SECTION SEC
SECURITY CONTROL SYSTEM

CONTENTS

WITH INTELLIGENT KEY SYSTEM

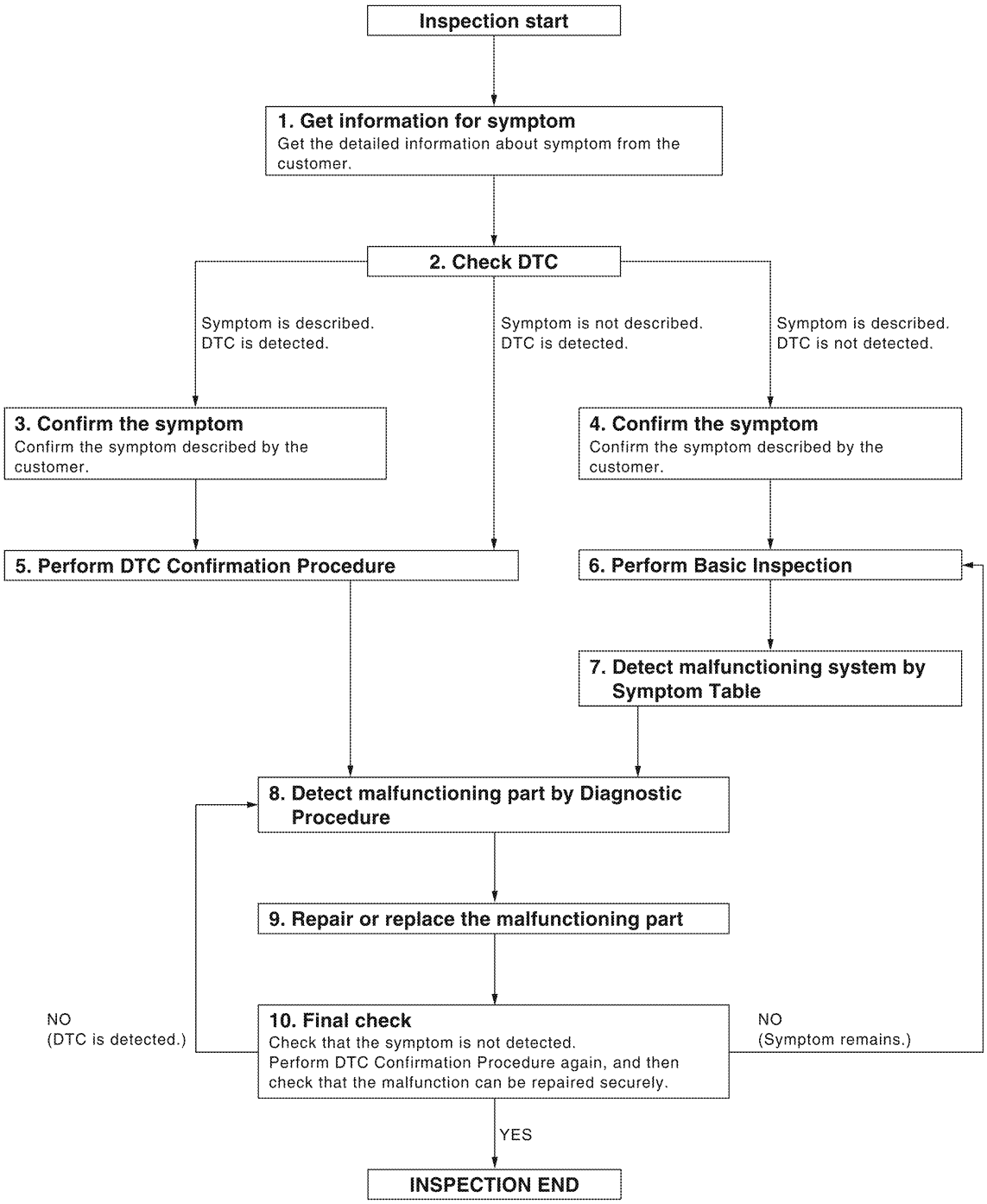
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000001689505

OVERALL SEQUENCE



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DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

1. Check DTC for Intelligent Key unit and BCM.
2. Perform the following procedure if DTC is displayed.

- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3.
Symptom is described, DTC is not displayed>>GO TO 4.
Symptom is not described, DTC is displayed>>GO TO 5.

3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in “DATA MONITOR” mode and check real-time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in “DATA MONITOR ” mode and check real-time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.
If two or more DTCs are detected, refer to SEC-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.
NO >> Refer to GI-51, "Intermittent Incident".

6.PERFORM BASIC INSPECTION

Perform Basic Inspection. Refer to SEC-5, "Work Flow".

>> GO TO 7.

7.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

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

>> GO TO 8.

8.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.
NOTE:
The Diagnostic Procedure is described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

>> GO TO 9.

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000001689506

Refer to the CONSULT-III Operation Manual-NATS.

ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION : Description

INFOID:0000000001689507

Performing following procedure can automatically perform re-communication of ECM and BCM, but only when the ECM has been replaced with a new one (*1).
*1: New one means an ECM which has never been energized on-board.
(In this step, initialization procedure by CONSULT-III is not necessary)

NOTE:

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

ECM RE-COMMUNICATING FUNCTION : Special Repair Requirement

INFOID:0000000001689508

1. PERFORM ECM RE-COMMUNICATING FUNCTION

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

Can engine be started?

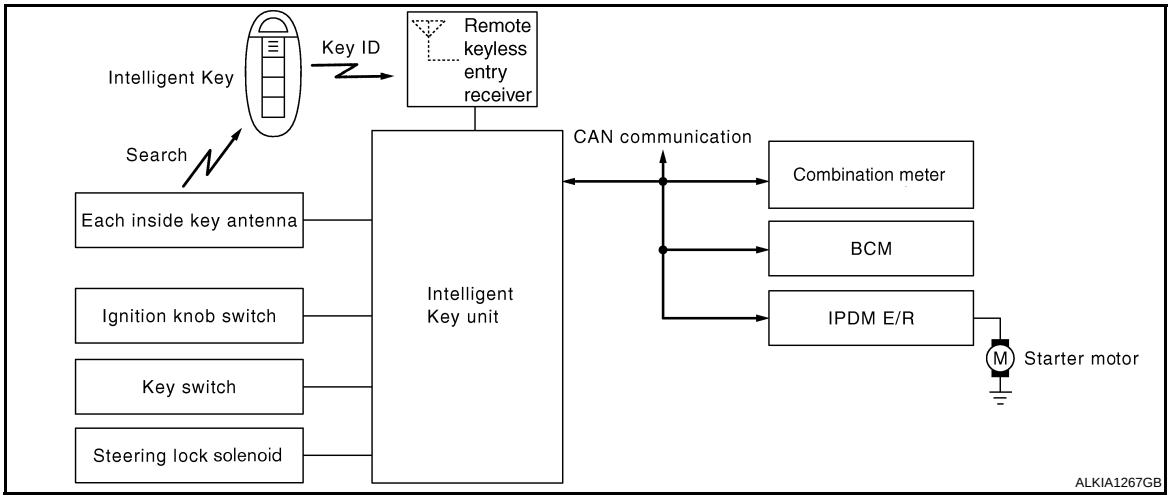
YES >> Procedure is completed.
NO >> Initialize control unit. Refer to CONSULT-III Operation Manual NATS.

FUNCTION DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram

INFOID:0000000001689509



System Description

INFOID:0000000001689510

INPUT/OUTPUT SIGNAL CHART

Intelligent Key Unit

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

IPDM E/R

Switch/Input signal	Input signal to IPDM E/R	IPDM E/R function	Actuator/Output signal
Park/neutral position switch	P, N range	Engine start function	• Starter relay • Starter motor

BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal
Key switch	Brake (press/release)	Engine start function	• Inside key antenna (Instrument panel, center 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 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 SEC-20, "COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)" for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

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

OPERATION WHEN INTELLIGENT KEY IS CARRIED

1. When the ignition knob switch is ON, the Intelligent Key unit transmits the request signal to the Intelligent Key.
2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the Intelligent Key unit.
3. The Intelligent Key unit receives the Intelligent Key ID signal and verifies it with the registered ID.
4. Intelligent Key unit transmits the steering lock/unlock signal to steering lock unit if the verification results are OK. For detail of key warning lamp operation, refer to SEC-17, "System Description".
5. Release of the steering lock.
6. BCM transmits the starter request signal via CAN communication to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition is satisfied.
7. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
8. When shift position is in P or N position, battery power is supplied through the starter relay and operate the starter motor and to start the cranking.

   CAUTION:

   If a malfunction is detected in the Intelligent Key system, the "NO KEY" warning message will be displayed in the combination meter. At that time, the engine cannot be started.

OPERATION RANGE

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

OPERATION WHEN MECHANICAL KEY IS USED

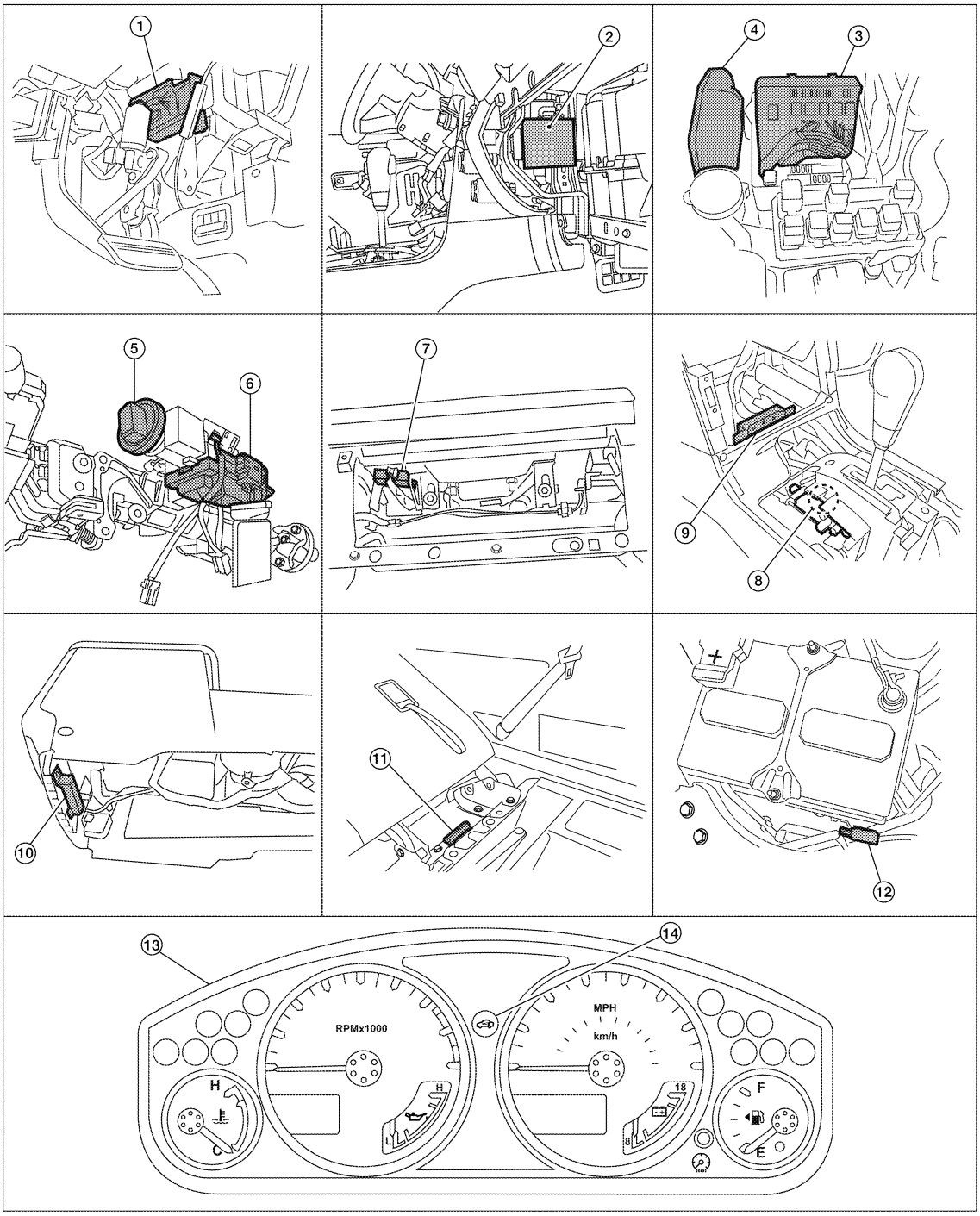
When the Intelligent Key battery is discharged, performs the NATS ID verification between the integrated transponder and BCM by inserting the mechanical key into the key cylinder, and then the engine can be started. For details relating to starting the engine using mechanical key, refer to SEC-13, "System Description".

STEERING LOCK OPERATION

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

Component Parts Location

INFOID:0000000001689511



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1. BCM M18, M19, M20 (view with instrument panel LH removed)
2. Intelligent Key unit M164 (view with glove box removed)
3. IPDM E/R E119, E120, E122, E124
4. ECM E16
5. Key switch and ignition knob switch M66 (view with steering column removed)
6. Steering lock solenoid M65
7. Remote keyless entry receiver M67 (view with instrument panel RH removed)
8. A/T device (detention switch key) M156 (view with center console removed)
9. Inside key antenna 1 (instrument panel) M68 (view with center console removed)

10. Inside key antenna 3 (center console) M212
(view with center console removed)
11. Inside key antenna 2 (luggage compartment) B129
(behind 3rd row seat)
12. Intelligent Key warning buzzer E60
13. Combination meter M24
14. Vehicle security indicator lamp

Component Description

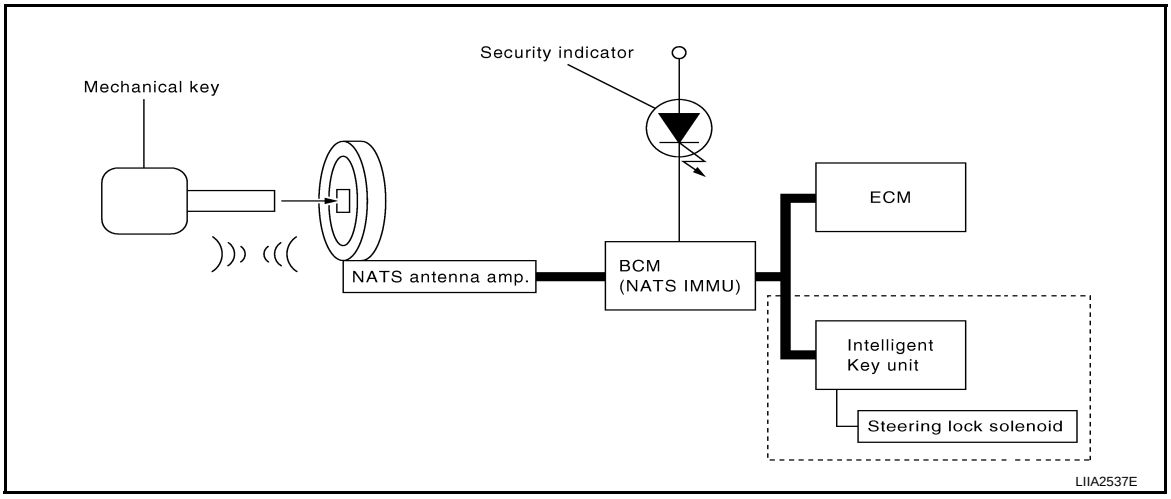
INFOID:0000000001689512

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.

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

INFOID:0000000001689513



System Description

INFOID:0000000001689514

INPUT/OUTPUT SIGNAL CHART

Intelligent Key Unit

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

SYSTEM DESCRIPTION

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

- Engine immobilizer shows high anti-theft performance to prevent engine from starting by other than the owner.
- Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- Security indicator always flashes with mechanical key removed condition (key switch: OFF) and ignition knob released condition on LOCK position (ignition knob switch: OFF).
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system. Refer to SEC-17, "System Description".
- If system detects malfunction, security indicator illuminates when ignition switch is turned to ON position.
- If the owner requires, ignition key ID or mechanical key ID can be registered for up to 4 keys.
- During trouble diagnosis or when the following parts have been replaced, and if mechanical key is added, registration* is required.

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

- ECM
- BCM

- 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 SEC-5, "Work Flow".
• If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-8, "ECM RE-COMMUNICATING FUNCTION : Description".

