-VEHICLE MAINTENANCE

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. 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-175, "Symptom Table"</u>.

2.CHECK ENGINE STARTING

1. Checks that the engine starts when operating the Intelligent Key.

Does the engine start?

YES >> GO TO 3.

NO >> Refer to <u>SEC-86</u>, "Symptom Table".

3. CHECK STEERING LOCKING

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

If door switch is malfunctioning, BCM cannot lock the steering. If BCM does not detect DTC, steering lock unit is normal.

Does steering lock?

YES >> GO TO 4.

NO >> Refer to DLK-83, "Diagnosis Procedure".

4. CHECK POWER SUPPLY INDICATOR SWITCHING

1. Press push-button ignition switch and position indicator will switch from LOCK, ACC to ON gradually when steering is locked. Checks that the position indicator is illuminated at different positions of the circuit.

Is each position indicator illuminating?

YES >> GO TO 5.

NO >> Refer to SEC-43, "Ignition Knob Switch Check".

5. CHECK VEHICLE SECURITY SYSTEM

1. Check the vehicle security system for normal operation.

The vehicle security function can operate only when the door lock and power distribution functions are operating normally.

Therefore, it is easy to identify any factor unique to the vehicle security by performing the vehicle security operation check after this basic inspection.

>> Go to SEC-89, "Vehicle Security Operation Check".

Vehicle Security Operation Check

INFOID:0000000001278360

1.INSPECTION START

Turn ignition switch "OFF".

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PRE-INSPECTION FOR DIAGNOSTIC

< ON-VEHICLE MAINTENANCE >

[WITH INTELLIGENT KEY SYSTEM]

Before starting operation check, open front windows.

>> GO TO 2.

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.

OK >> GO TO 3.

NG >> Perform diagnosis and repair. Refer to <u>SEC-46, "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 SEC-86, "Symptom Table".
- Alarm (horn and headlamps) does not operate. Refer to SEC-86. "Symptom Table".

4. CHECK ALARM CANCEL OPERATION

Unlock any door using Intelligent Key or mechanical key.

Alarm (horn and headlamps) should stop.

OK >> INSPECTION END.

NG >> Check door lock function. Refer to <u>SEC-87</u>, "Symptom Table".

ON-VEHICLE REPAIR

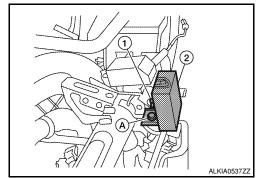
INTELLIGENT KEY UNIT

Removal and Installation

REMOTE KEYLESS ENTRY RECEIVER

Removal

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



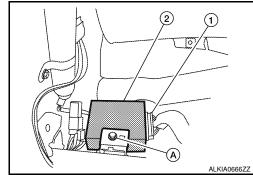
Installation

Installation is in the reverse order of removal.

INTELLIGENT KEY UNIT

Removal

- Remove the instrument panel. Refer to <u>IP-11, "Removal and Installation"</u>.
- 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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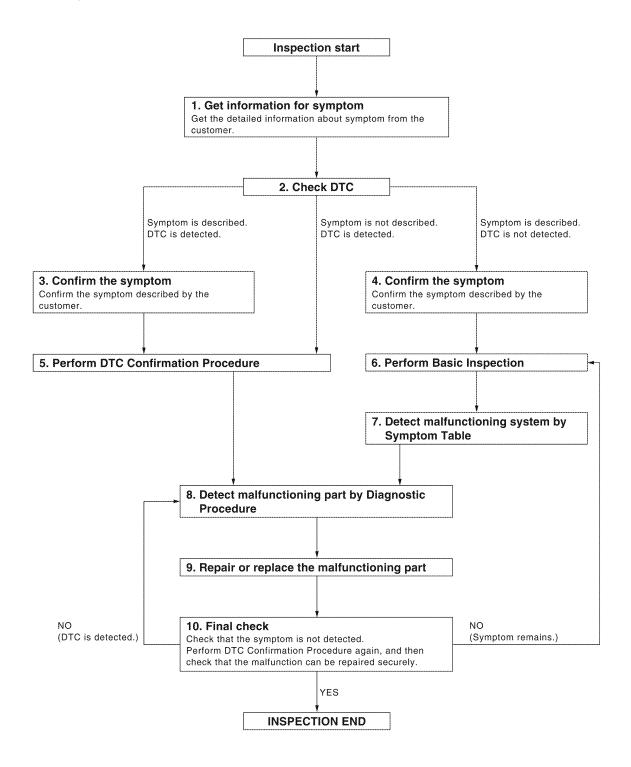
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORKFLOW [WITHOUT INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

$oldsymbol{1}$ -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

- Check DTC for Intelligent Key unit and BCM.
- 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 SEC-140, "DTC Inspection Priority Chart" (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 8.

>> Refer to GI-39, "Intermittent Incident". NO

6.PERFORM BASIC INSPECTION

Perform Basic Inspection. Refer to SEC-89, "Basic Inspection".

/.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

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

>> GO TO 8.

>> GO TO 7.

f 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.

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SEC-93

DIAGNOSIS AND REPAIR WORKFLOW [WITHOUT INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

9. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 10.

10. FINAL CHECK

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

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

Does the symptom reappear?

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

YES (Symptom remains)>>GO TO 6.

NO >> INSPECTION END

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >	[WITHOUT INTELLIGENT KEY SYSTEM]
INSPECTION AND ADJUSTMENT ADDITIONAL SERVICE WHEN REPLACING O	CONTROL UNIT
ADDITIONAL SERVICE WHEN REPLACING COquirement	ONTROL UNIT: Special Repair Re-
Refer to the CONSULT-III Operation Manual-NATS. ECM RE-COMMUNICATING FUNCTION	
ECM RE-COMMUNICATING FUNCTION : Descri	ription INFOID:000000001367599
Performing following procedure can automatically perform re-ce the ECM has been replaced with a new one (*1).	•
*1: New one means an ECM which has never been energized (In this step, initialization procedure by CONSULT-III is not nec NOTE:	
 When registering new Key IDs or replacing the ECM that ation Manual NATS. If multiple keys are attached to the key holder, separate t Distinguish keys with unregistered key ID from those with the second control of t	hem before work.
ECM RE-COMMUNICATING FUNCTION : Speci	al Repair Requirement INFOID:000000001367600
1.PERFORM ECM RE-COMMUNICATING FUNCTION	
 Install ECM. Using a registered key (*2), turn ignition switch to "ON". 	
*2: To perform this step, use the key that has been used be Maintain ignition switch in "ON" position for at least 5 second Turn ignition switch to "OFF". 5: Start engine.	efore performing ECM replacement. nds.
Can engine be started?	,
YES >> Procedure is completed. NO >> Initialize control unit. Refer to CONSULT-III Operat	tion Manual NATS.
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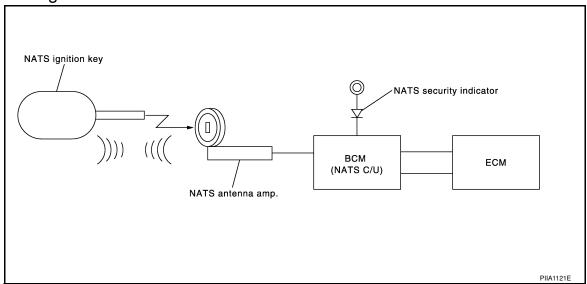
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FUNCTION DIAGNOSIS

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

INFOID:0000000001367605



System Description

INFOID:000000001367606

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	IVATO	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-99</u>. "System Description".
- If system detects malfunction, security indicator illuminates when ignition switch is turned to ON position.
- If the owner requires, ignition key ID or mechanical key ID can be registered for up to 5 keys.
- During trouble diagnosis or when the following parts have been replaced, and if ignition key is added, registration* is required.
 - ^{*1}: All keys kept by the owner of the vehicle should be registered with mechanical key.
- ECM
- BCM
- Ignition key
- Remote keyless entry receiver
- NATS trouble diagnosis, system initialization and additional registration of other mechanical key IDs must be carried out using CONSULT-III.
 - When NATS initialization has been completed, the ID of the inserted mechanical key or mechanical key IDs can be carried out.