PRECAUTIONS FOR KEY REGISTRATION

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

SECURITY INDICATOR

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

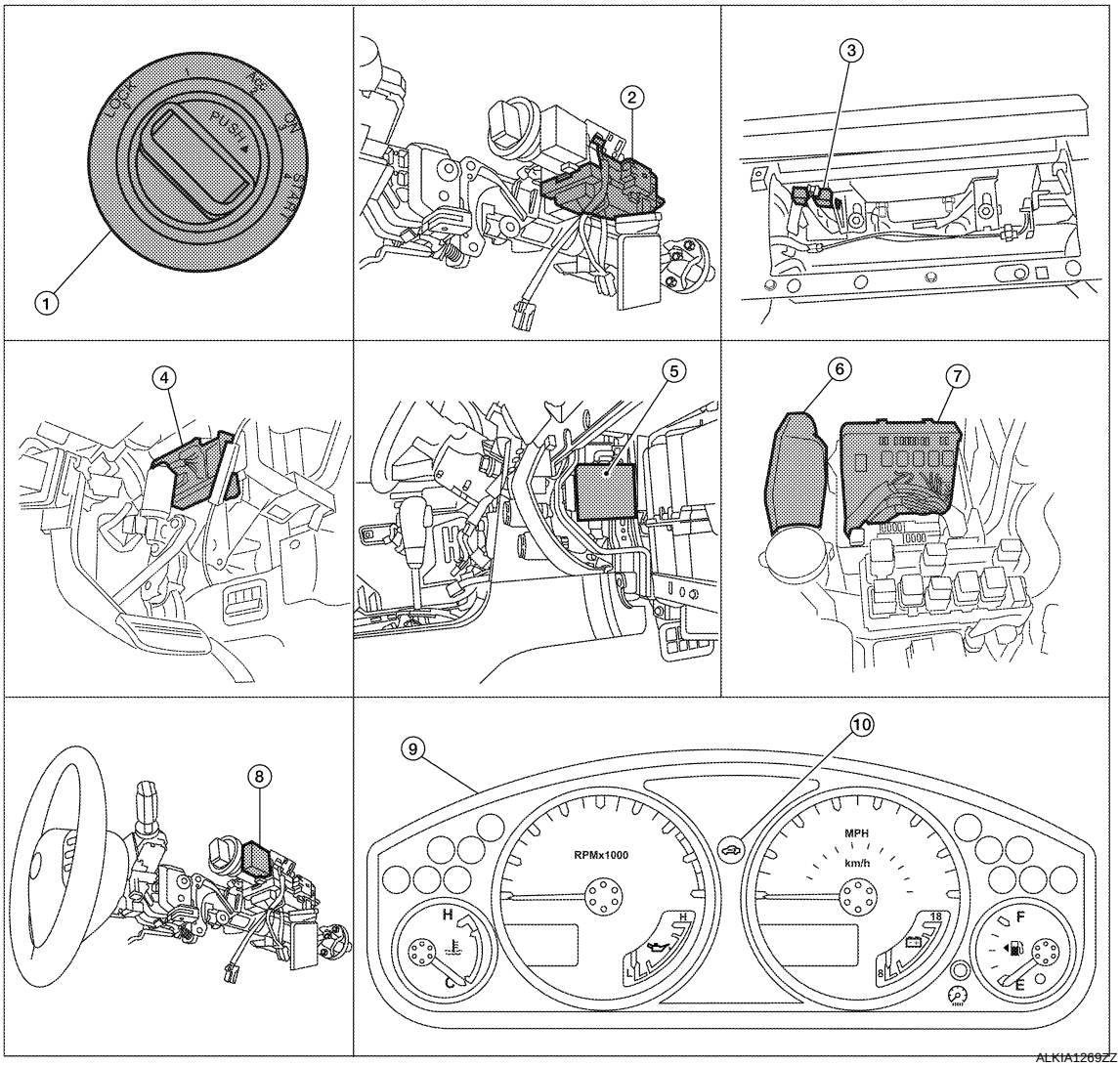
MAINTENANCE INFORMATION

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

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

Component Parts Location

INFOID:0000000001689515



1. Key switch and ignition knob switch M66
2. Steering lock solenoid M65 (view with steering column removed)
3. Remote keyless entry receiver M67 (view with glove box removed)
4. BCM M18, M20 (view with instrument panel LH removed)
5. Intelligent Key unit M164 (view with glove box removed)
6. ECM E16
7. IPDM E/R E119, E120, E122, E124 (view with cover removed)
8. NATS antenna amp. M21
9. Combination meter M24
10. Security indicator lamp

Component Description

INFOID:0000000001689516

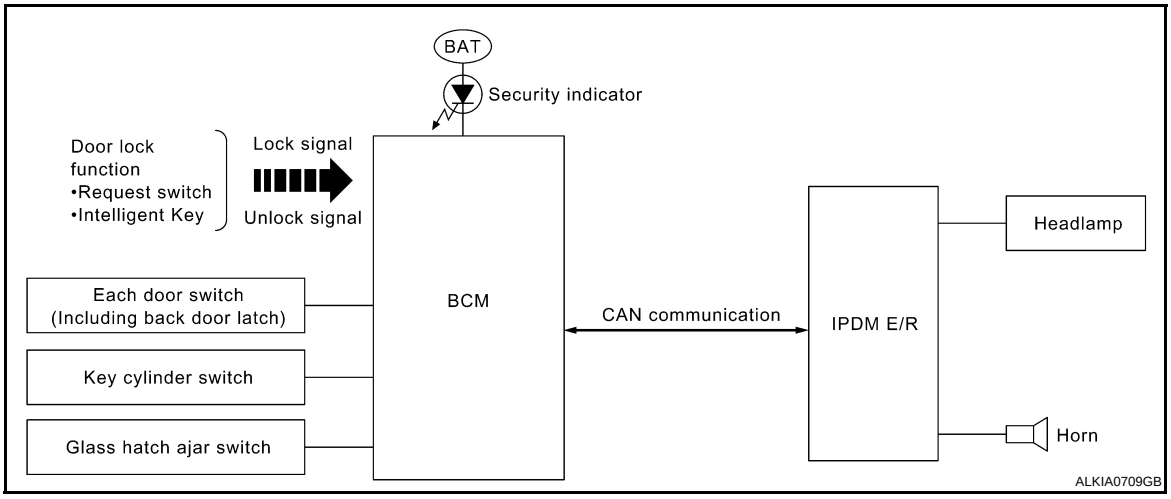
Item	Function
Intelligent Key unit	Receives lock/unlock signal from remote keyless entry receiver, and then transmits to BCM.
BCM	Controls the door lock function and room lamp function.
Remote keyless entry receiver	Receives lock/unlock signal from the Intelligent Key, and then transmits to Intelligent 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.
Inside key antenna	Detects if Intelligent Key is inside the vehicle.

Item	Function
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.

VEHICLE SECURITY SYSTEM

System Diagram

INFOID:0000000001689517



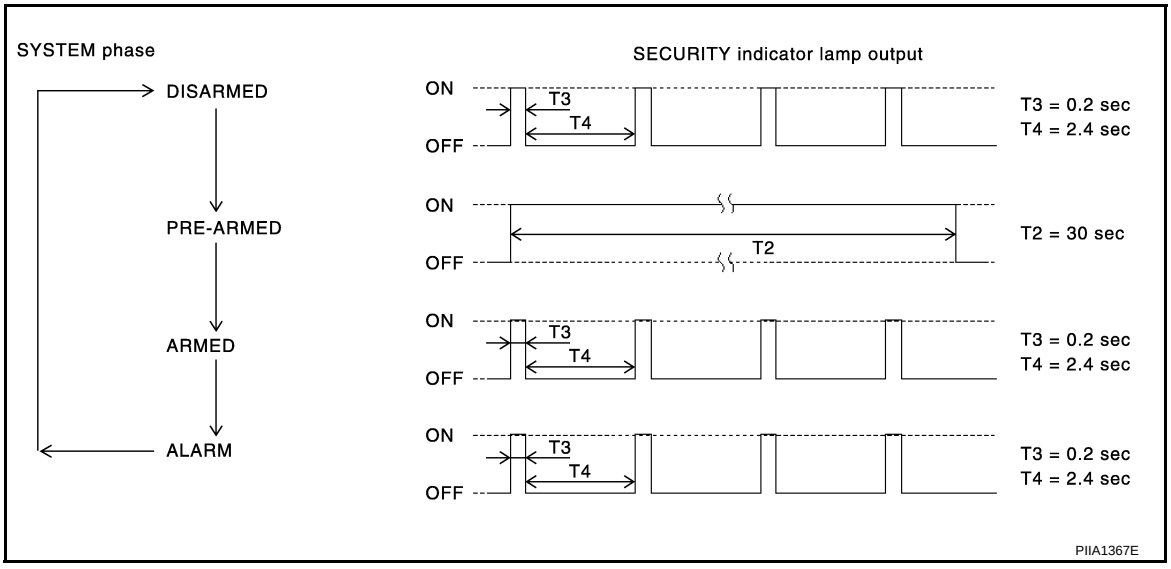
System Description

INFOID:0000000001689518

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.

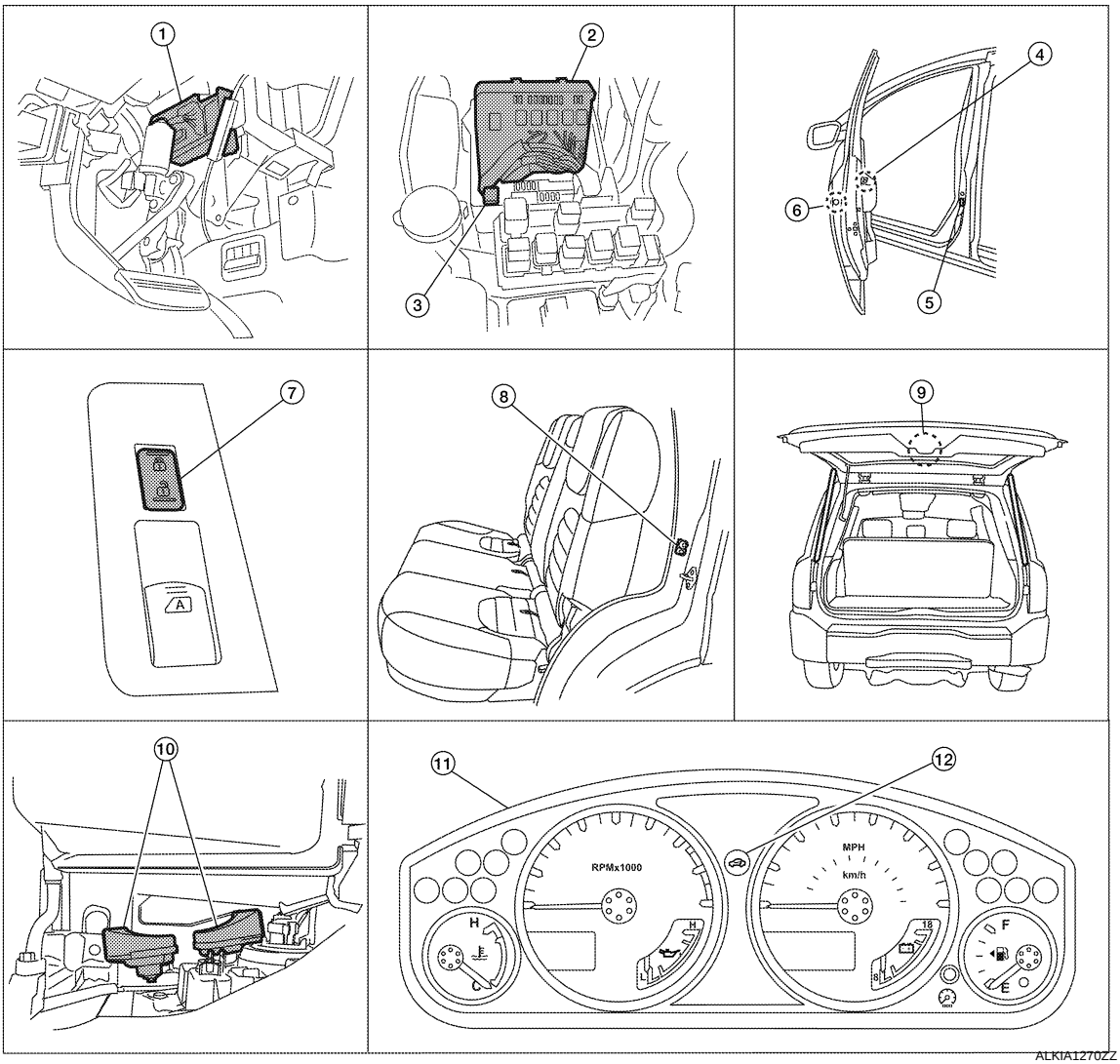
Condition of Deactivating The System

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:0000000001689519



1. BCM M18, M19, M20 (view with instrument panel LH removed)
2. IPDM E/R E122, E123, E124 (view with cover removed)
3. Horn relay H-1
4. Main power window and door lock/unlock switch D7, D8
5. Front door switch LH B8 RH B108
6. Front door lock assembly LH (key cylinder switch) D14
7. Power window and door lock/unlock switch RH D105
8. Rear door switch LH B18 RH B116
9. Back door cinching latch unit (door ajar switch) D502 Glass hatch ajar switch D503
10. Horn E3 (behind front combination lamp LH)
11. Combination meter M24
12. Security indicator lamp

Component Description

INFOID:0000000001689520

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

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000001689521

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:0000000001689522

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:0000000001689523

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

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

DIAGNOSIS SYSTEM (INTELLIGENT KEY UNIT)

CONSULT-III Function (INTELLIGENT KEY)

INFOID:0000000001689524

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) mode can be changed.	ON	Active
		OFF	Inactive
LOW BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed.	ON	Active
		OFF	Inactive
KEYLESS FUNCTION	Door lock function with Intelligent Key can be changed.	ON	Active
		OFF	Inactive
ANSWER BACK FUNCTION	Buzzer reminder operation can be changed.	ON	Active
		OFF	Inactive
SELECTIVE UNLOCK FUNCTION	Anti-hijack mode can be changed.	ON	Active
		OFF	Inactive
HAZARD ANSWER BACK	Hazard reminder operation mode can be changed.	Refer to SEC-20.	
ANSWER BACK WITH I-KEY LOCK	Buzzer reminder operation (lock operation) mode by each door request switch can be changed.	BUZZER	Active
		OFF	Inactive
ANSWER BACK WITH I-KEY UNLOCK	Buzzer reminder operation (unlock operation) mode by each door request switch can be changed.	BUZZER	Active
		OFF	Inactive
AUTO RELOCK TIMER	Auto door lock operation mode can be changed.	OFF	Inactive
		1 min	Active
ENGINE START BY I-KEY	Engine start function (by Intelligent Key) mode can be changed.	ON	Active
		OFF	Inactive
LOCK/UNLOCK BY I-KEY	Door lock function by door request switch can be changed.	ON	Active
		OFF	Inactive

SELF-DIAG RESULT

Refer to SEC-70, "DTC Index".

DATA MONITOR

Monitor Item	Condition
PUSH SW	Indicates [ON (pressed)/OFF (released)] condition of ignition knob switch.
KEY SW	Indicates [ON (inserted)/OFF (removed)] condition of key switch.
DR REQ SW	Indicates [ON (pressed)/OFF (released)] condition of door request switch (driver side).
AS REQ SW	Indicates [ON (pressed)/OFF (released)] condition of door request switch (passenger side).
BD/TR REQ SW	Indicates [ON (pressed)/OFF (released)] condition of door request switch (back door).
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
INSIDE BUZZER	This test is able to check warning chime in combination meter operation. • TAKE OUT: Take away warning chime sounds. • KNOB: Ignition knob switch warning chime sounds. • KEY: Key warning chime sounds. • OFF

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000001689525

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-57, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000001689526

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:0000000001689527

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-51, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000001689528

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-57, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000001689529

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000001689530

1.REPLACE INTELLIGENT KEY UNIT

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

>> Replace Intelligent Key unit. Refer to SEC-95, "Removal and Installation".

Special Repair Requirement

INFOID:0000000001689531

1.REQUIRED WORK WHEN REPLACING INTELLIGENT KEY UNIT

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

>> Work end.

B2013 ID DISCORD I-KEY-STRG

Description

INFOID:0000000001689532

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

DTC Logic

INFOID:0000000001689533

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2013	STRG COMM 1	The ID verification results between Intelligent Key unit and steering control unit are NG. The registration is necessary.	Steering lock 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 SEC-27, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689534

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”.

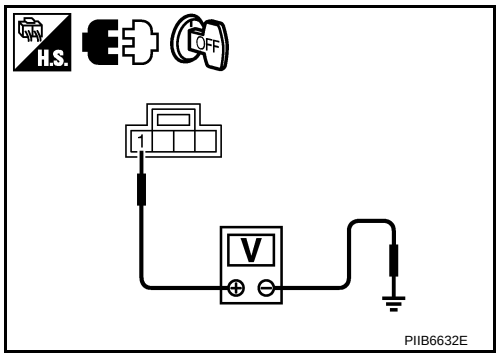
Can the system be initialized and can steering lock be released with re-registered mechanical key?

YES >> Steering lock solenoid was unregistered.
NO >> GO TO 2

2.CHECK STEERING LOCK SOLENOID POWER SUPPLY-1

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

Terminals			Voltage (V) (Approx.)
(+)		(–)	
Steering lock solenoid connector	Terminal		
M65	1	Ground	Battery voltage

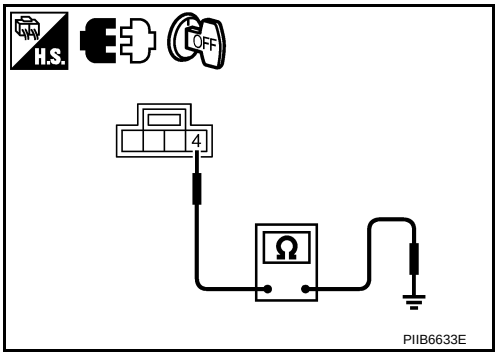


Is the inspection result normal?

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

3.CHECK STEERING LOCK SOLENOID GROUND CIRCUIT

Check continuity between steering lock solenoid harness connector and ground.



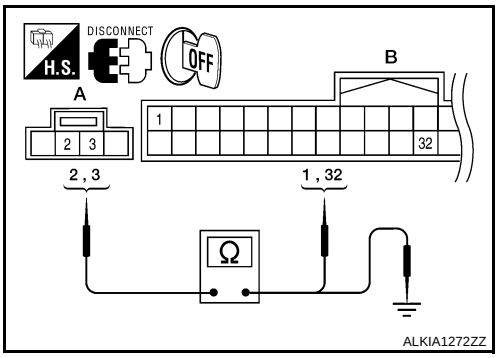
Terminals			Continuity
(+)		(–)	
Steering lock solenoid connector	Terminal		
M65	4	Ground	Yes

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.
2. Check continuity between steering lock solenoid connector (A) M65 terminals 2, 3 and Intelligent Key unit connector (B) M164 terminals 1, 32.



Terminals				Continuity
Steering lock solenoid connector	Terminal	Intelligent Key unit connector	Terminal	
M65	2	M164	1	Yes
	3		32	

3. Check continuity between steering lock solenoid connector (A) M65 terminals 2, 3 and ground.

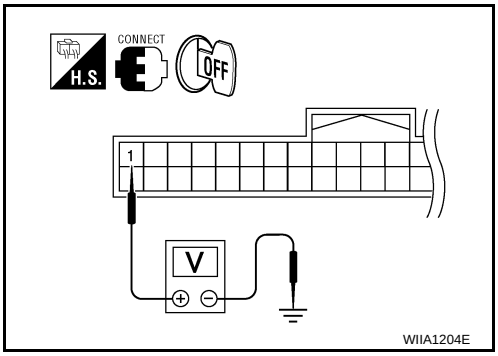
Terminals			Continuity
Steering lock solenoid connector	Terminals		
M65	2	Ground	No
	3		

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.



Terminals			Voltage (V) (Approx.)
(+)		(–)	
Intelligent Key unit connector	Terminal		
M164	1	Ground	5

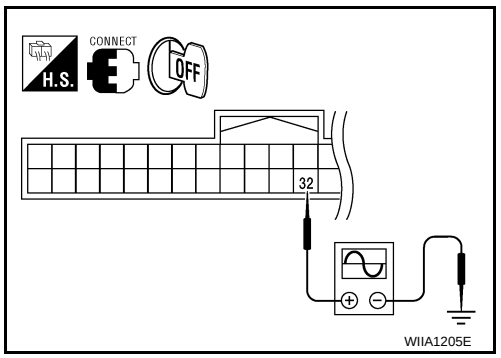
Is the inspection result normal?

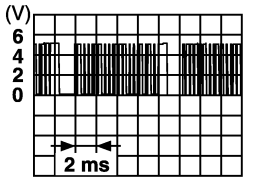
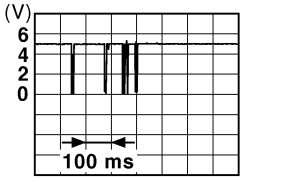
YES >> GO TO 6
NO >> Replace Intelligent Key unit. Refer to SEC-93, "Removal and Installation".

6. CHECK STEERING LOCK SOLENOID COMMUNICATION CIRCUIT

1. Connect steering lock solenoid connector.

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



Terminals			Condition		Voltage (V) (Approx.)
(+)		(–)			
Intelligent Key unit connector	Terminal				
M164	32	Ground	Steering lock	Ignition knob is pushed	 SIIA1911J
				LOCK status	5
				LOCK ⇔ UNLOCK	 JMKIA0433ZZ
				For 15 seconds after UNLOCK	5
				15 seconds later UN-LOCK	0

Is the inspection result normal?

YES >> Replace Steering lock solenoid.
NO >> Replace Intelligent Key unit. Refer to SEC-93, "Removal and Installation".

B2190, P1614 NATS ANTENNA AMP.

Description

INFOID:0000000001689535

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

DTC Logic

INFOID:0000000001689536

DTC DETECTION LOGIC

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

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-30, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689537

1.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-93, "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.

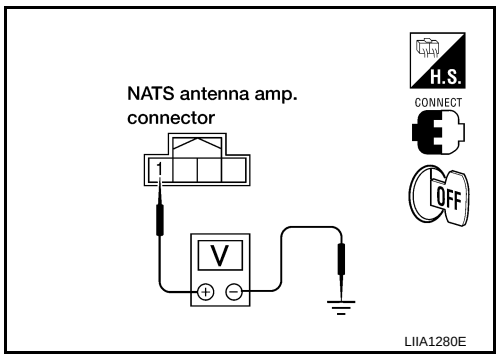
Does the engine start?

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.

1 - Ground : Battery voltage



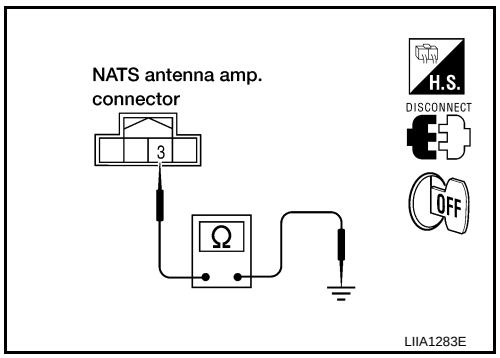
Is the inspection result normal?

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

4. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

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

3 - Ground : Continuity should exist.

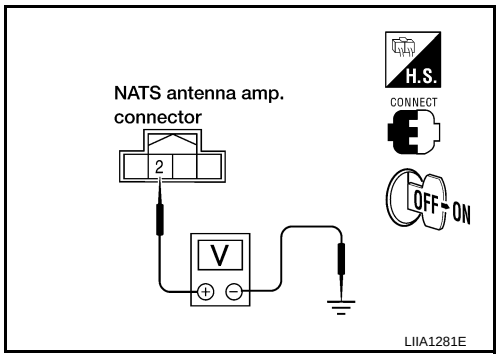


Is the inspection result normal?

YES >> GO TO 5
NO >> • Repair or replace harness.
NOTE:
If harness is OK, replace BCM, perform initialization with CONSULT-III. For initialization, refer to “CONSULT-III Operation Manual”.

5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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



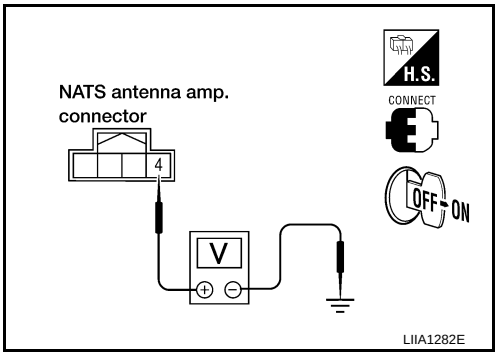
Terminals		Position of ignition key cylinder	Voltage (V) (Approx.)
(+)	(-)		
2	Ground	Before inserting ignition key	Battery voltage
		After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage
		Just after turning ignition switch ON	Pointer of tester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

Is the inspection result normal?

YES >> GO TO 6
NO >> • Repair or replace harness.
NOTE:
If harness is OK, replace BCM, perform initialization with CONSULT-III. For initialization, refer to “CONSULT-III Operation Manual”.

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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



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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to BCS-54, "Removal and Installation". Perform initialization with CONSULT-III. For initialization, refer to “CONSULT-III Operation Manual”.

B2191, P1615 DIFFERENCE OF KEY

Description

INFOID:0000000001689538

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

DTC Logic

INFOID:0000000001689539

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Insert mechanical key into the key cylinder.
2. Press the ignition knob switch.
3. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer toSEC-33, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689540

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

Description

INFOID:0000000001689541

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:0000000001689542

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-25, "DTC Logic".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-26, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-34, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689543

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

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

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

3.PEPLACE ECM

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

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

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

4.CHECK INTERMITENT INCIDENT

Refer to GI-51, "Intermittent Incident".

>> INSPECTION END

B2193, P1612 CHAIN OF ECM-IMMU

Description

INFOID:0000000001689544

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:0000000001689545

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-25, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-26, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-36, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000001689546

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.

B2194 ID DISCORD IMMU-I-KEY

Description

INFOID:0000000001689547

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:0000000001689548

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

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-37, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689549

1.PERFORM INITIALIZATION

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

Is DTC detected?

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

2.REPLACE BCM

1. Turn ignition switch OFF.
2. Replace BCM. Refer to BCS-54, "Removal and Installation".
3. 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-51, "Intermittent Incident".

>> INSPECTION END

B2552 INTELLIGENT KEY

Description

INFOID:0000000001689550

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

DTC Logic

INFOID:0000000001689551

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

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

Is DTC detected?

YES >> Refer to SEC-38, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689552

1.REPLACE INTELLIGENT KEY UNIT

1. Replace Intelligent Key unit.
2. Perform initialization with CONSULT-III. Re-register all mechanical keys. Refer to “CONSULT-III Operation Manual”.
3. Start the engine.

Does the engine start?

YES >> INSPECTION END
NO >> Perform “DTC confirmation procedure”. Refer to SEC-38, "DTC Logic".

Special Repair Requirement

INFOID:0000000001689553

1.REQUIRED WORK WHEN REPLACING INTELLIGENT KEY UNIT

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

>> Work end.

B2590 ID DISCORD BCM-I-KEY

Description

INFOID:0000000001689554

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

INFOID:0000000001689555

DTC DETECTION LOGIC

NOTE:

- If DTC B2590 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-25, "DTC Logic".
- If DTC B2590 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-26, "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 SEC-39, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000001689556

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

Description

INFOID:0000000001689557

When the starting operation is carried more than five times consecutively under the following conditions, NATS will shift to the mode which prevents the engine from being started.
- Unregistered mechanical key is used.
- BCM or ECM's malfunctioning.

DTC Logic

INFOID:0000000001689558

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.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-40, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000001689559

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-51, "Intermittent Incident".

>> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

INTELLIGENT KEY UNIT

INTELLIGENT KEY UNIT : Diagnosis Procedure

INFOID:0000000001689560

Refer to DLK-46, "INTELLIGENT KEY UNIT : Diagnosis Procedure".

BCM

BCM : Diagnosis Procedure

INFOID:0000000001689561

Refer to BCS-32, "Diagnosis Procedure".

KEY CYLINDER SWITCH

Description

INFOID:0000000001728777

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:0000000001728778

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.
NO >> Refer to SEC-42, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000001728779

1.CHECK DOOR KEY CYLINDER SWITCH LH

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

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

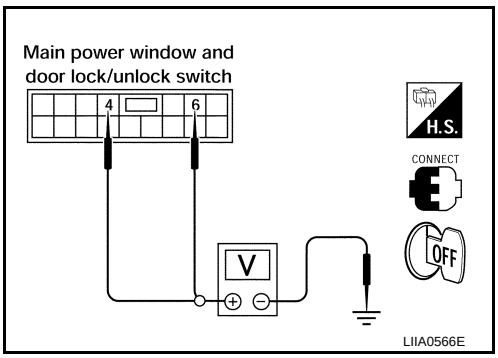
KEY CYL LK-SW : ON

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

KEY CYL UN-SW : ON

Without CONSULT-III
Check voltage between main power window and door lock/unlock switch connector D7 terminals 4, 6 and ground.

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



Is the inspection result normal?

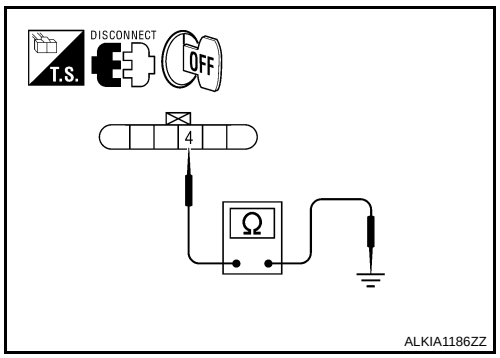
YES >> Key cylinder switch signal is OK.
NO >> GO TO 2.

2.CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

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

3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 4 and body ground.

Connector	Terminals	Continuity
D14	4 – Ground	Yes



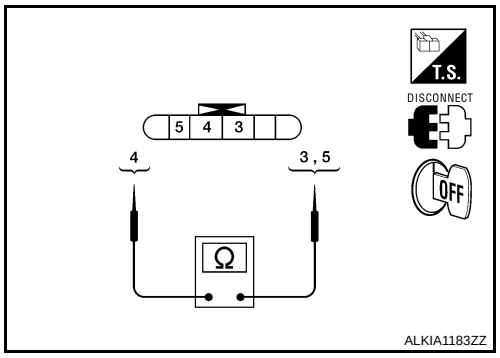
Is the inspection result normal?

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
3 – 4	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes
4 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes



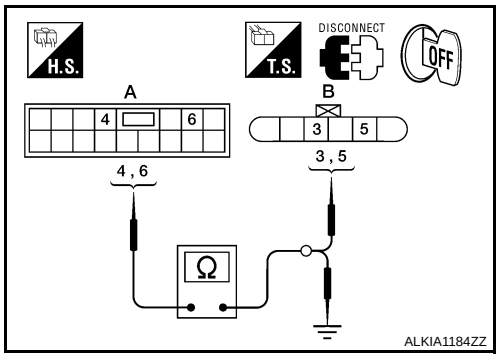
Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-190, "Removal and Installation".

4. CHECK DOOR KEY CYLINDER HARNESS

Check continuity between main power window and door lock/unlock switch connector (A) D7 terminals 4, 6 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 3, 5 and body ground.

Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/unlock switch	4	B: Front door lock assembly LH (key cylinder switch)	5	Yes
	6		3	Yes
	4, 6	Ground		No



Is the inspection result normal?

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

GLASS HATCH AJAR SWITCH

Diagnosis Procedure

INFOID:0000000001733165

1.CHECK GLASS HATCH AJAR SWITCH INPUT SIGNAL

With CONSULT-III
Check glass hatch ajar switch ("TRNK OPN MNTR") in DATA MONITOR mode with CONSULT–III.
- When glass hatch is open:

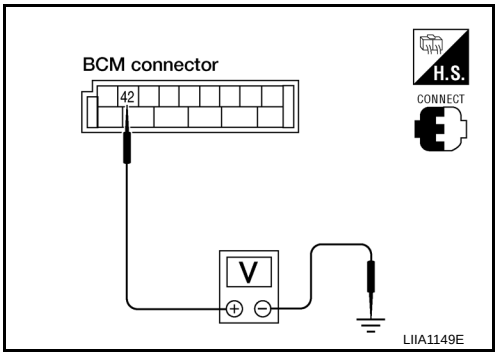
TRNK OPN MNTR : ON

- When glass hatch is closed:

TRNK OPN MNTR : OFF

Without CONSULT-III
Check voltage between BCM connector M19 terminal 42 and ground.

Connector	Item	Terminals		Condition	Voltage (V) (Approx.)
		(+)	(–)		
M19	BCM	42	Ground	Open ↓ Closed	0 ↓ Battery voltage



Is the inspection result normal?

YES >> System is OK.
NO >> GO TO 2

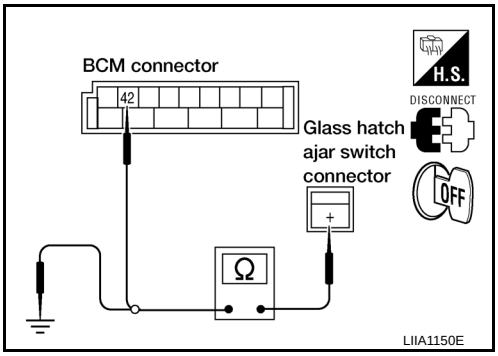
2.CHECK GLASS HATCH AJAR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and glass hatch ajar switch.
3. Check continuity between BCM connector M19 terminal 42 and glass hatch ajar switch connector D503 terminal 1 (+) .

42 - 1 (+) : Continuity should exist.

4. Check continuity between glass hatch ajar switch connector D503 terminal 1 (+) and ground.

1 (+) - Ground : Continuity should not exist.



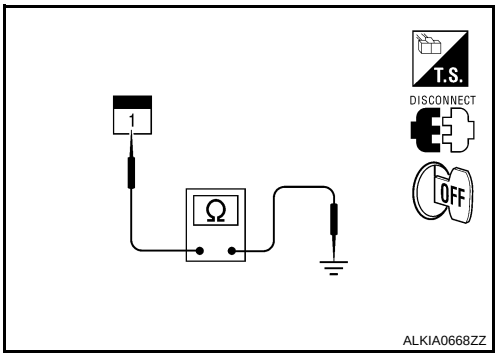
Is the inspection result normal?

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

3.CHECK GLASS HATCH AJAR SWITCH

Check continuity between glass hatch ajar switch connector terminal 1 and ground.

	Terminals	Condition	Continuity
Glass hatch ajar switch	1 – Ground	Open	Yes
		Closed	No



Is the inspection result normal?

YES >> Check glass hatch ajar switch case ground condition.
NO >> Replace glass hatch ajar switch.

IGNITION KNOB SWITCH

Ignition Knob Switch Check

INFOID:0000000001728780

1.CHECK IGNITION KNOB SWITCH

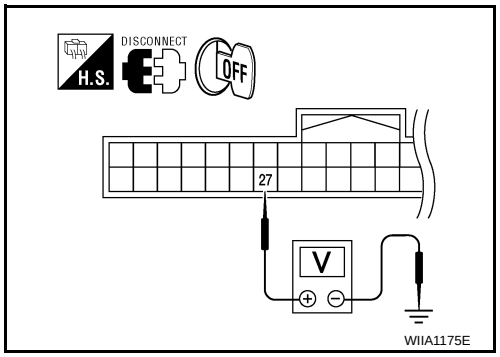
With CONSULT-III

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
	Ignition switch is released: OFF

Without CONSULT-III

1. Turn ignition switch OFF.
2. Disconnect Intelligent Key unit connector.
3. Check voltage between Intelligent Key unit harness connector M164 terminal 27 and ground.



Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(–)		
M164	27	Ground	Ignition switch is pushed	Battery voltage
			Ignition switch is released	0

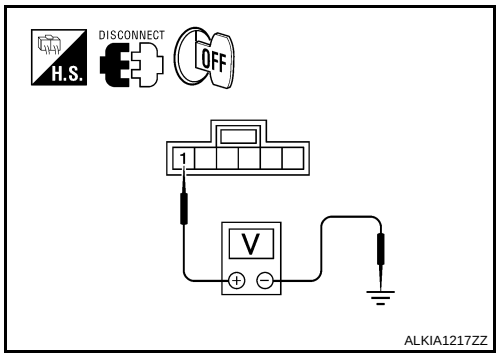
Is the inspection result normal?

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 M66 terminal 1 and ground.

1 - Ground : Battery voltage



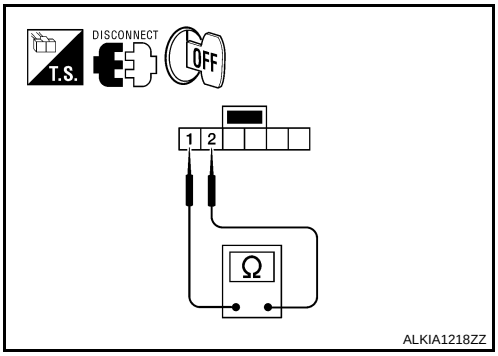
Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace key switch and ignition knob switch power supply circuit.