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< FUNCTION DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

- Possible symptom of NATS malfunction is "Engine cannot start". Identify the possible causes according to "Work Flow", Refer to SEC-92, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-95, "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.

SERVICE

MAINTENANCE INFORMATION

CAUTION:

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

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

Component Parts Location

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

< FUNCTION DIAGNOSIS >

- BCM M18, M19, M20 (view with instrument panel LH removed)
- 4. IPDM E/R E122, E124 (view with cover removed)
- 2. NATS antenna amp. M21
- 3. ECM E16
- 5. Combination meter M23, M24
- 6. Security indicator lamp

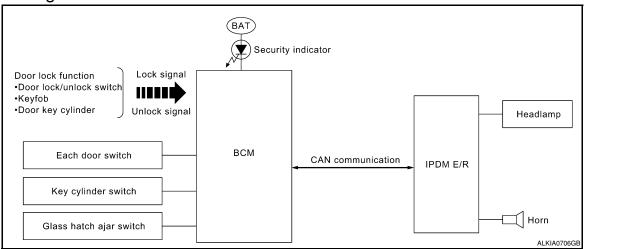
Component Description

INFOID:0000000001367608

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

VEHICLE SECURITY SYSTEM

System Diagram



System Description

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INFOID:000000001367609

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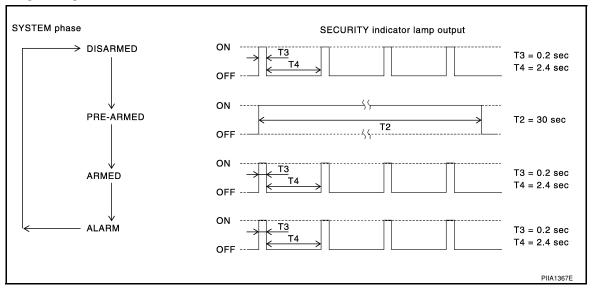
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DESCRIPTION

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, doorlock/unlock switch, driver key cylinder or auto relock function). The system automatically shifts into the armed phase.

Condition of Activating The System

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

· Any door is opened.

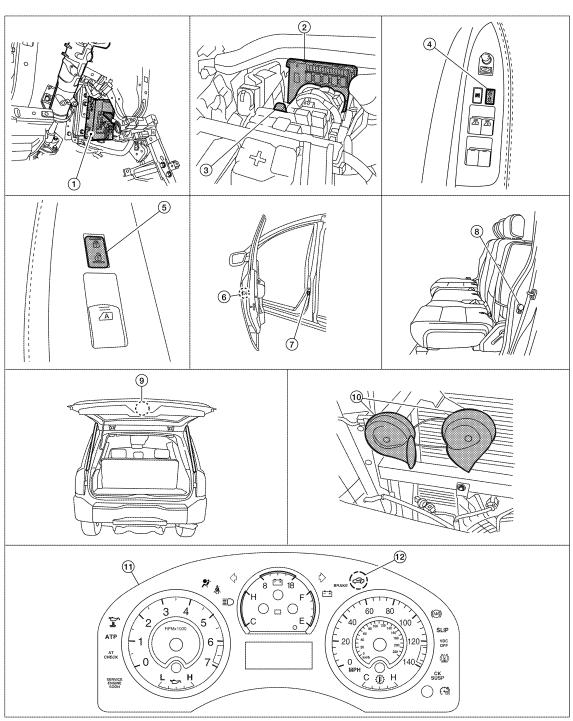
Condition of Deactivating The System

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

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

Component Parts Location

INFOID:0000000001367611



ALKIA0540ZZ

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

VEHICLE SECURITY SYSTEM

< FUNCTION DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

- Horn E3
 (view with front grille removed)
- 11. Combination meter M23, M24
- 12. Security indicator lamp

Component Description

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

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DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000001367613

APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to SEC-70, "DTC Index".
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	 Enables to read and save the vehicle specification. Enables to write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

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

IMMU

IMMU: CONSULT-III Function (BCM - IMMU)

INFOID:0000000001367614

APPLICATION ITEM

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

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

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

ACTIVE TEST

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

THEFT ALM

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

INFOID:0000000001367615

APPLICATION ITEM

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

Diagnosis mode	Function Description	
WORK SUPPORT	Changes the setting for each system function.	
DATA MONITOR	The BCM input/output signals are displayed.	
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.	

DATA MONITOR

Monitor Item	Condition	
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.	
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.	
PUSH SW	Indicates [ON/OFF] condition of ignition knob switch.	
KEY ON SW	Indicates [ON/OFF] condition of key switch.	
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).	
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).	
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.	
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.	
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.	
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.	
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.	

ACTIVE TEST

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

WORK SUPPORT

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

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COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000001367617

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:0000000001367619

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-39, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

U1010 CONTROL UNIT (CAN)

Description INFOID:000000001367620

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.	ВСМ

Diagnosis Procedure

1.REPLACE BCM

When DTC [U1010] is detected, replace BCM.

>> Replace BCM. Refer to BCS-54, "Removal and Installation".

Special Repair Requirement

INFOID:000000001367623

INFOID:000000001367622

1. REQUIRED WORK WHEN REPLACING BCM

Initialize BCM. Refer to CONSULT-III Operation Manual.

>> Work end.

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B2190, P1614 NATS ANTENNA AMP.

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2190, P1614 NATS ANTENNA AMP.

Description INFOID:000000001367627

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:000000001367628

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190			Harness or connectors
P1614	NATS ANTENNA AMP	 Inactive communication between NATS antenna amp. and BCM. Ignition key is malfunctioning. 	(The NATS antenna amp. circuit is open or shorted)Ignition keyNATS 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-106</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001367629

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-145, "Removal and Installation".

Is the inspection result normal?

YES >> GO TO 2

NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

YES >> • Ignition key ID chip is malfunctioning.

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

NO >> GO TO 3

3.check power supply for nats antenna amp.

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

B2190, P1614 NATS ANTENNA AMP.

< COMPONENT DIAGNOSIS >

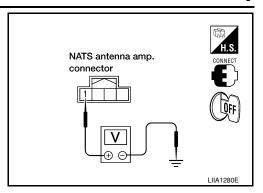
[WITHOUT INTELLIGENT KEY SYSTEM]

1 - Ground : Battery voltage

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace fuse or harness.



4. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

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

3 - Ground : Continuity should exist.