3.CHECK IGNITION KNOB SWITCH OPERATION

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

Component	Terminals		Condition	Continuity
Ignition knob switch	1	2	Ignition switch is pushed	Yes
			Ignition switch is released	No



Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace key switch and ignition knob switch.

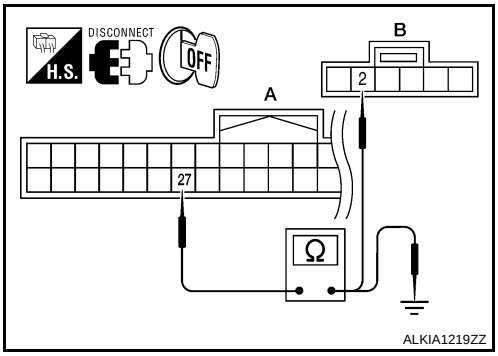
4. CHECK IGNITION KNOB SWITCH CIRCUIT

1. Check continuity between Intelligent Key unit harness connector (A) M164 terminal 27 and key switch and ignition knob switch harness connector (B) M66 terminal 2.

27 - 2 : Continuity should exist.

2. Check continuity between Intelligent Key unit harness connector M164 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.

HORN FUNCTION

Symptom Table

INFOID:0000000001689566

HAZARD AND HORN REMINDER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Work flow”. Refer to SEC-5, "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. (Horn reminder operate.)	1. Check “HAZARD ANSWER BACK” setting in “WORK SUPPORT”.	SEC-20
	2. Check hazard function.	EXL-4
	3. Check Intermittent Incident.	GI-51
Hazard reminder does not operate by Intelligent Key. (Horn reminder operate.)	1. Check “HAZARD ANSWER BACK” setting in “WORK SUPPORT”.	SEC-20
	2. Check hazard function.	EXL-4
	3. Check Intelligent Key battery inspection.	DLK-87
Horn reminder does not operate by request switch. (Hazard reminder operate.)	1. Check “ANSWER BACK WITH I-KEY LOCK” or “ANSWER BACK WITH I-KEY UNLOCK” setting in “WORK SUPPORT”.	SEC-20
	2. Check Intelligent Key warning buzzer.	DLK-73
	3. Check Intermittent Incident.	GI-51
Horn reminder does not operate by Intelligent Key. (Hazard reminder operate.)	1. Check “HORN WITH KEYLESS LOCK” setting in “WORK SUPPORT”.	SEC-20
	2. Check horn function.	HRN-3
	3. Check Intermittent Incident.	GI-51

VEHICLE SECURITY INDICATOR

Description

INFOID:0000000001689567

- 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:0000000001689568

1.CHECK FUNCTION

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

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

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Refer to SEC-48, "Diagnosis Procedure".

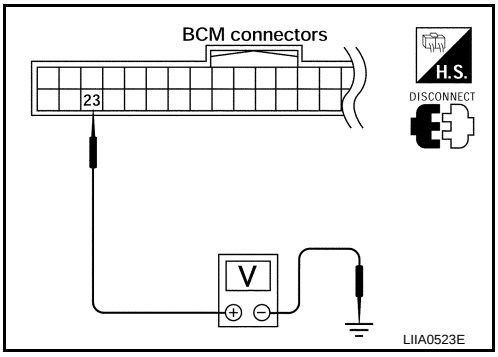
Diagnosis Procedure

INFOID:0000000001689569

1.SECURITY INDICATOR LAMP ACTIVE TEST

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

Without CONSULT-III
1. Disconnect BCM.
2. Check voltage between BCM harness connector M18 terminal 23 and ground.



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

Is the inspection result normal?

YES >> Security indicator lamp is OK.
NO >> GO TO 2

2.SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace security indicator lamp.

3.CHECK HARNESS CONTINUITY

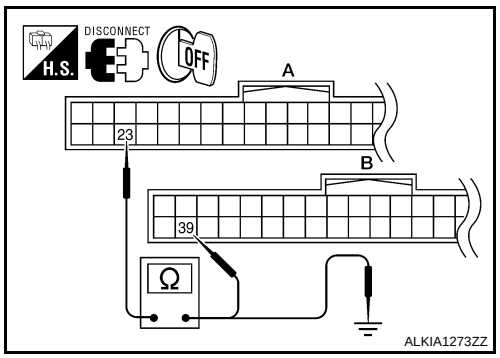
1. Turn ignition switch OFF.
2. Disconnect BCM and security indicator lamp connector.

3. Check continuity between BCM connector (A) M18 terminal 23 and combination meter connector (B) M24 terminal 39.

23 - 39 : Continuity should exist.

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

23 - Ground : Continuity should not exist.



Is the inspection result normal?

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

NO >> Repair or replace harness.

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000001689570

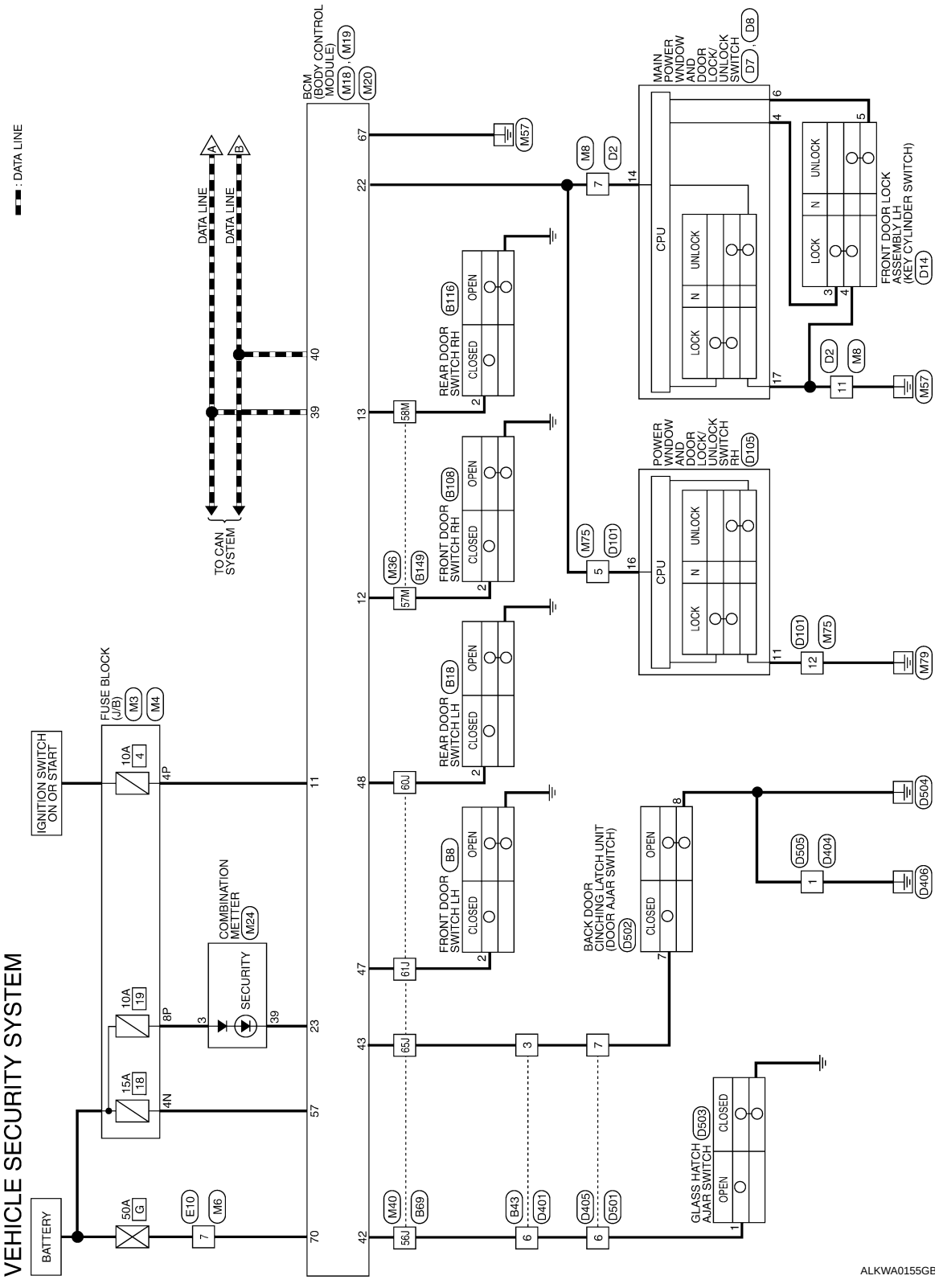
VALUES ON THE DIAGNOSIS TOOL
Refer to BCS-38, "Reference Value".

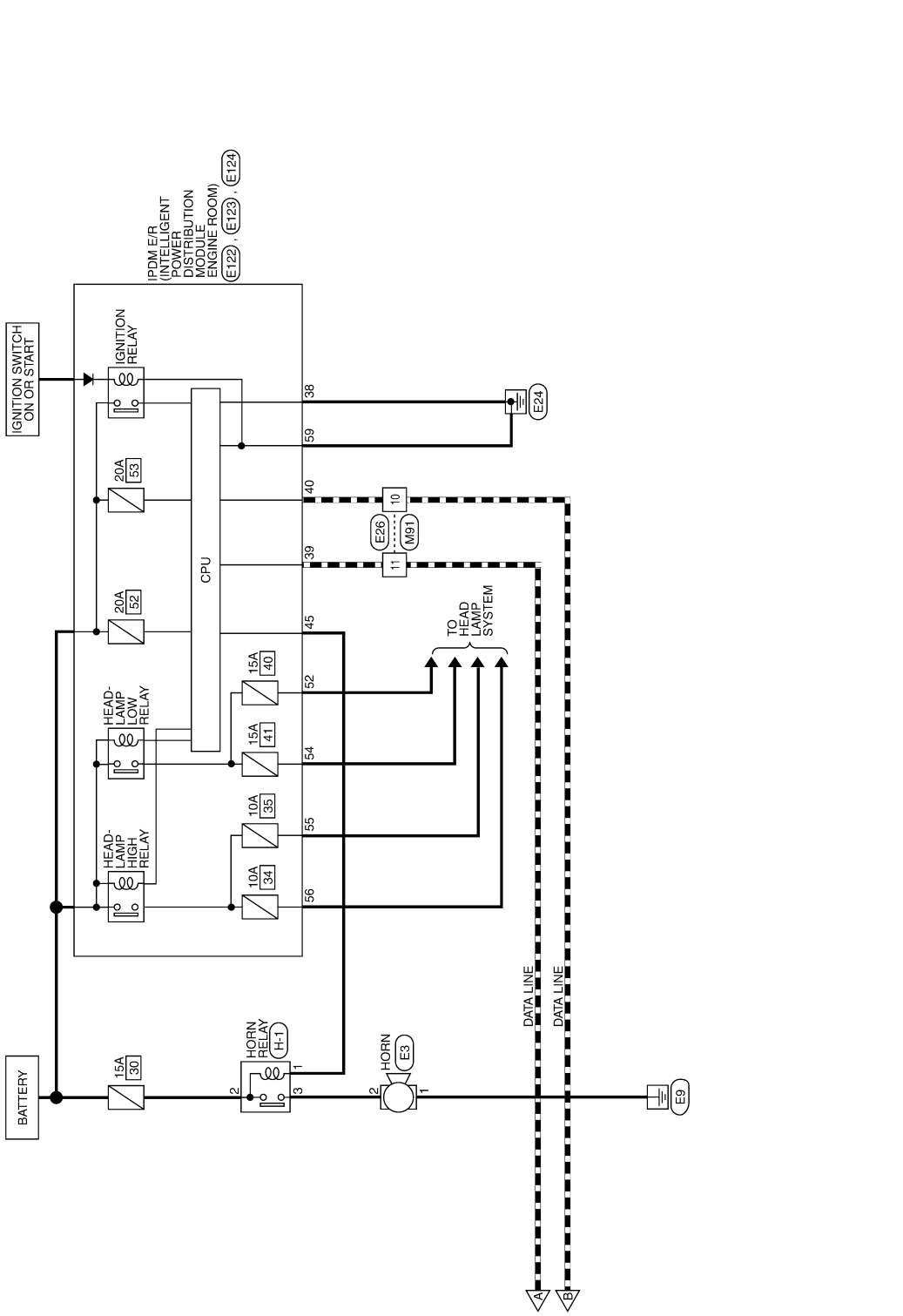
TERMINAL LAYOUT
Refer to BCS-41, "Terminal Layout".

PHYSICAL VALUES
Refer to BCS-41, "Physical Values".

Wiring Diagram - VEHICLE SECURITY SYSTEM

INFOID:0000000001689571





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VEHICLE SECURITY SYSTEM CONNECTORS

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4N	R/Y	–

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

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
4P	G/B	–
8P	R/Y	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
7	W	–

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

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
7	V	–
11	B	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
11	G/B	ACC SW
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
22	V	BUS
23	G	SECURITY INDICATOR OUTPUT
39	L	CAN-H
40	P	CAN-L

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

H.S.

41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

Terminal No.	Color of Wire	Signal Name
42	LG	GLASS HATCH AJAR
43	SB	BACK DOOR SW
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)

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

H.S.

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

Terminal No.	Color of wire	Signal Name
57	R/Y	BAT(FUSE)
67	B	GND (POWER)
70	W	BAT(F/L)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	R/Y	–
39	G	–

Terminal No.	Color of Wire	Signal Name
57M	LG	–
58M	L	–

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

H.S.

				5M	4M	3M	2M	1M											
				10M	9M	8M	7M	6M											
21M	20M	19M	18M	17M	16M	15M	14M	13M	12M	11M									
30M	29M	28M	27M	26M	25M	24M	23M	22M											
41M	40M	39M	38M	37M	36M	35M	34M	33M	32M	31M									
50M	49M	48M	47M	46M	45M	44M	43M	42M											
61M	60M	59M	58M	57M	56M	55M	54M	53M	52M	51M									
70M	69M	68M	67M	66M	65M	64M	63M	62M											
				75M	74M	73M	72M	71M											
				80M	79M	78M	77M	76M											

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

H.S.

5	4		3	2	1
12	11	10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
5	V	–
12	B	–

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
7	W	–

Terminal No.	Color of Wire	Signal Name
56J	LG	–
60J	P	–
61J	GR	–
65J	SB	–

Connector No.	E3
Connector Name	HORN
Connector Color	BLACK

H.S.

1	2

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

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

H.S.

				5J	4J	3J	2J	1J												
					9J	8J	7J	6J												
					10J															
21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J										
	30J	29J	28J	27J	26J	25J	24J	23J	22J											
41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J										
	50J	49J	48J	47J	46J	45J	44J	43J	42J											
61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J										
	70J	69J	68J	67J	66J	65J	64J	63J	62J											
				75J	74J	73J	72J	71J												
					80J	79J	78J	77J	76J											

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

ALKIA0464GB

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

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

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

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
45	LG	HORN RLY

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

51		50	49
56	55	54	53	52

Terminal No.	Color of Wire	Signal Name
52	P	H/LAMP_LO_LH
54	R	H/LAMP_LO_RH
55	G	H/LAMP_HI_LH
56	L	H/LAMP_HI_RH

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

H.S.

59	58	57
62	61	60

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

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

H.S.

1
2
3

Terminal No.	Color of Wire	Signal Name
2	GR	–

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

H.S.

1
2
3

Terminal No.	Color of Wire	Signal Name
2	P	–

ALKIA0465GB

Terminal No.	Color of Wire	Signal Name
56J	LG	–
60J	P	–
61J	GR	–
65J	SB	–

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

H.S.

Connector No.	B43
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	SB	–
6	LG	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	LG	–

ALKIA0466GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
57M	LG	–
58M	L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
7	V	–
11	B	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
4	SB	KEY CYL LOCK SW
6	R/W	KEY CYL UNLOCK SW
14	V	POWER WINDOW SERIAL LINK

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

H.S.

Terminal No.	Color of Wire	Signal Name
17	B	GND

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

H.S.

Terminal No.	Color of Wire	Signal Name
3	SB	–
4	B	–
5	R/W	–

ALKIA0467GB

Connector No.	D401
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
3	SB	–
6	LG	–

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
6	LG	–
7	SB	–

Connector No.	D105
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
11	B	GND
16	V	POWER WINDOW SERIAL LINK

Connector No.	D405
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
6	LG	–
7	SB	–

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

H.S.