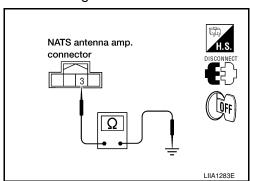
Is the inspection result normal?

YES >> GO TO 5

NO >> • Repair or replace harness.

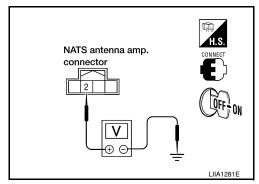
NOTE:

If harness is OK, replace BCM, 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)
(+)	(-)	- 1 Osition of Ignition key cylinder	(Approx.)
	2 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, perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

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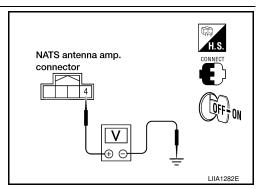
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6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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



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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

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

B2191, P1615 DIFFERENCE OF KEY

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2191, P1615 DIFFERENCE OF KEY

Description INFOID:000000001367630

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	The ID verification results between BCM and me-	Mechanical key
P1615	KEY	chanical key are NG. The registration is necessary.	Mechanical Ney

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-109, "Diagnosis Procedure".

NO >> INSPECTION END.

Diagnosis Procedure

1.PERFORM INITIALIZATION

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

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

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

YES >> Mechanical key was unregistered.

NO

- >> BCM is malfunctioning.
 - Replace BCM. Refer to BCS-54, "Removal and Installation".
 - · Perform initialization again

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INFOID:0000000001367632

[WITHOUT INTELLIGENT KEY SYSTEM]

B2192, P1611 ID DISCORD, IMMU-ECM

Description INFOID:000000001367633

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

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-104, "DTC Logic".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-105</u>, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD BCM-	The ID verification results between BCM and ECM	• BCM
P1611	ECM	are NG. The registration is necessary.	• 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-110</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001367635

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-54, "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-39, "Intermittent Incident".

B2192, P1611 ID DISCORD, IMMU-ECM

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WITHOUT INTELLIGENT KEY SYSTEM

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COMPONENT DIAGNOSIS >	[WITHOUT INTELLIGENT RET OTOTEM]
>> INSPECTION END	
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B2193, P1612 CHAIN OF ECM-IMMU

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2193, P1612 CHAIN OF ECM-IMMU

Description INFOID:000000001367636

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-104, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-105, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193			Harness or connectors (The CAN communication line is
P1612	CHAIN OF BCM- ECM	Inactive communication between ECM and BCM	(The CAN communication line is open or short)BCMECM

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-112</u>, "<u>Diagnosis Procedure</u>".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000001367638

1.REPLACE BCM

- 1. Replace BCM. Refer to BCS-54, "Removal and Installation".
- 2. Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual".

Does the engine start?

YES >> BCM was malfunctioning.

NO >> ECM is malfunctioning.

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

P1610 LOCK MODE

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[WITHOUT INTELLIGENT KEY SYSTEM] < COMPONENT DIAGNOSIS > P1610 LOCK MODE Α Description INFOID:0000000001367649 When the starting operation is carried more than five times consecutively under the following conditions, NATS В will shift to the mode which prevents the engine from being started. Unregistered mechanical key is used. · BCM or ECM's malfunctioning. DTC Logic INFOID:0000000001367650 DTC DETECTION LOGIC D Trouble diagnosis DTC No. DTC detecting condition Possible cause name When the starting operation is carried out five or more times consecutively under the P1610 LOCK MODE following conditions. F · Unregistered mechanical key · BCM or ECM's malfunctioning. DTC CONFIRMATION PROCEDURE 1. PERFORM DTC CONFIRMATION PROCEDURE Turn ignition switch ON. Check "Self diagnostic result" with CONSULT-III. Н Is DTC detected? YES >> Refer to SEC-113, "Diagnosis Procedure". NO >> INSPECTION END Diagnosis Procedure INFOID:000000001367651 1. CHECK ENGINE START FUNCTION Perform the check for DTC except DTC P1610. Use CONSULT-III to erase DTC after fixing. SEC Check that engine can start with registered mechanical key. Does the engine start? YES >> INSPECTION END NO >> GO TO 2 2. CHECK INTERMITTENT INCIDENT Refer to GI-39, "Intermittent Incident". >> INSPECTION END Ν

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:0000000001367653

Refer to DLK-55, "BCM (BODY CONTROL MODULE): Diagnosis Procedure".

KEY CYLINDER SWITCH

Description INFOID:000000001367654

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:0000000001367655

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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 EN-SW	Neutral / Unlock	: OFF
KEY CYL UN-SW	Unlock	: ON
KET CTL UN-SW	Neutral / Lock	: OFF

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Refer to <u>SEC-115</u>, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000001367656

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

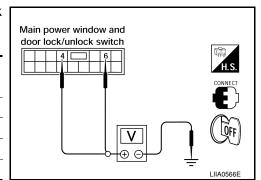
When key inserted in left front key cylinder is turned to UNLOCK:

KEY CYL UN-SW: ON

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)	
	(+)	(-)		(Approx.)	
	4	0	Neutral/Unlock	5	
D.7	4		Lock	0	
D7	6 Gro	Ground	Neutral/Lock	5	
			Unlock	0	



Is the inspection result normal?

YES >> Key cylinder switch signal is OK.

NO >> GÓ TÓ 2

2.CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

- Turn ignition switch OFF.
- 2. Disconnect front door lock assembly LH (key cylinder switch).

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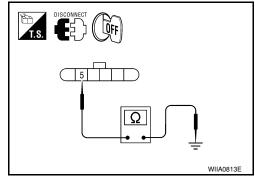
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[WITHOUT INTELLIGENT KEY SYSTEM]

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?

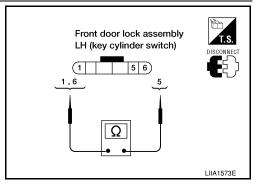
YES >> GO TO 3

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



Is the inspection result normal?

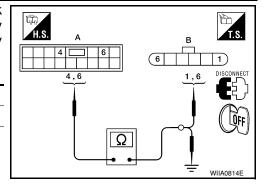
YES >> GO TO 4

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-341, "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	door lock assembly LH (key cylinder switch)		6	Yes
SWILCH	4, 6 Gro		round	No



Is the inspection result normal?

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

NO >> Repair or replace harness.

HORN FUNCTION

Symptom Table

HAZARD AND HORN REMINDER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check "Work flow". Refer to <u>DLK-8</u>, "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	
Hazard reminder does not operate by request switch.		Check "HAZARD ANSWER BACK" setting in "WORK SUPPORT".	DLK-40
		Check hazard function.	DLK-96
	2.3.1.	Check Intermittent Incident.	<u>GI-39</u>
Hazard reminder does not operate by Intelligent Key. (Horn reminder operate.)		Check "HAZARD ANSWER BACK" setting in "WORK SUPPORT".	DLK-40
		Check hazard function.	DLK-96
	3.	Check Intelligent Key battery inspection.	DLK-90
Horn reminder does not operate by request switch.		Check "ANSWER BACK WITH I-KEY LOCK" or "ANSWER BACK WITH I-KEY UNLOCK" setting in "WORK SUPPORT".	DLK-40
(Hazard reminder operate.)	2.	Check Intelligent Key warning buzzer.	DLK-79
	3.	Check Intermittent Incident.	<u>GI-39</u>
Horn reminder does not operate by Intelligent Key.	1.	Check "HORN WITH KEYLESS LOCK" setting in "WORK SUPPORT".	DLK-40
(Hazard reminder operate.)	2.	Check horn function.	DLK-92
		Check Intermittent Incident.	<u>GI-39</u>

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VEHICLE SECURITY INDICATOR

Description INFOID:000000001367659

- 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:0000000001367660

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	Vahiala cagurity indicator	ON
	OFF	Vehicle security indicator	OFF

Is the inspection result normal?

YES >> INSPECTION END.

NO >> Refer to <u>SEC-118</u>, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000001367661

1. SECURITY INDICATOR LAMP ACTIVE TEST

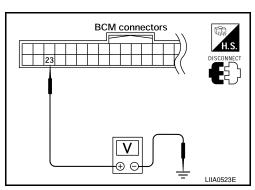
(I) With CONSULT-III

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	Terminals		Condition	Voltage (V)
Connector	(+)	(-)	Condition	(Approx.)
M18	23	Ground	ON	0
IVIIO	23	Giound	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.

${f 3.}$ CHECK HARNESS CONTINUITY

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

VEHICLE SECURITY INDICATOR

< COMPONENT 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.

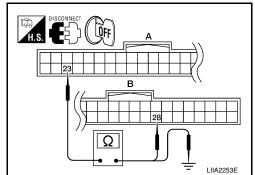
4. Check continuity between BCM connector (A) M18 terminal 23 and ground.

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.



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ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF	OFF
ACC ON SW	Ignition switch ACC or ON	ON
AIR COND SW	A/C switch OFF	OFF
AIN COND SW	A/C switch ON	ON
BACK DOOR SW	Back door closed	OFF
BACK DOOR SW	Back door opened	ON
BUCKLE SW	Driver's seat belt unfastened	OFF
DOORLE SW	Driver's seat belt fastened	ON
CDL LOCK SW	Door lock/unlock switch does not operate	OFF
ODL LOCK SW	Press door lock/unlock switch to the LOCK side	ON
CDL UNLOCK SW	Door lock/unlock switch does not operate	OFF
ODE UNLOCK SW	Press door lock/unlock switch to the UNLOCK side	ON
DOOR SW-AS	Passenger door closed	OFF
DOOR SW-AS	Passenger door opened	ON
DOOR SW-DR	Driver door closed	OFF
DOON SW-DN	Driver door opened	ON
DOOR SW PI	Rear LH door closed	OFF
DOOR SW-RL	Rear LH door opened	ON
DOOR SW-RR	Rear RH door closed	OFF
DOON SW-NIN	Rear RH door opened	ON
ENGINE RUN	Engine stopped	OFF
ENGINE HON	Engine running	ON
FAN ON SIG	Fan switch OFF	OFF
TAIN ON OIG	Fan switch ON	ON
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
	When hazard switch is pressed	ON
HEAD LAMP SW 1	Lighting switch OFF	OFF
	Lighting switch 2ND	ON
HEAD LAMP SW 2	Lighting switch OFF	OFF
	Lighting switch 2ND	ON

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
LU DE AM OW	Lighting switch OFF	OFF	
HI BEAM SW	Lighting switch HI	ON	-
IONI ONI CIM	Ignition switch OFF or ACC	OFF	E
IGN ON SW	Ignition switch ON	ON	_
IONI CIMI CANI	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	-
KEY ON OW	Mechanical key is removed from key cylinder	OFF	- г
KEY ON SW	Mechanical key is inserted to key cylinder	ON	_
KEVI FOO I OOK	LOCK button of key fob is not pressed	OFF	-
KEYLESS LOCK	LOCK button of key fob is pressed	ON	E
VEVI FOO LINII OOK	UNLOCK button of key fob is not pressed	OFF	_
KEYLESS UNLOCK	UNLOCK button of key fob is pressed	ON	- F
OIL PRESS SW	Ignition switch OFF or ACC Engine running	OFF	- r
	Ignition switch ON	ON	
DAGOING OW	Other than lighting switch PASS	OFF	_
PASSING SW	Lighting switch PASS	ON	=
DUOLLOW.	Return to ignition switch to LOCK position	OFF	-
PUSH SW	Press ignition switch	ON	-
DE 4 D DE E 014	Rear window defogger switch OFF	OFF	_
REAR DEF SW	Rear window defogger switch ON	ON	-
RKE LOCK AND UN-	NOTE:	OFF	-
LOCK	The item is indicated, but not monitored	ON	_
DD 500 0W	Rear fog lamp switch OFF	OFF	-
RR FOG SW	Rear fog lamp switch ON	ON	
TAIL 414D 014	Lighting switch OFF	OFF	SI
TAIL LAMP SW	Lighting switch 1ST	ON	
TUDNI GIONIAL I	Turn signal switch OFF	OFF	- [
TURN SIGNAL L	Turn signal switch LH	ON	=
TUDN CIONIN D	Turn signal switch OFF	OFF	-
TURN SIGNAL R	Turn signal switch RH	ON	-
VEHICLE SPEED	While driving	Equivalent to speedometer reading	-

TERMINAL LAYOUT

Refer to <u>DLK-126</u>, "Reference Value".

PHYSICAL VALUES

Refer to <u>DLK-126</u>, "Reference Value".

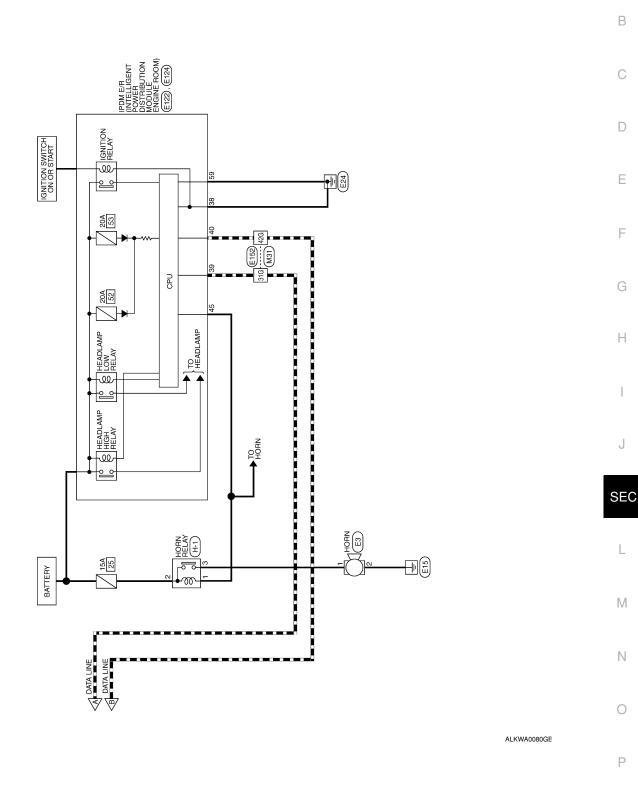
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Wiring Diagram - VEHICLE SECURITY SYSTEM INFOID:0000000001370537 ⟨XÞ⟩:WITHOUT POWER BACK DOOR ⟨PB⟩:WITH POWER BACK DOOR ■■: DATA LINE FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH) (D14) UNLOCK CPU UNLOCK Lock OPEN B116 REAR DOOR SWITCH RH LOCK CLOSED 020 8 POWER WNDOW AND DOOR LOCK/ UNLOCK SWITCH RH RH OPEN FRONT DOOR (B108) SWITCH RH BCM (BODY CONTROL MODULE) (M18), (M19), (M20) UNLOCK TO CAN SYSTEM CLOSED M74 D102 61M B149 z LOCK M75 M75 FUSE BLOCK (J/B) (MS), (M39) OPEN REAR DOOR B18 CLOSED IGNITION SWITCH ON OR START 4 4 4 BACK DOOR LATCH (DOOR AJAR SWITCH) (D503) D405 D405 B48 OPEN FRONT DOOR B8 COMBINATION METER M24 OPEN CLOSED BACK DOOR (D502) SWITCH SECURITY VEHICLE SECURITY SYSTEM CLOSED 10A D405 (DSO1) B43 B48 B111 D401 15A CLOSED GLASS HATCH (D707) AJAR SWITCH OPEN 10G M31 E152 M36 B149 999 [020] (B139) BATTERY ALKWA0060GE