1	2	3	4	5
6	7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
5	V	–
12	B	–

Connector No.	D404
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	B	–

ALKIA0937GB

Connector No.	D502
Connector Name	BACK DOOR CINCHING LATCH UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	SB	–
8	B	–

Connector No.	D503
Connector Name	GLASS HATCH AJAR SWITCH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	–

Connector No.	D505
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Terminal No.	Color of Wire	Signal Name
1	BR	–
2	O	–
3	G	–

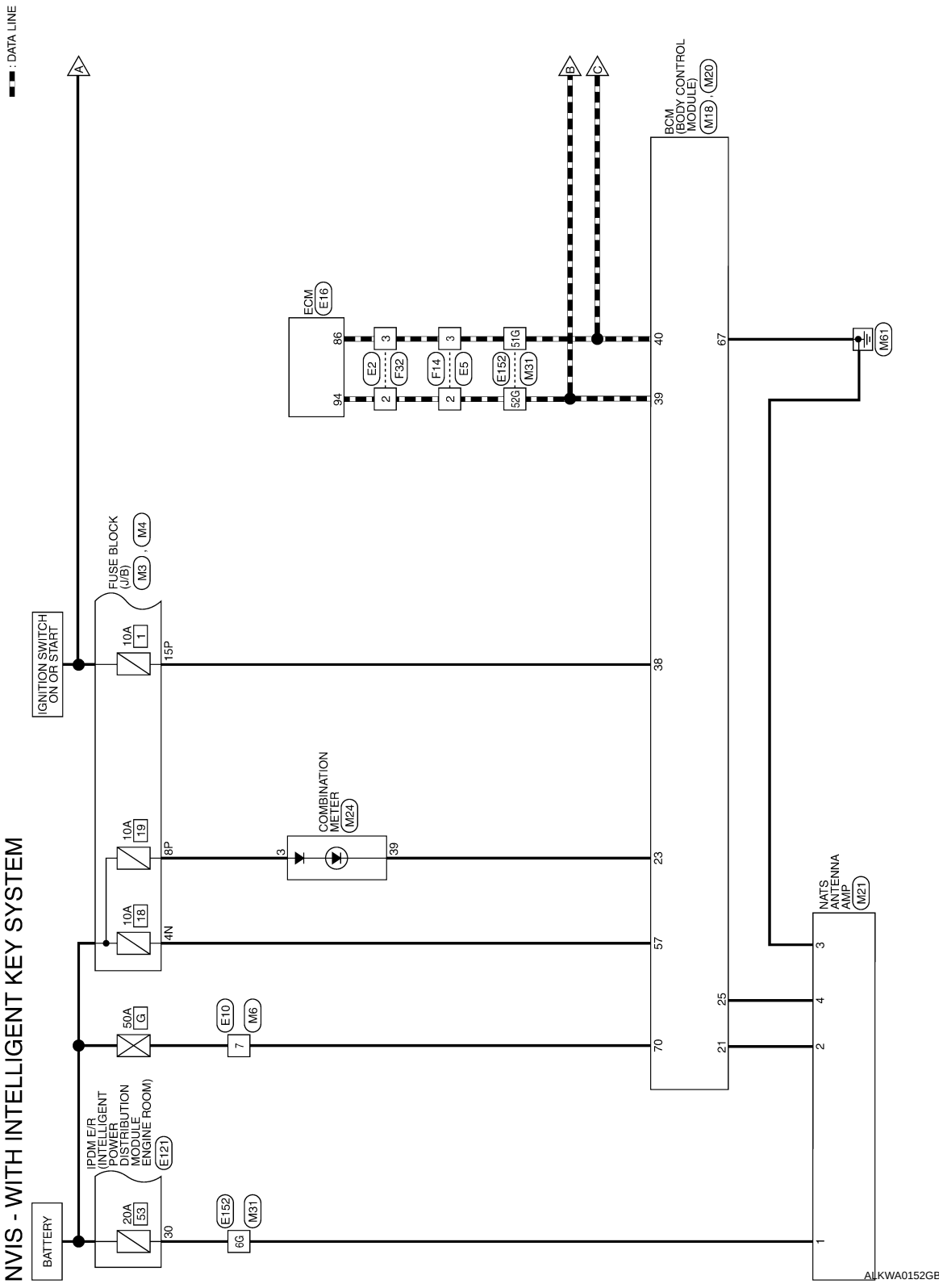
Connector No.	H-1
Connector Name	FUSE AND FUSIBLE LINK BOX
Connector Color	–

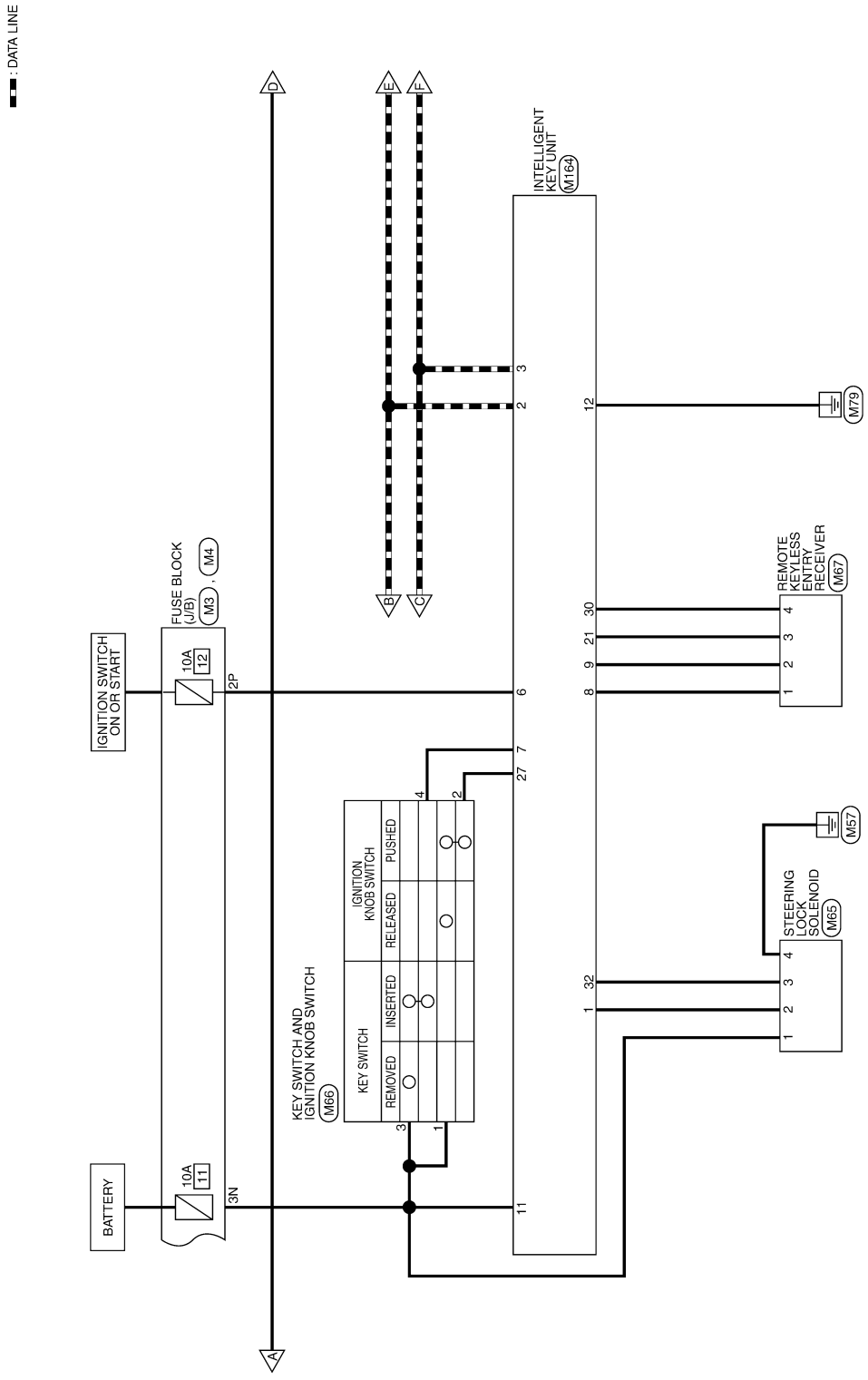
H.S.

ALKIA0938GB

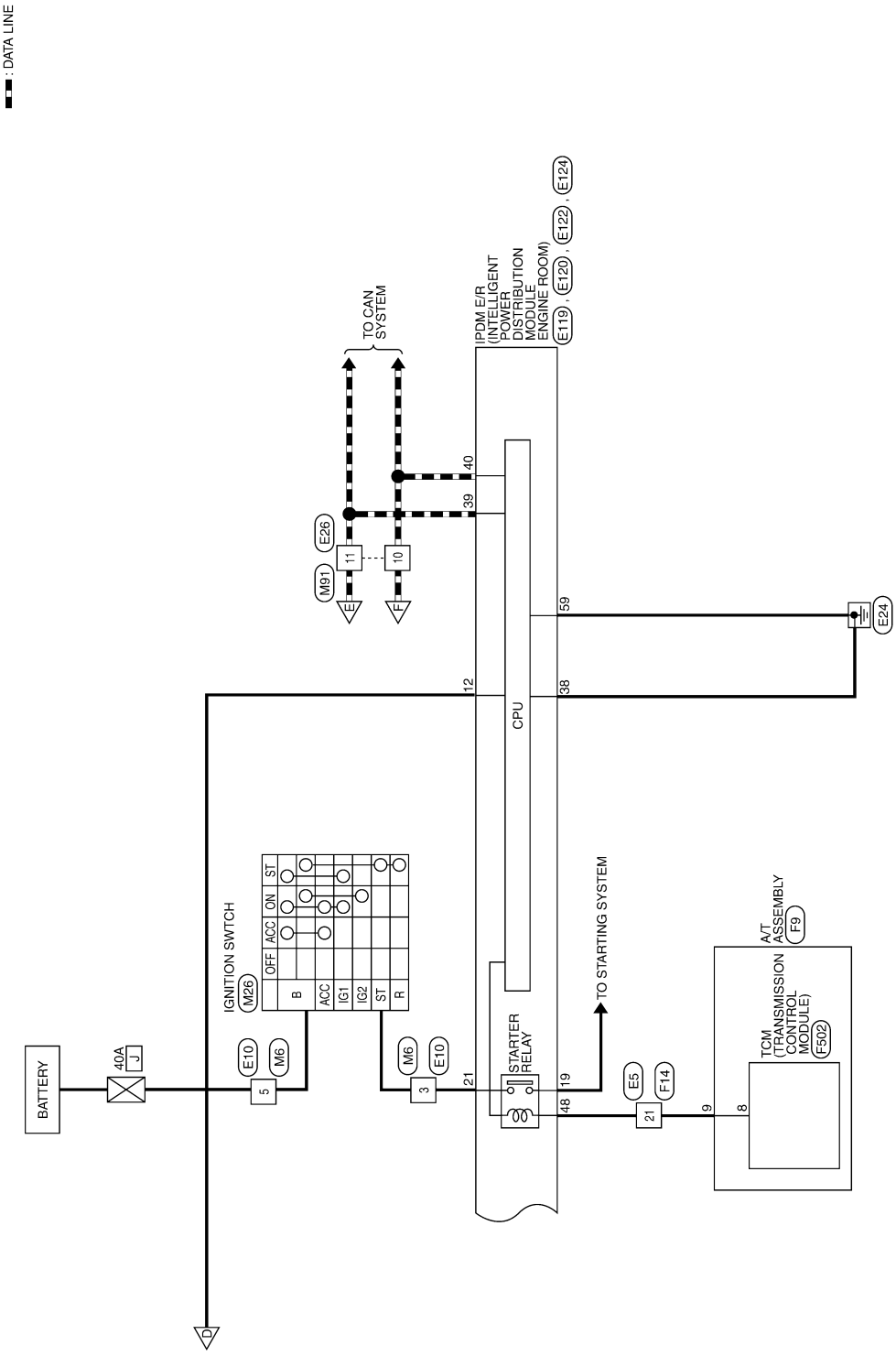
Wiring Diagram - NVIS

INFOID:0000000001689572



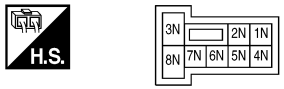


ALKWA0153GE


: DATA LINE
TO CAN SYSTEM
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119
E120
E122
E124
40
39
E26
11
10
M91
59
12
38
CPU
E24
IGNITION SWITCH
M26
OFF
ACC
ON
ST
B
ACC
IG1
IG2
ST
R
BATTERY
40A
J
E10
M6
5
3
21
STARTER RELAY
19
48
TO STARTING SYSTEM
E5
F14
21
9
8
A/T ASSEMBLY
F9
TCM (TRANSMISSION CONTROL MODULE)
F502
ALKWA0154GB

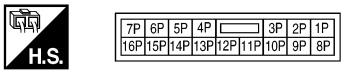
NVIS - WITH INTELLIGENT KEY SYSTEM CONNECTORS

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



Terminal No.	Color of Wire	Signal Name
3N	R/B	–
4N	R/Y	–

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

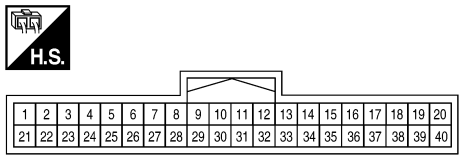


Terminal No.	Color of Wire	Signal Name
2P	W/G	–
8P	R/Y	–
15P	W/R	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

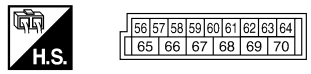
Terminal No.	Color of Wire	Signal Name
3	GR	–
5	G	–
7	W	–

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



Terminal No.	Color of Wire	Signal Name
21	GR	IMMOBILSER ATNENNA SIG (CLOCK)
23	G	SECURITY INDICATOR OUTPUT
25	BR	IMMOB ATNENNA SIG (TX,RX)
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L

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



Terminal No.	Color of wire	Signal Name
57	R/Y	BAT (FUSE)
67	B	GND (POWER)
70	W	BAT (F/L)

ALKIA0475GB

Connector No.	M21
Connector Name	NATS ANTENNA AMP
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	R/B	VB (12V)
2	GR	CLOCK
3	B	GND
4	BR	RX,TX

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	R/Y	–
39	G	–

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE

H.S.

B	ST	IG1
R	ACC	IG2

Terminal No.	Color of Wire	Signal Name
B	G	–
ST	GR	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
6G	R/B	–
51G	P	–
52G	L	–

ALKIA0476GB

Connector No.	M65
Connector Name	STEERING LOCK SOLENOID
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	R/B	+B
2	O	+5V
3	V	SIG
4	SB	GND

Connector No.	M66
Connector Name	KEY SWITCH AND IGNITION KNOB SWITCH
Connector Color	GRAY

H.S.

1	2	3	4	5	6

Terminal No.	Color of Wire	Signal Name
1	R	–
2	G	–
3	R/B	–
4	SB	–

Connector No.	M67
Connector Name	REMOTE KEYLESS ENTRY RECEIVER
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	O	–
2	R	–
3	BR	–
4	W	–

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4	3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

Connector No.	M164
Connector Name	INTELLIGENT KEY UNIT
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of wire	Signal Name
1	O	5V-POWER
2	L	CAN-H
3	P	CAN-L
6	W/G	IGN_SW_INPUT
7	SB	KEY_SW_INPUT
8	O	GND
9	R	SINGAL
11	R/B	BAT
12	B	GND
21	BR	RSSI
27	G	PUSH_SW_INPUT
30	W	5V
32	V	STRG_LOCK_SIG

ALKIA0477GB

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
3	GR	–
5	G	–
7	W	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–
21	R	–

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

9	8	7	6		5	4	3
18	17	16	15	14	13	12	11	10

Terminal No.	Color of Wire	Signal Name
12	W/G	IGN_SW_(IG1)

Connector No.	E2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

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

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK

H.S.

106	107	108	109	110	111	112	113		119	120	121
98	99	100	101	102	103	104	105		117	118	
90	91	92	93	94	95	96	97		114	115	116
82	83	84	85	86	87	88	89				

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

ALKIA0478GB

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

21	20	19
24	23	22

Terminal No.	Color of Wire	Signal Name
19	W	STARTER_MOTOR
21	GR	IGN_SW_(ST)

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

H.S.

29	28		27	26	25
36	35	34	33	32	31	30

Terminal No.	Color of Wire	Signal Name
30	R/B	ECM_BAT

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

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
48	R	INHIBIT

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

H.S.

59	58	57
62	61	60

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
6G	R/B	–
51G	P	–
52G	L	–

ALKIA0935GB

Connector No.	F9
Connector Name	A/T ASSEMBLY
Connector Color	GREEN

H.S.

5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
9	R	–

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

H.S.

12	11	10	9	8	7	6	5	4	3	2	1	13
24	23	22	21	20	19	18	17	16	15	14		

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–
21	R	–

Connector No.	F32
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

H.S.