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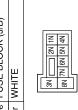
Connector Name BCM (BODY CONTROL MODULE)

M18

Connector No.

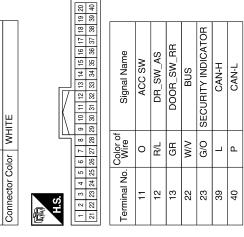
VEHICLE SECURITY SYSTEM CONNECTORS

M8	onnector Name WIRE TO WIRE	WHITE
Connector No.	Connector Name	Connector Color W
M3	Connector Name FUSE BLOCK (J/B)	WHITE
lo. I	Name	Connector Color W





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



Signal Name

Color of Wire M/V m

Terminal No.

14 ω

Connector Name COMBINATION METER
Connector Color WHITE
I₽

BCM (BODY CONTROL MODULE)

Connector Name Connector No.

BCM (BODY CONTROL MODULE)

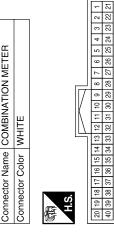
Connector Name

M19

Connector No.

WHITE

Connector Color





\vdash	Signal Name	ı	_
erminal No. 8 28	Color of wire	Y/R	G/O
	Terminal No.	8	28

Section BLACK	4CK	65 66 67 68 69 70	Signal Name	BAT	GND (POWER)	BATT (FL)
Terminal No.	lor BL/	5657 56	Color of Wire	Y/R	В	M/B
	Connector Co	H.S.		22	29	02

minal No.	Color of Wire	Signal Name
42	GR	GLASS HATCH AJAR
43	B/B	BACK DOOR SE
47	SB	DOOR SW (DR)
48	J.∕H	DOOR SW (RL)

Sig	000
Color of Wire	0.0
Ferminal No.	01

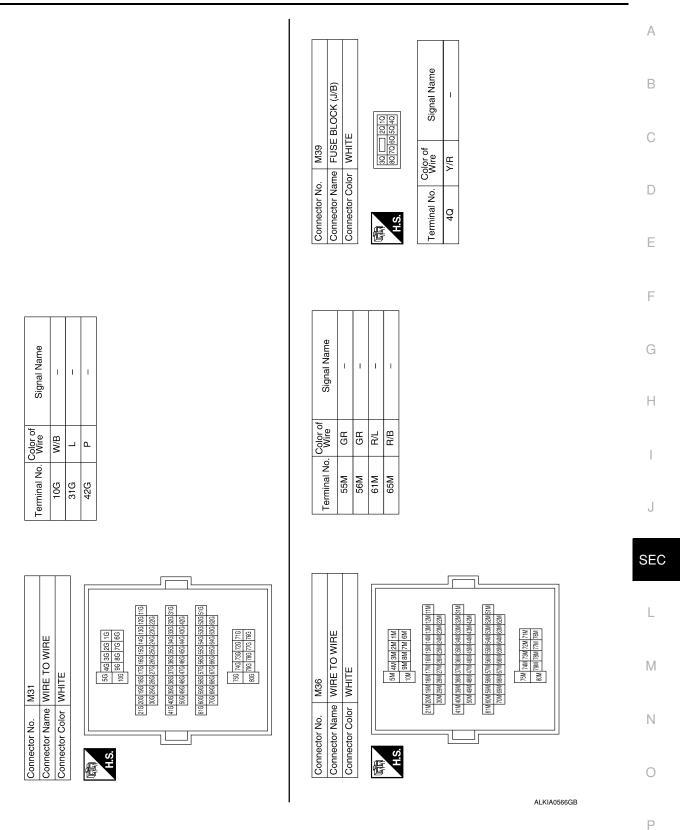
Э	Ж	(O)	a
42	43	47	48

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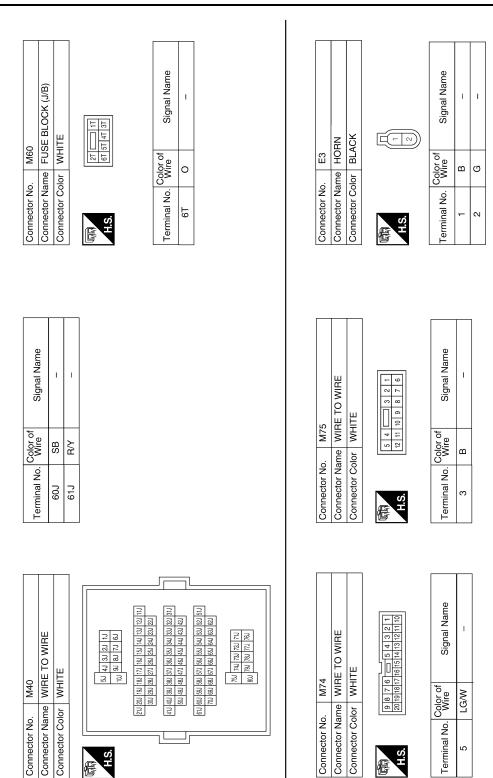
BCM (BODY CONTROL MODULE)

[WITHOUT INTELLIGENT KEY SYSTEM]





SEC-125

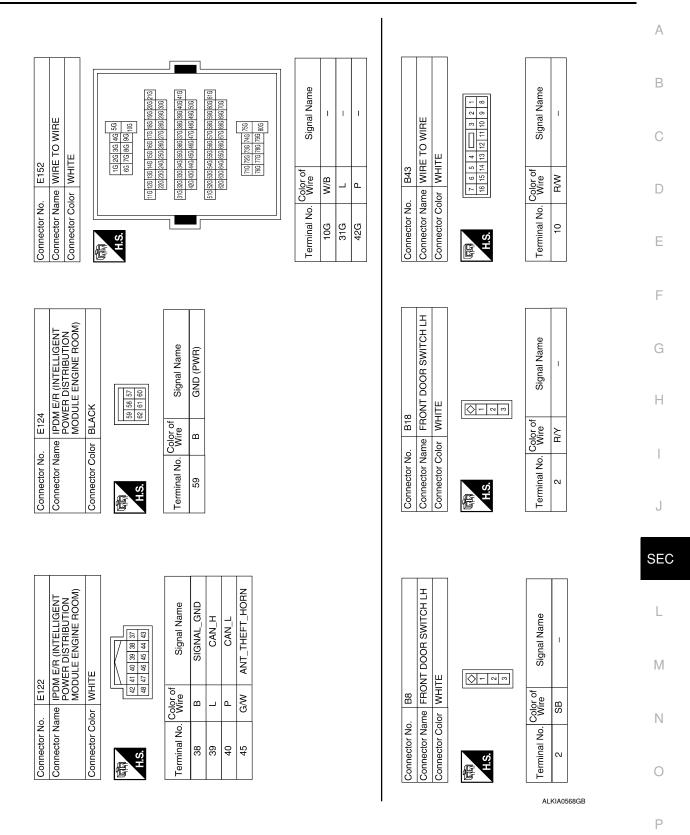


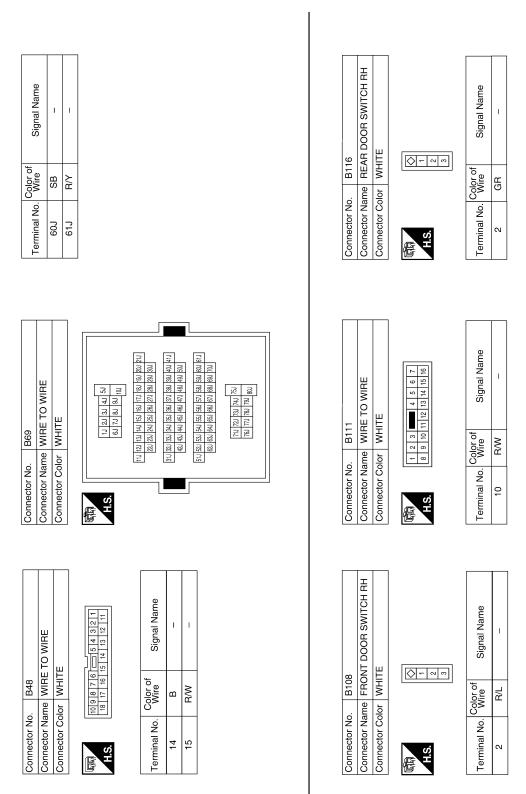
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BCM (BODY CONTROL MODULE)

[WITHOUT INTELLIGENT KEY SYSTEM]



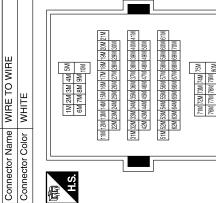




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B149

Connector No.



Connector No.	WIRE	B139 WIRE TO WIRE
or Col	Connector Color WHITE	ITE TE
	8 9 10	2 3 mm 4 5 6 7 9 10 11 12 13 14 15 16
Terminal No.	Color of Wire	Signal Name
	GR	1

Connector No.	D8	
Connector Na	me MAI ANE SW	Connector Name MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color WHITE	lor WH	ITE
H.S.	4	17 18 19
Terminal No. Wire	Color of Wire	Signal Name
17	В	GND

				1		
POWER WINDOW JOOR LOCK/UNLOCK CH	ш	12 13 14 15 16	Signal Name	LOCK	UNLOCK	ANTI_PNCH_ SERIAL_LINK
	_	8 9 10 11 4	Color of Wire	_	Œ	LG/W
Connector Na	Connector Col	H.S.	Terminal No.	4	9	14
	Connector Name MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH					

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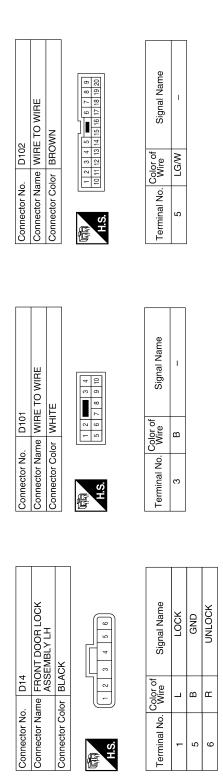
Connector Name | WIRE TO WIRE

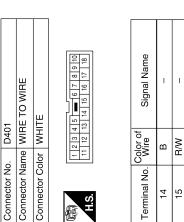
D405

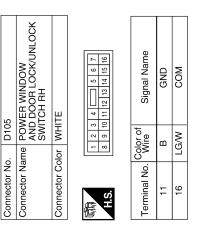
Connector No.

Connector Color | WHITE

< ECU DIAGNOSIS >





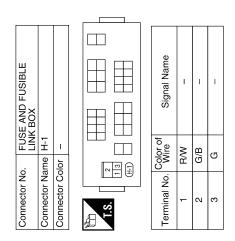


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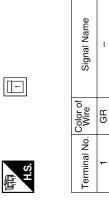
_	FCU	DIAGNOSIS	; >
`	-00	DIAGINOSIC	, _

		96		А
Connector No. D503 Connector Name BACK DOOR LATCH Connector Color WHITE	8 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	D701 WIRE TO WIRE WHITE 2 3 ■ 4 5 6 7 9 10 11 112 13 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	В
Connector No. D503 Connector Name BACK Connector Color WHIT	σ	Color of Wire 7 R/W 8 B	nector No. nector Name nector Name nector Color ninal No. Color Gold	D
Col		Ten	O O O O O O O O O O O O O O O O O O O	E
VITCH		Signal Name - -	WIRE Signal Name	F G
D502 BACK DOOR S\ WHITE			D606 me WIRE TO WIRE or WHITE 7 6 5 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	Н
Connector No. D502 Connector Name BACK DOOR SWITCH Connector Color WHITE	H.S.	Color of Wire 1 B B B B B B B B B B B B B B B B B B	Connector No. D606 Connector Name WIRE TO WIRE Connector Color WHITE T 6 5 4	J
				SEC
I'RE	7 8 9 10 17 17 18	Signal Name	WIRE 11 10 9 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	L
b. D501 Ime WIRE TO WIRE	1 2 3 4 5	Color of Wire B	D602 In WHRE TO WHRE TO Whire GR	M
Connector No. Connector Name Connector Color	H.S.	Terminal No.	Connector No. Connector Col	0
			ALKIA0684GB	