10	9	8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
8	G	START-RLY

ALKIA0936GB

Fail Safe

INFOID:0000000001689573

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:0000000001689574

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

INFOID:0000000001689575

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-25
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-39

INTELLIGENT KEY UNIT

Reference Value

INFOID:0000000001689576

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition		Value/Status
PUSH SW	Ignition knob	Release	OFF
		Press	ON
KEY ON SW	Mechanical key	Removed	OFF
		Inserted	ON
DR REQ SW	Door request switch (driver)	Release	OFF
		Press	ON
AS REQ SW	Door request switch (passenger)	Release	OFF
		Press	ON
BD/TR REQ SW	Door request switch (back door)	Release	OFF
		Press	ON
IGN SW	Ignition switch	Other than ON position	OFF
		ON position	ON
ACC SW	Ignition switch	Other than ACC or ON position	OFF
		ACC or ON position	ON
STOP LAMP SW	Brake pedal	Press	OFF
		Release	ON
DOOR LOCK SIG	Lock button of Intelligent Key	Release	OFF
		Press	ON
DOOR UNLOCK SIG	Unlock button of Intelligent Key	Release	OFF
		Press	ON
DOOR SW DR	Door (driver side)	Close	OFF
		Open	ON
DOOR SW AS	Door (passenger side)	Close	OFF
		Open	ON
DOOR SW RR	Door (rear RH)	Close	OFF
		Open	ON
DOOR SW RL	Door (rear LH)	Close	OFF
		Open	ON
DOOR BK SW	Back door	Close	OFF
		Open	ON
VEHICLE SPEED	While driving		Equivalent to speedometer reading

TERMINAL LAYOUT

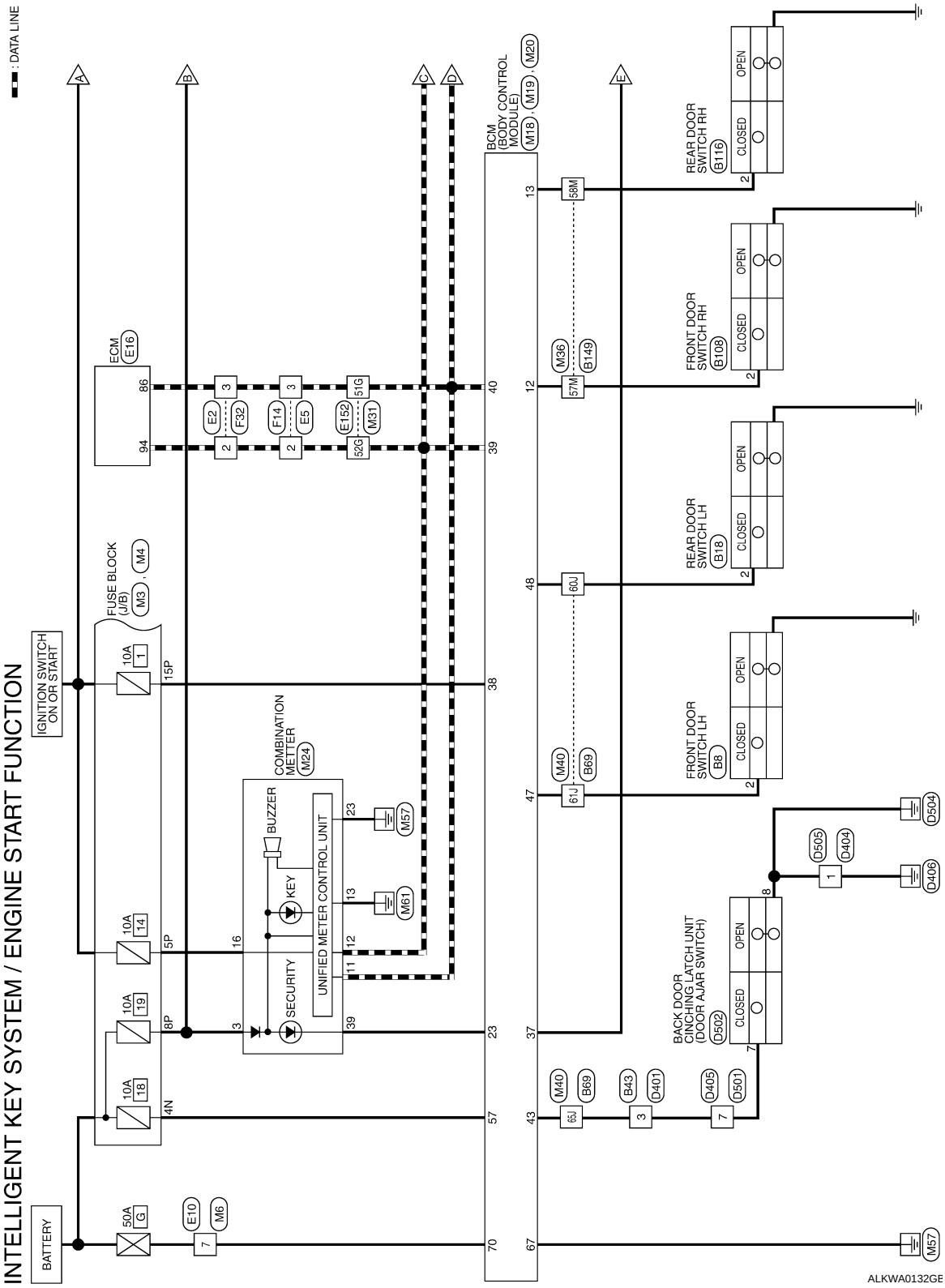
Refer to DLK-129, "Reference Value - Intelligent Key Unit".

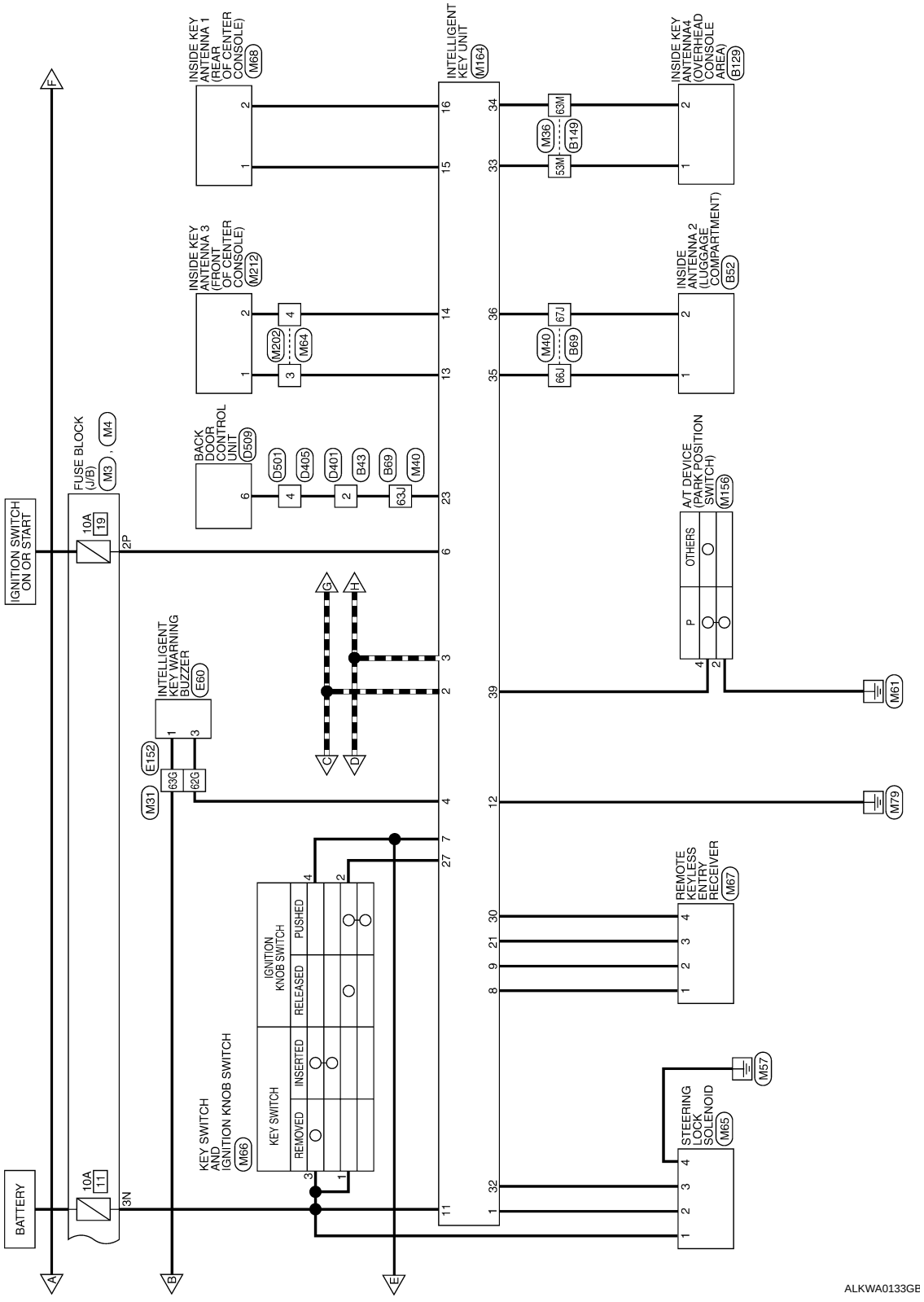
PHYSICAL VALUES

Refer to DLK-129, "Reference Value - Intelligent Key Unit".

Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -

INFOID:0000000001689577

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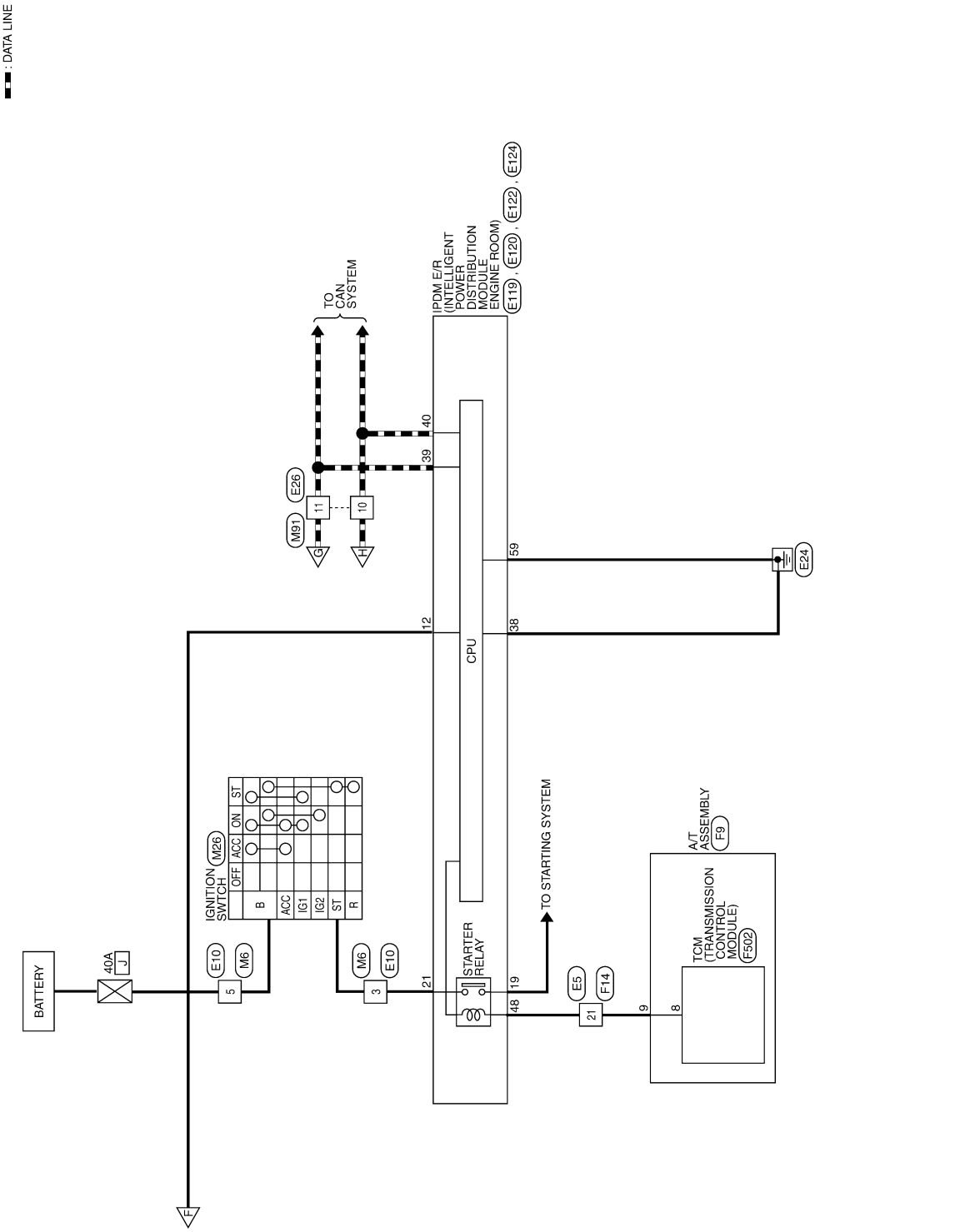
INSIDE KEY ANTENNA 1 (REAR OF CENTER CONSOLE) M68
INTELLIGENT KEY UNIT M164
INSIDE KEY ANTENNA4 (OVERHEAD CONSOLE AREA) B129
INSIDE KEY ANTENNA 3 (FRONT OF CENTER CONSOLE) M212
INSIDE ANTENNA 2 (LUGGAGE COMPARTMENT) B52
BACK DOOR CONTROL UNIT D509
A/T DEVICE (PARK POSITION SWITCH) M156
FUSE BLOCK (J/B) M3, M4
IGNITION SWITCH ON OR START
10A 19
10A 11
BATTERY
INTELLIGENT KEY WARNING BUZZER E60
E152
M31
KEY SWITCH AND IGNITION KNOB SWITCH M66
KEY SWITCH
IGNITION KNOB SWITCH
REMOVED
INSERTED
RELEASED
PUSHED
REMOTE KEYLESS ENTRY RECEIVER M67
STEERING LOCK SOLENOID M65
M57
M61
M79
OTHERS
P
ALKWA0133GB



ALKWA0134GE

INTELLIGENT KEY SYSTEM / ENGINE START FUNCTION CONNECTORS

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

H.S.

Terminal No.	Color of Wire	Signal Name
3N	R/B	–
4N	R/Y	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2P	W/G	–
5P	W/G	–
8P	R/Y	–
15P	W/R	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	GR	–
5	G	–
7	W	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
23	G	SECURITY INDICATOR OUTPUT
37	B	KEY SW
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L

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

H.S.

Terminal No.	Color of Wire	Signal Name
43	SB	BACK DOOR SW
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)

ALKIA0468GB

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	R/Y	–
11	P	–
12	L	–
13	GR	–
16	W/G	–
23	B	–
39	G	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
51G	P	–
52G	L	–
62G	GR	–
63G	R/B	–

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

H.S.

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

Terminal No.	Color of wire	Signal Name
57	R/Y	BAT (FUSE)
67	B	GND (POWER)
70	W	BAT (F/L)

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE

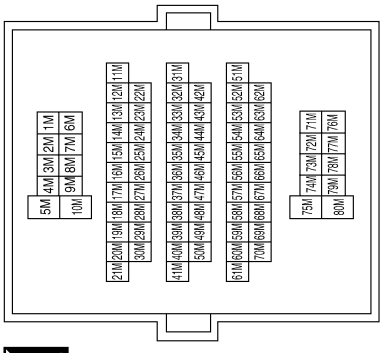
H.S.

Terminal No.	Color of Wire	Signal Name
B	G	–
ST	GR	–

ALKIA0469GB

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

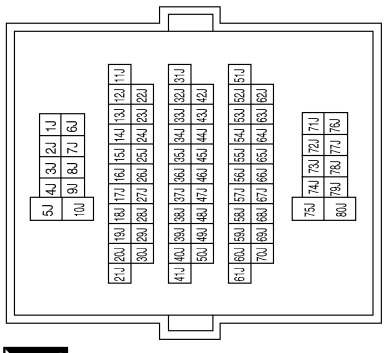
H.S.



Terminal No.	Color of Wire	Signal Name
53M	G	–
57M	LG	–
58M	L	–
63M	R	–

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

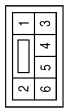
H.S.



Terminal No.	Color of Wire	Signal Name
60J	P	–
61J	GR	–
63J	G	–
65J	SB	–
66J	L	–
67J	O	–

Connector No.	M64
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3	W	–
4	BR	–

ALKIA0470GB

Connector No.	M65
Connector Name	STEERING LOCK SOLENOID
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R/B	+B
2	O	+5V
3	V	SIG
4	SB	GND

Connector No.	M66
Connector Name	KEY SWITCH AND IGNITION KNOB SWITCH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	G	–
3	R/B	–
4	SB	–

Connector No.	M67
Connector Name	REMOTE KEYLESS ENTRY RECEIVER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	O	–
2	R	–
3	BR	–
4	W	–

Connector No.	M68
Connector Name	INSIDE KEY ANTENNA 1 (REAR OF CENTER CONSOLE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	–
2	LG	–

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

Connector No.	M156
Connector Name	A/T DEVICE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–
4	SB	–

ALKIA0471GB

Connector No.	M164
Connector Name	INTELLIGENT KEY UNIT
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of wire	Signal Name
1	O	5V-POWER
2	L	CAN-H
3	P	CAN-L
4	GR	BUZZER_DR_OUTPUT
6	W/G	IGN_SW_INPUT

Terminal No.	Color of wire	Signal Name
7	SB	KEY_SW_INPUT
8	O	GND
9	R	SINGAL
11	R/B	BAT
12	B	GND
13	W	ANT_2(+)
14	BR	ANT_2(-)
15	V	ANT_1(+)
16	LG	ANT_1(-)
21	BR	RSSI
23	G	BACKDOOR_AUTO_CLOSURE
27	G	PUSH_SW_INPUT
30	W	5V
32	V	STRG_LOCK_SIG
33	G	3RD_ROW_ANT(+)
34	R	3RD_ROW_ANT(-)
35	L	2ND_ROW_ANT+
36	O	2ND_ROW_ANT-
39	SB	P_RANGE_SW

Connector No.	M202
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

2	1
6	5	4	3

Terminal No.	Color of Wire	Signal Name
3	W	–
4	BR	–

Connector No.	M212
Connector Name	INSIDE KEY ANTENNA 3 (FRONT OF CENTER CONSOLE)
Connector Color	GRAY

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	W	–
2	BR	–

Connector No.	E2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

ALKIA0472GB

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK

H.S.

106	107	108	109	110	111	112	113		119	120	121
98	99	100	101	102	103	104	105			117	118
90	91	92	93	94	95	96	97		114	115	116
82	83	84	85	86	87	88	89				

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

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

9	8	7	6		5	4	3
18	17	16	15	14	13	12	11	10

Terminal No.	Color of Wire	Signal Name
12	W/G	IGN_SW_(IG1)

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
3	GR	–
5	G	–
7	W	–

Connector No.	E60
Connector Name	INTELLIGENT KEY WARNING BUZZER
Connector Color	BROWN

H.S.

1	2	3

Terminal No.	Color of Wire	Signal Name
1	R/B	–
3	GR	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–
21	R	–

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

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

ALKIA0473GB

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

21	20	19
24	23	22

Terminal No.	Color of Wire	Signal Name
19	W	STARTER_MOTOR
21	GR	IGN_SW_(ST)

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

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
48	R	INHIBIT

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

H.S.

59	58	57
62	61	60

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

Connector No.	F9
Connector Name	A/T ASSEMBLY
Connector Color	GREEN

H.S.

5	4	3	2	1
10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
9	R	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
51G	P	–
52G	L	–
62G	GR	–
63G	R/B	–

ALKIA0474GB

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

H.S.

12	11	10	9	8	7	6	5	4	3	2	1	13
24	23	22	21	20	19	18	17	16	15	14		

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–
21	R	–

Connector No.	F32
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

H.S.

10	9	8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
8	G	START-RLY

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	GR	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	P	–

Connector No.	B43
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8

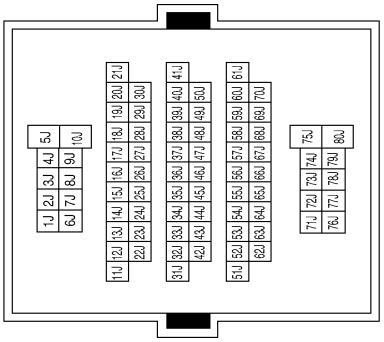
Terminal No.	Color of Wire	Signal Name
2	G	–
3	SB	–

ALKIA0926GB

Terminal No.	Color of Wire	Signal Name
60J	P	–
61J	GR	–
63J	G	–
65J	SB	–
66J	L	–
67J	O	–

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

H.S.



Connector No.	B129
Connector Name	INSIDE KEY ANTENNA 4 (OVERHEAD CONSOLE AREA)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–
2	R	–

Connector No.	B52
Connector Name	INSIDE KEY ANTENNA 2 (LUGGAGE COMPARTMENT)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	O	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	LG	–

ALKIA0927GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
53M	G	–
57M	LG	–
58M	L	–
63M	R	–

Connector No.	D401
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	G	–
3	SB	–

Connector No.	D404
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	D405
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4	G	–
7	SB	–

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4	G	–
7	SB	–

ALKIA0928GB

Connector No.	D509
Connector Name	BACK DOOR CONTROL UNIT
Connector Color	WHITE

H.S.

8	7		1	3
				2
9	6	5	4	

Terminal No.	Color of Wire	Signal Name
6	G	–

Connector No.	D505
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	D502
Connector Name	BACK DOOR CINCHING LATCH UNIT
Connector Color	WHITE

H.S.

1		2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
7	SB	–
8	B	–

ALKIA0929GB

Fail Safe

INFOID:0000000001689578

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:0000000001689579

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

INFOID:0000000001689580

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-25
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-39

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

Reference Value

INFOID:0000000001689581

VALUES ON THE DIAGNOSIS TOOL

Refer to PCS-17, "Reference Value".

TERMINAL LAYOUT

Refer to PCS-19, "Terminal Layout".

Fail Safe

INFOID:0000000001689582

Refer to PCS-26, "Fail Safe".

DTC Index

INFOID:0000000001689583

Refer to PCS-28, "DTC Index".

SYMPTOM DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SYMPTOMS

Symptom Table

INFOID:0000000001689584

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

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

Symptom	Diagnosis/service procedure		Reference page
Ignition switch does not turn on with Intelligent Key. [green "KEY" lamp is displayed]	1.	Check steering lock solenoid.	SEC-27
	2.	Replace Intelligent Key unit.	SEC-93
Ignition switch does not turn on with Intelligent Key. ["KEY" lamp does not display]	1.	Check Intelligent Key unit power supply and ground circuit.	DLK-46
	2.	Check ignition knob switch.	DLK-97
	3.	Check key switch (BCM input).	DLK-96
	4.	Check key switch (Intelligent Key unit input).	DLK-94
	5.	Replace Intelligent Key unit.	SEC-93
	6.	Check green "KEY" indicator.	DLK-76
	7.	Check red "KEY" indicator.	DLK-76
Ignition switch does not turn on with Intelligent Key. [red "KEY" lamp is displayed]	1a.	Check inside key antenna 1 (instrument panel).	DLK-40
	1b.	Check inside key antenna 2 (luggage compartment).	DLK-42
	1c.	Check inside key antenna 3 (center console).	DLK-44
	2.	Replace Intelligent Key unit.	SEC-93
Ignition switch does not turn on with mechanical key	1.	Check key switch (BCM input).	DLK-96
	2.	Check key switch (Intelligent Key unit input).	DLK-94
Engine cannot be cranked with transmission in "Park" or in "Neutral" position with brake pedal depressed	1.	Check transmission signal.	TM-50
	2.	Check stop lamp switch.	EXL-81
"P-SHIFT" indicator does not operate properly	1.	Check "P-SHIFT" indicator.	DLK-76

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000001689585

Procedure			Diagnostic procedure	Refer to page
Symptom				
1	Vehicle security system cannot be set by ····	Door switch	Check door switch (LF, RF, LR, RR, back)	DLK-48
		Glass ajar switch	Check glass ajar switch	SEC-44
		Intelligent Key	Check Intelligent Key system	SEC-9
		Key cylinder switch	Check key cylinder switch	SEC-42
		—	Check Intermittent Incident	GI-51
	Security indicator does not turn ON.		Check vehicle security indicator	SEC-48
			Check Intermittent Incident	GI-51
2	* Vehicle security system does not sound alarm when ····	Any door is opened.	Check door switch (LF, RF, LR, RR, back)	DLK-48
		Glass ajar switch	Check glass ajar switch	SEC-44
		—	Check Intermittent Incident	GI-51
3	Vehicle security alarm does not activate.	Horn alarm	Check horn switch	HRN-3
			Check Intermittent Incident	GI-51
4	Vehicle security system cannot be canceled by ····	Intelligent Key	Check Intelligent Key system	SEC-9
		Key cylinder switch	Check key cylinder switch	SEC-42
		—	Check Intermittent Incident	GI-51

*: Check the system is in the armed phase.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

INFOID:0000000001689586

NOTE:

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

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

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

Symptom	Diagnosis/service procedure	Reference page
Security indicator does not turn ON or flash.	1. Check vehicle security indicator	SEC-48
	2. Check Intermittent Incident	GI-51

ON-VEHICLE MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

INFOID:0000000001689587

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 DLK-160, "Symptom Table".

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 SEC-88, "Symptom Table".

3.CHECK STEERING LOCKING

1. Does the steering lock when operating door switch after switching the power supply from ON position (or ACC position) to LOCK position?
   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-80, "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-45, "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-91, "Vehicle Security Operation Check".

Vehicle Security Operation Check

INFOID:0000000001689588

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 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 SEC-48, "Diagnosis Procedure".

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-88, "Symptom Table".
- Alarm (horn and headlamps) does not operate. Refer to SEC-88, "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 SEC-89, "Symptom Table".

ON-VEHICLE REPAIR

INTELLIGENT KEY UNIT

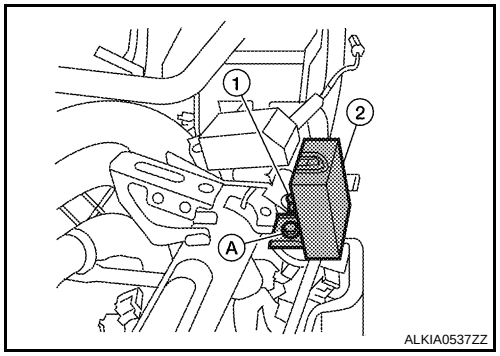
Removal and Installation

INFOID:0000000001689589

REMOTE KEYLESS ENTRY RECEIVER

Removal

1. Remove the instrument panel. Refer to IP-10, "Removal and Installation".
2. Disconnect the wire harness (1), remove the bolt (A) and the RKE receiver (2).



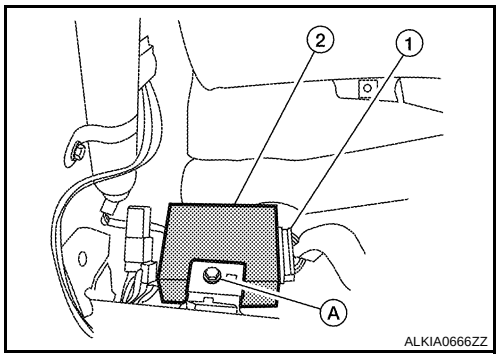
Installation

Installation is in the reverse order of removal.

INTELLIGENT KEY UNIT

Removal

1. Remove the instrument panel. Refer to IP-10, "Removal and Installation".
2. Disconnect the wire harness (1), remove the bolt (A) and the Intelligent key unit (2).



Installation

Installation is in the reverse order of removal.

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

INFOID:0000000001689649

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 cluster lid A. Refer to IP-10, "Exploded View".
3. Remove the bolt, disconnect the electrical connector, and remove the NATS antenna amp.

INSTALLATION

Installation is in the reverse order of removal.

INTELLIGENT KEY UNIT

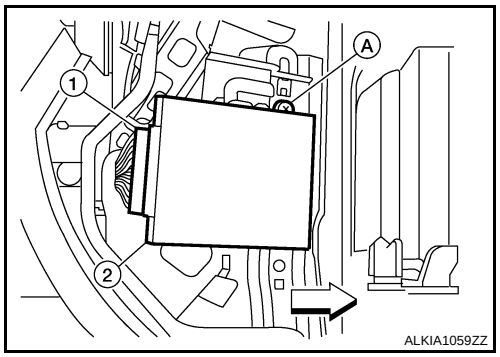
Removal and Installation

INFOID:0000000001689650

REMOVAL

1. Disconnect the battery negative terminal.
2. Remove the lower glove box. Refer to IP-10, "Exploded View".
3. Remove the bolt (A), disconnect the electrical connector (1), and remove the intelligent key module (2).

⇒: **Front**



INSTALLATION

Installation is in the reverse order of removal.

REMOTE KEYLESS ENTRY RECEIVER

Removal

INFOID:0000000001730844

1. Disconnect the battery negative cable.
2. Remove the upper glove box. Refer to IP-10, "Exploded View".
3. Remove the bolt, disconnect and remove the remote keyless entry receiver.

Installation

INFOID:0000000001730845

Installation is in the reverse order of removal.

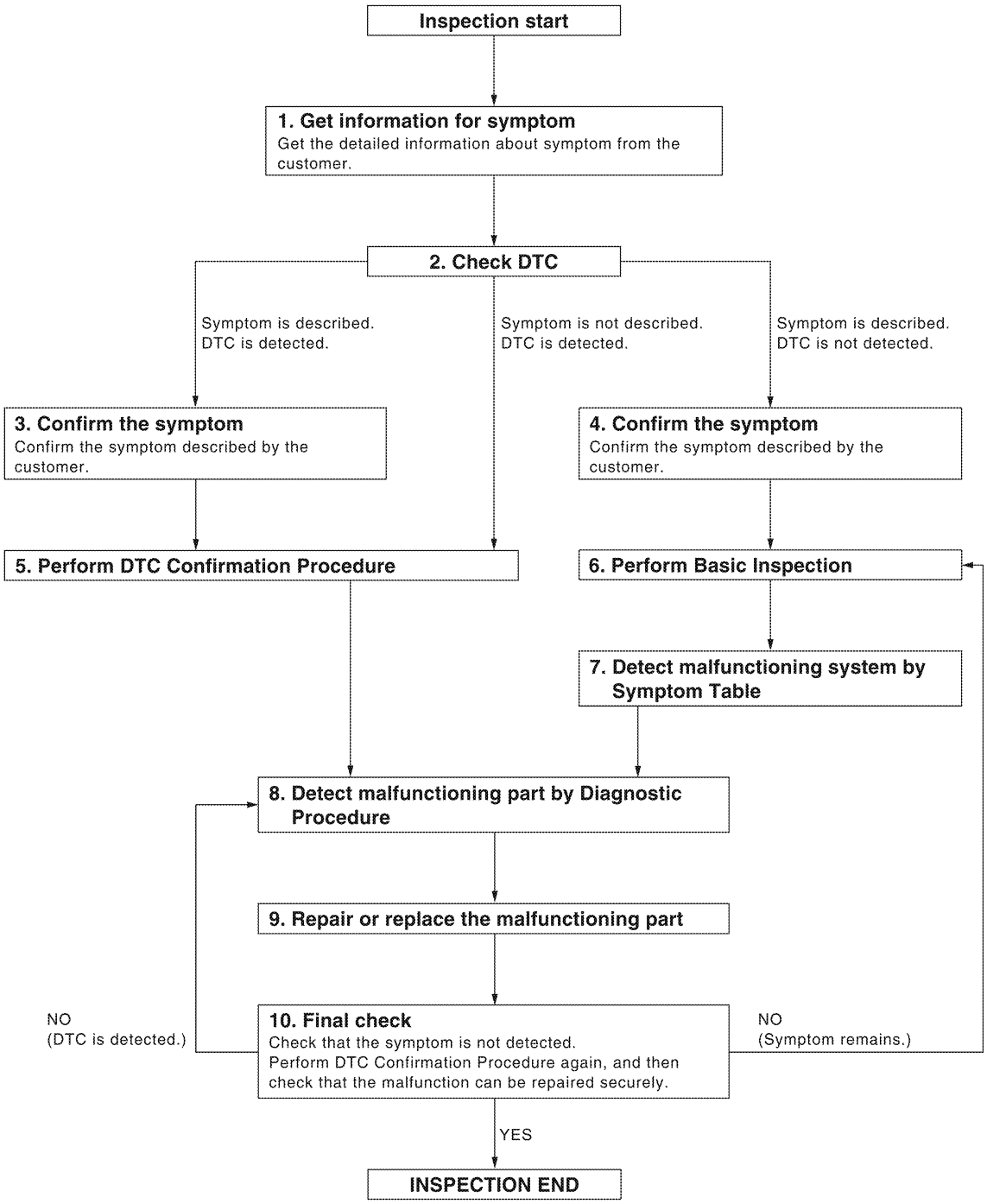
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000001689590

OVERALL SEQUENCE



ALKIA0538GB

DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

1. Check DTC for Intelligent Key unit and BCM.
2. Perform the following procedure if DTC is displayed.

- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3.
Symptom is described, DTC is not displayed>>GO TO 4.
Symptom is not described, DTC is displayed>>GO TO 5.

3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in “DATA MONITOR” mode and check real-time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in “DATA MONITOR ” mode and check real-time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.
If two or more DTCs are detected, refer to SEC-144, "DTC Inspection Priority Chart" (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 8.
NO >> Refer to GI-51, "Intermittent Incident".

6.PERFORM BASIC INSPECTION

Perform Basic Inspection. Refer to SEC-91, "Basic Inspection".

>> GO TO 7.

7.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

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

>> GO TO 8.

8.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.
NOTE:
The Diagnostic Procedure is described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

>> GO TO 9.

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000001689591

Refer to the CONSULT-III Operation Manual-NATS.

ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION : Description

INFOID:0000000001689592

Performing following procedure can automatically perform re-communication of ECM and BCM, but only when the ECM has been replaced with a new one (*1).
*1: New one means an ECM which has never been energized on-board.
(In this step, initialization procedure by CONSULT-III is not necessary)

NOTE:

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

ECM RE-COMMUNICATING FUNCTION : Special Repair Requirement

INFOID:0000000001689593

1. PERFORM ECM RE-COMMUNICATING FUNCTION

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

Can engine be started?

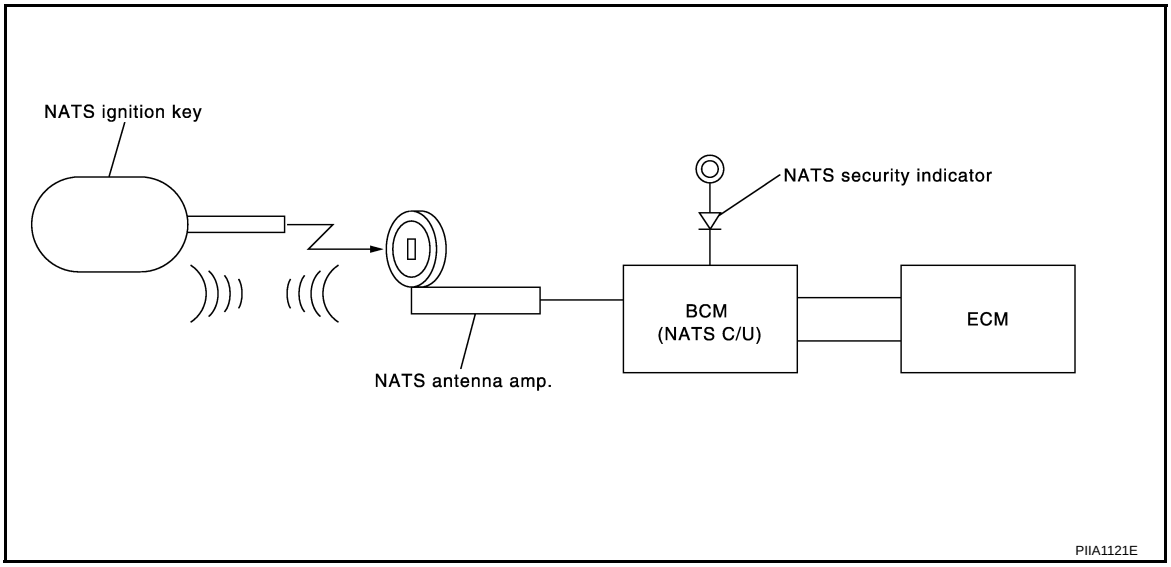
YES >> Procedure is completed.
NO >> Initialize control unit. Refer to CONSULT-III Operation Manual NATS.

FUNCTION DIAGNOSIS

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

INFOID:0000000001689594



System Description

INFOID:0000000001689595

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 • Starter request
ECM	Engine status signal		

SYSTEM DESCRIPTION

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

- Engine immobilizer shows high anti-theft performance to prevent engine from starting by other than the owner.
- Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- Security indicator always flashes with mechanical key removed condition (key switch: OFF) and ignition knob released condition on LOCK position (ignition knob switch: OFF).
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system. Refer to SEC-104, "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.

- Possible symptom of NATS malfunction is “Engine cannot start”. Identify the possible causes according to “Work Flow”, Refer to SEC-97, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-100, "ECM RE-COMMUNICATING FUNCTION : Description".

PRECAUTIONS FOR KEY REGISTRATION

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

SECURITY INDICATOR

- Always flashes with ignition key in the OFF position.