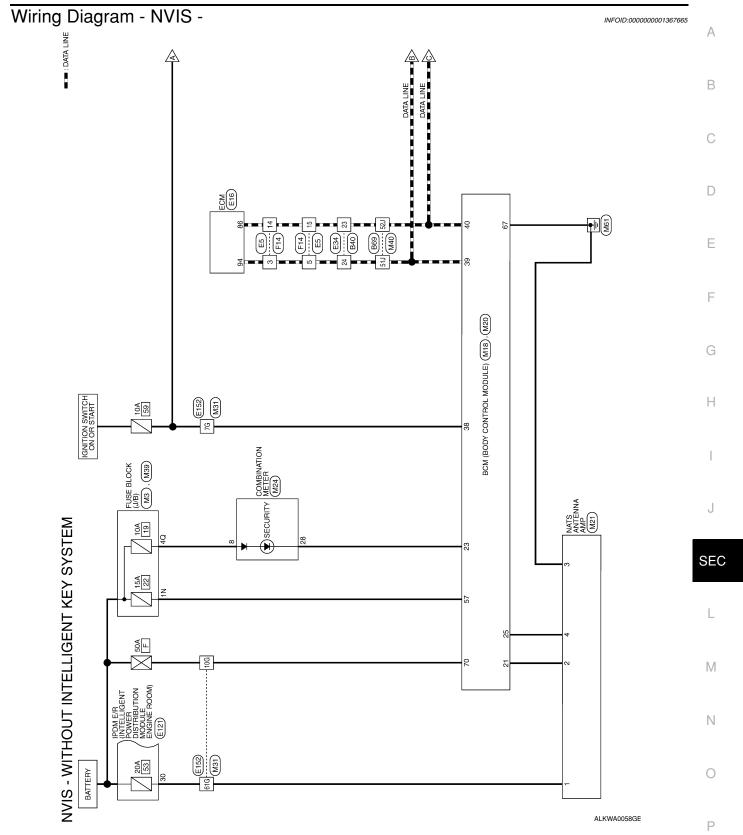
SEC-131

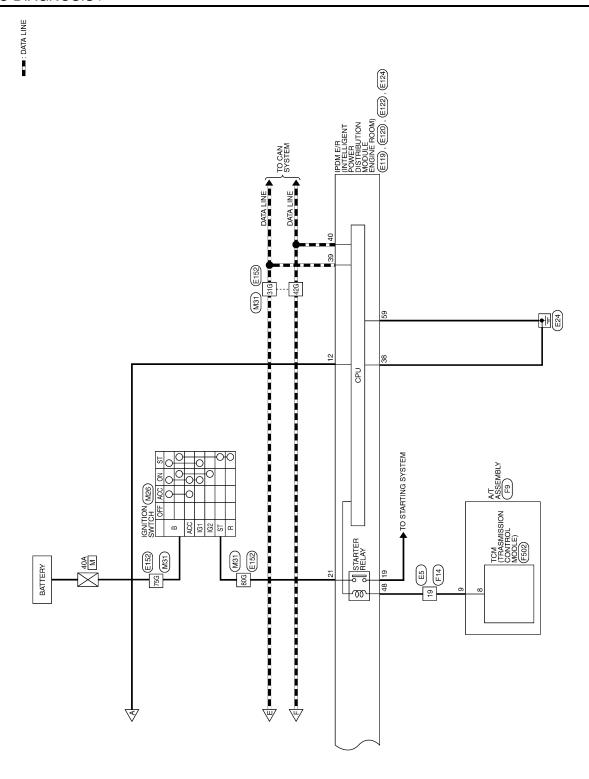


7	GLASS HATCH AJAR SWITCH	CK	
Connector No. D707	Connector Name GLASS HATCH AJAR SWITCH	Connector Color BLACK	



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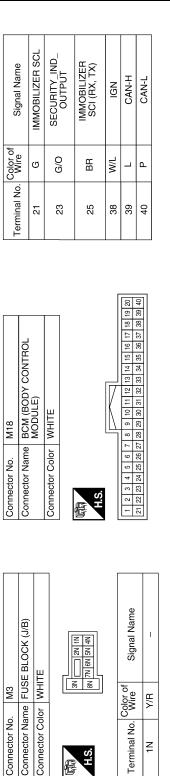
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BCM (BODY CONTROL MODULE)

[WITHOUT INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

NVIS CONNECTORS - WITHOUT INTELLIGENT KEY



3N 2N 1N 8N 7N 6N 5N 4N

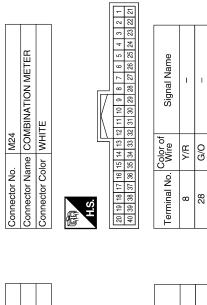
E

Color of Wire Y/R

Terminal No. Z

Connector Color WHITE

Connector No.



	NATS ANTENNA AMP	TE .	8 4 8	Signal Name	VB (12V)	CLOCK	GND	RX, TX
. M21		lor WHITE		Color of Wire	≯	g	В	BR
Connector No.	Connector Name	Connector Color	南南 H.S.	Terminal No.	-	2	က	4

BCM (BODY CONTROL MODULE)	BLACK	66 57 58 59 50 61 62 62 63 64 70 65 65 65 65 65 65 65 6	Signal Name	BAT	GND (POWER)	BATT (FL)
		56 57 58 66 66	Color of Wire	Y/R	В	M/B
Connector Name	Connector Color	H.S.	Terminal No.	22	29	20

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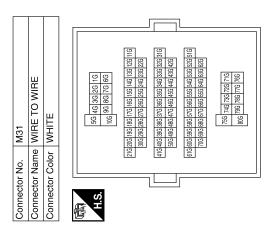
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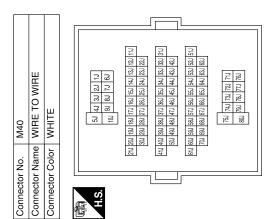
M20

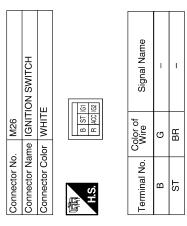
Connector No.

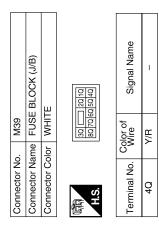
Signal Name	Ī	-	-	_	-	-	_
Color of Wire	M/L	M/B	Т	Ь	GW	9	BR
Terminal No. Wire	76	10G	31G	42G	61G	75G	80G

Signal Name	-	_	
Color of Wire	7	Ь	
Terminal No.	51J	52J	









ALKIA0561GB

BCM (BODY CONTROL MODULE)

[WITHOUT INTELLIGENT KEY SYSTEM]

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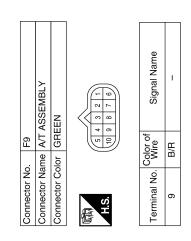
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< ECU DIAGNOSIS >

Connector No. E5 Connector Name WIRE TO WIRE Connector Color WHITE	Connector No. E16 Connector Name ECM Connector Color BLACK	Connector No. E34 Connector Name WIRE TO WIRE Connector Color WHITE
(1 2 13 4 5 6 7 18 19 10 11 1 12 13 14 15 16 17 18 19 20 21 22 23 24 1.S.	2 4 5	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
Terminal No. Wire Signal Name	[82 [83 [84 65 [85 87 88 89] 114 115 116	
J _J	Terminal No. Wire Signal Name	Terminal No. Wire Signal Name
14 P P		23 P –
B/R	94 L CAN-H	24 L –
Connector No. E119	Connector No. E120	Connector No. E121
Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	Connector Color WHITE	Connector Color BROWN
(明) (18 17 16 15 14 13 12 11 10) H.S.	[斯] 21 20 19 24 23 22	(斯) 29 28 <u> </u>
Jc	of Signs	Color of Wire
12 L/W IGN SW (IG)	19 W/R ST 21 BR IGN-SW (ST)	30 W HEAD_L_LEVELIZER

ALKIA0562GB



Connector No.	E124
Connector Name	Connector Name PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BLACK	BLACK
	29 58 57

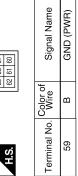
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

E122

Connector No.

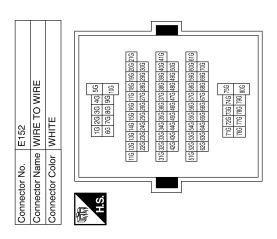
Connector Name

Connector Color WHITE



Signal Name	GND (SIG)	CAN-H	CAN-L	INHIBIT	
Color of Wire	В	_	Ь	B/B	
Color of Wire	38	39	40	48	

Signal Name	ı	I	ı	-	1	ı	ı
Color of Wire	M/L	M/B	_	Ь	Μ	g	BR
Terminal No. Wire	76	10G	31G	42G	61G	75G	80G

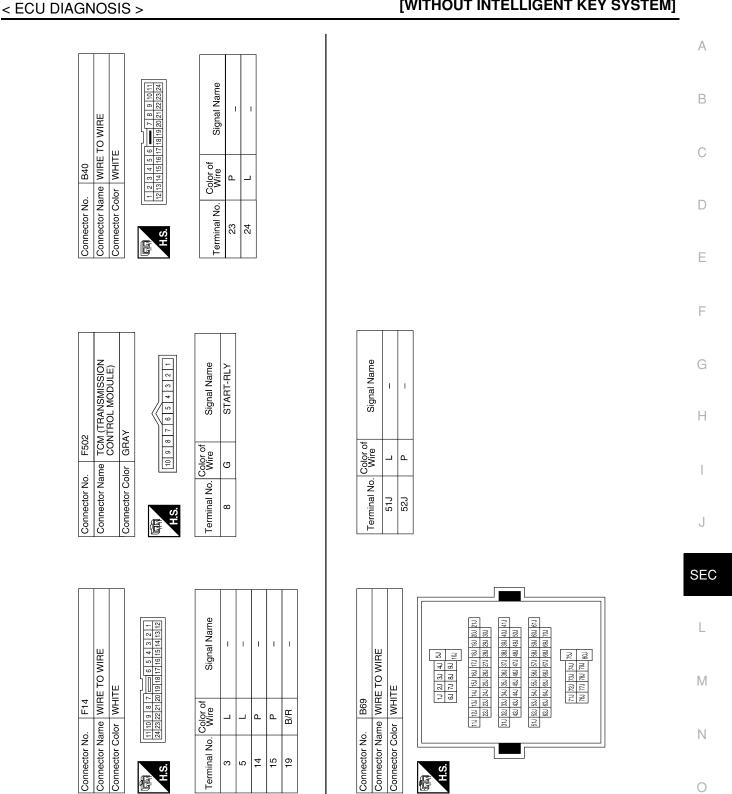


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BCM (BODY CONTROL MODULE)

[WITHOUT INTELLIGENT KEY SYSTEM]

ALKIA0564GB



Fail Safe Р INFOID:0000000001367666

Fail-safe operation Refer to BCS SECTION.

< ECU DIAGNOSIS >

DTC Inspection Priority Chart

INFOID:0000000001367667

Priority	DTC
1	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)
2	B2190: NATS ANTENNA AMP B2191: DIFFERNCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM

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.
- PAST: Displays when there is a malfunction that is detected in the past and stored.
- 1 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1
 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter
 remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch
 OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	TI	ME	Fail-safe	Refer to
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	0	1 - 39	_	SEC-104
U1010: CONTROL UNIT (CAN)	0	1 - 39	_	SEC-105
B2190: NATS ANTENNA AMP	CRNT	PAST	×	<u>SEC-106</u>
B2191: DIFFERENCE OF KEY	CRNT	PAST	×	SEC-109
B2192: ID DISCORD BCM-ECM	CRNT	PAST	×	SEC-110
B2193: CHAIN OF BCM-ECM	CRNT	PAST	×	SEC-112

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

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE Α ROOM) Reference Value INFOID:0000000001367676 В VALUES ON THE DIAGNOSIS TOOL Refer to IPDM E/R ECU Function. C TERMINAL LAYOUT Refer to IPDM E/R ECU Function. Fail Safe D INFOID:0000000001367680 Refer to PCS SECTION. Е DTC Index INFOID:0000000001367681 Refer to PCS SECTION. G Н **SEC** M

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VEHICLE SECURITY SYSTEM SYMPTOMS

SYMPTOM DIAGNOSIS

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

Procedure			- Diagnostic procedure	Defer to nego
Symptom		tom	- Diagnostic procedure	Refer to page
	Vehicle security system cannot be set by	Door switch	Check door switch (LF, RF, LR, RR, back)	DLK-235
1		Glass ajar switch	Check glass ajar switch	DLK-269
		Key cylinder switch	Check key cylinder switch	DLK-242
		_	Check Intermittent Incident	<u>GI-39</u>
	Security indicator does not turn ON.		Check vehicle security indicator	SEC-118
			Check Intermittent Incident	<u>GI-39</u>
2	* Vehicle security	Any door is opened.	Check door switch (LF, RF, LR, RR, back)	DLK-235
	system does not	Glass ajar switch	Check glass ajar switch	DLK-269
	sound alarm when ····	_	Check Intermittent Incident	<u>GI-39</u>
	Vehicle security		Check horn switch	_
3	alarm does not acti- vate.	Horn alarm	Check Intermittent Incident	<u>GI-39</u>
	Vehicle security sys-	, , ,	Check key cylinder switch	DLK-259
4	tem cannot be can- celed by ····	Key cylinder switch	Check Intermittent Incident	<u>GI-39</u>

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

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

< SYMPTOM DIAGNOSIS >

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table INFOID:0000000001367684

NOTE:

- Before performing the diagnosis in the following table, check "SEC-92, "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	SEC-118
decurry indicator does not turn on or hash.	2. Check Intermittent Incident	<u>GI-39</u>

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PRE-INSPECTION FOR DIAGNOSTIC

< ON-VEHICLE MAINTENANCE >

[WITHOUT INTELLIGENT KEY SYSTEM]

ON-VEHICLE MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

1. INSPECTION START

Turn ignition switch "OFF".

NOTE:

Before starting operation check, open front windows.

>> GO TO 2.

2. CHECK SECURITY INDICATOR LAMP

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

Does the security indicator lamp illuminate?

YES >> GO TO 3.

NO >> Perform diagnosis and repair. Refer to <u>SEC-118</u>, "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 >:

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- >> Check the following.
 - The vehicle security system does not phase in alarm mode. Refer to SEC-142, "Symptom Table".
 - Alarm (horn and headlamps) does not operate. Refer to SEC-142, "Symptom Table".

4. CHECK ALARM CANCEL OPERATION

Unlock any door using keyfob or mechanical key.

Alarm (horn and headlamps) should stop.

OK >> INSPECTION END.

>> Check door lock function. Refer to <u>DLK-215</u>, "<u>DOOR LOCK AND UNLOCK SWITCH</u>: <u>System Description</u>".

ON-VEHICLE REPAIR

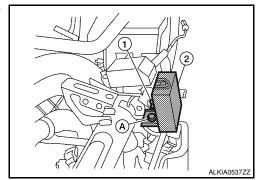
VEHICLE SECURITY SYSTEM

Removal and Installation

REMOTE KEYLESS ENTRY RECEIVER

Removal

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



Installation

Installation is in the reverse order of removal.

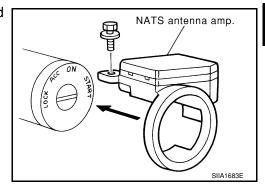
NATS ANTENNA AMP

NOTE:

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

Removal

- 1. Disconnect the battery negative terminal.
- 2. Remove the steering column covers. Refer to IP-10, "Exploded View".
- 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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