MAINTENANCE INFORMATION

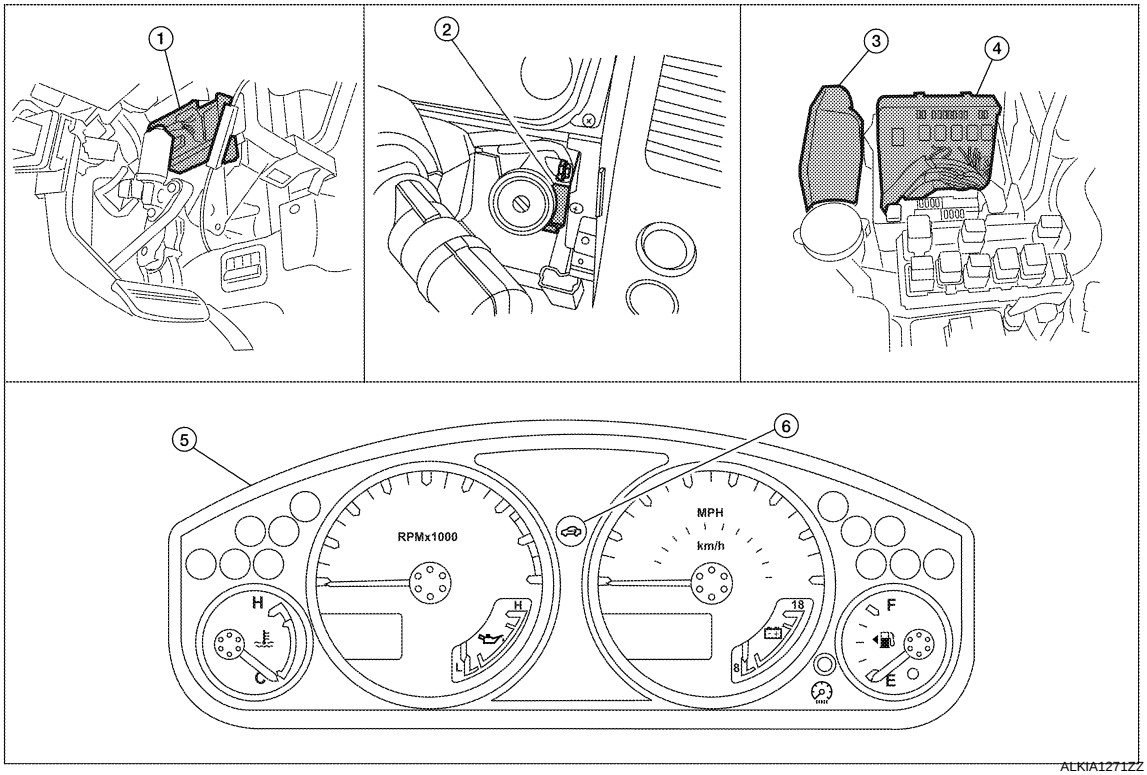
CAUTION:

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

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

Component Parts Location

INFOID:0000000001689596



ALKIA1271ZZ

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

Component Description

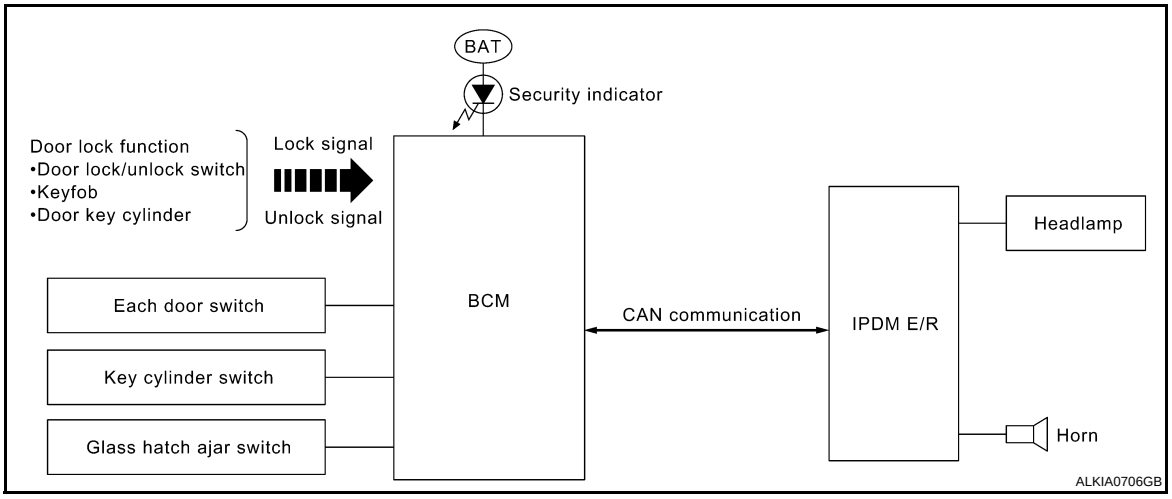
INFOID:0000000001689597

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

INFOID:0000000001689598



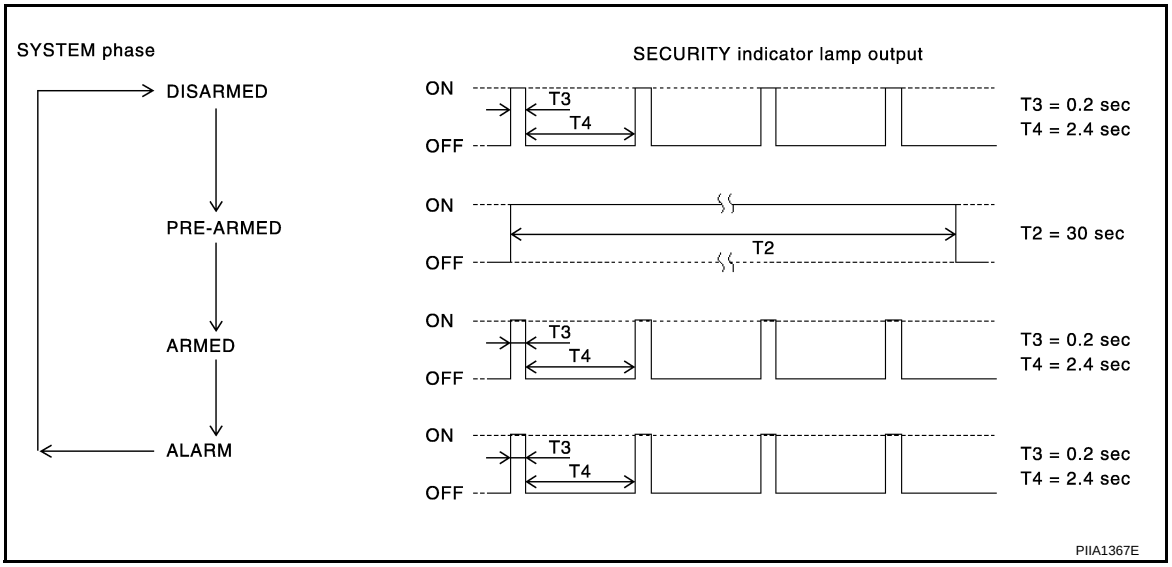
System Description

INFOID:0000000001689599

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.

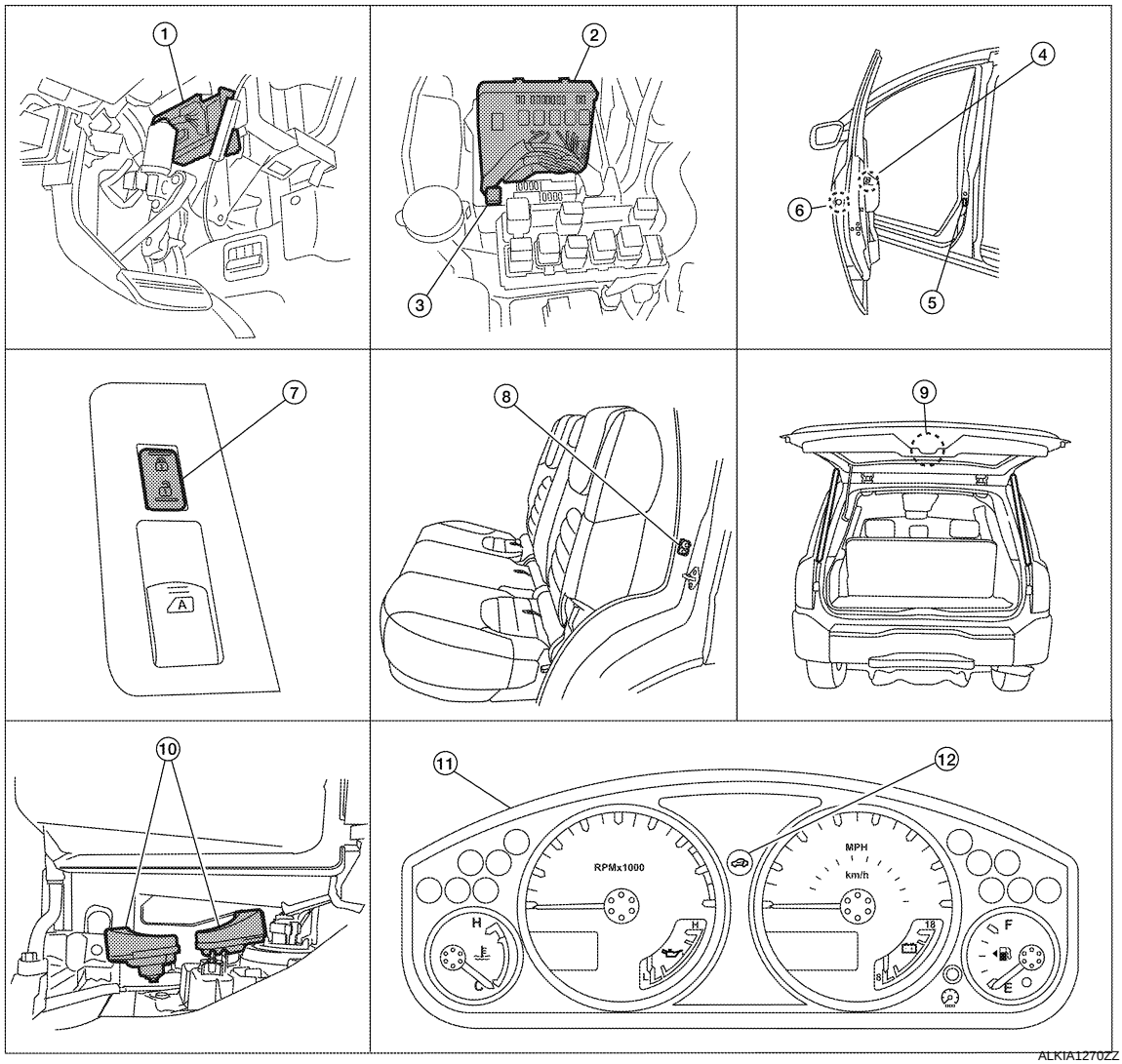
Condition of Deactivating The System

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:0000000001728844



ALKIA1270ZZ

1. BCM M18, M19, M20 (view with instrument panel LH removed)
2. IPDM E/R E122, E123, E124 (view with cover removed)
3. Horn relay H-1
4. Main power window and door lock/unlock switch D7, D8
5. Front door switch LH B8 RH B108
6. Front door lock assembly LH (key cylinder switch) D14
7. Power window and door lock/unlock switch RH D105
8. Rear door switch LH B18 RH B116
9. Back door cinching latch unit (door ajar switch) D502 Glass hatch ajar switch D503
10. Horn E3 (behind front combination lamp LH)
11. Combination meter M24
12. Security indicator lamp

Component Description

INFOID:0000000001689601

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

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

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

INFOID:0000000001689602

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		×	
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:0000000001689603

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.

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:0000000001689604

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

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000001689605

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-57, "CAN Communication Signal Chart"

DTC Logic

INFOID:0000000001689606

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:0000000001689607

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-51, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000001689608

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-57, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000001689609

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000001689610

1.REPLACE BCM

When DTC [U1010] is detected, replace BCM.

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

Special Repair Requirement

INFOID:0000000001689611

1.REQUIRED WORK WHEN REPLACING BCM

Initialize BCM. Refer to CONSULT-III Operation Manual.

>> Work end.

B2190, P1614 NATS ANTENNA AMP.

Description

INFOID:0000000001689612

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:0000000001689613

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-111, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689614

1.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-149, "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.

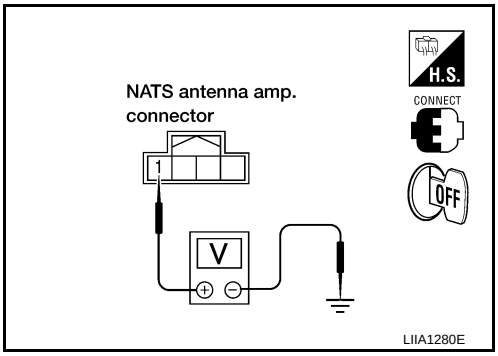
Does the engine start?

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.

1 - Ground : Battery voltage



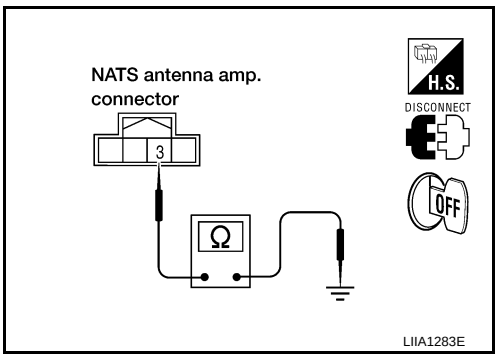
Is the inspection result normal?

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

4. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

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

3 - Ground : Continuity should exist.

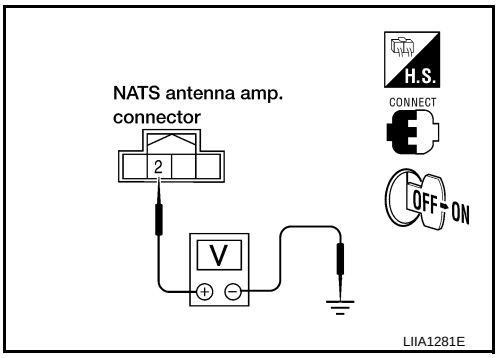


Is the inspection result normal?

YES >> GO TO 5
NO >> • Repair or replace harness.
NOTE:
If harness is OK, replace BCM, perform initialization with CONSULT-III. For initialization, refer to “CONSULT-III Operation Manual”.

5. CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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



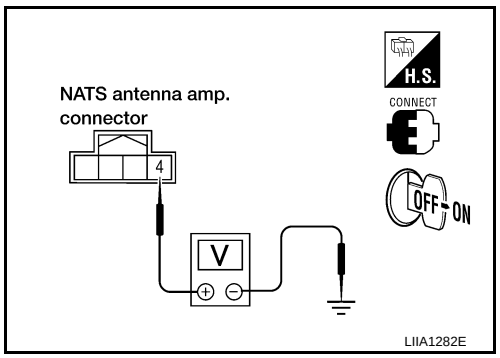
Terminals		Position of ignition key cylinder	Voltage (V) (Approx.)
(+)	(-)		
2	Ground	Before inserting ignition key	Battery voltage
		After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage
		Just after turning ignition switch ON	Pointer of tester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

Is the inspection result normal?

YES >> GO TO 6
NO >> • Repair or replace harness.
NOTE:
If harness is OK, replace BCM, perform initialization with CONSULT-III. For initialization, refer to “CONSULT-III Operation Manual”.

6. CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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



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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning.

NO >> • Repair or replace harness.

NOTE:

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

B2191, P1615 DIFFERENCE OF KEY

Description

INFOID:0000000001689615

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

DTC Logic

INFOID:0000000001689616

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer toSEC-114, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689617

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

Description

INFOID:0000000001689618

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:0000000001689619

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-109, "DTC Logic".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-110, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-115, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000001689620

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

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

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

3.PEPLACE ECM

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

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

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

4.CHECK INTERMITENT INCIDENT

Refer to GI-51, "Intermittent Incident".

>> INSPECTION END

B2193, P1612 CHAIN OF ECM-IMMU

Description

INFOID:0000000001689621

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:0000000001689622

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-109, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-110, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-117, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000001689623

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

Description

INFOID:0000000001689624

When the starting operation is carried more than five times consecutively under the following conditions, NATS will shift to the mode which prevents the engine from being started.
- Unregistered mechanical key is used.
- BCM or ECM's malfunctioning.

DTC Logic

INFOID:0000000001689625

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.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-118, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000001689626

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-51, "Intermittent Incident".

>> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:0000000001689627

Refer to BCS-32, "Diagnosis Procedure".

KEY CYLINDER SWITCH

Description

INFOID:0000000001728845

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:0000000001728846

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

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

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

Is the inspection result normal?

YES >> Key cylinder switch is OK.
NO >> Refer to SEC-120, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000001728847

1.CHECK DOOR KEY CYLINDER SWITCH LH

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

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

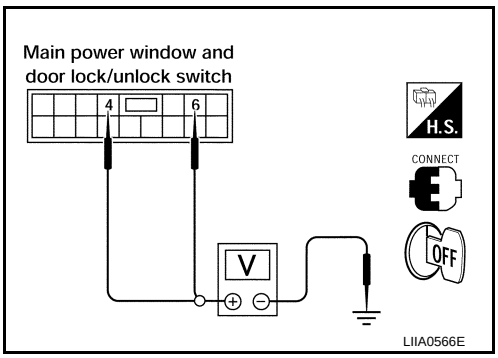
KEY CYL LK-SW : ON

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

KEY CYL UN-SW : ON

Without CONSULT-III
Check voltage between main power window and door lock/unlock switch connector D7 terminals 4, 6 and ground.

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



Is the inspection result normal?

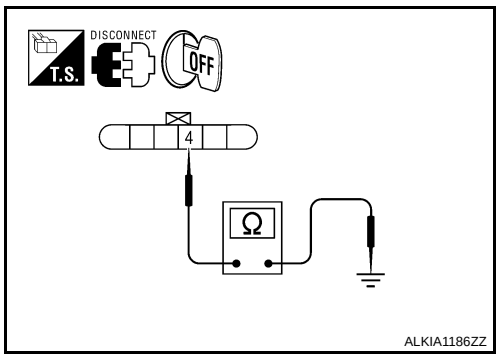
YES >> Key cylinder switch signal is OK.
NO >> GO TO 2.

2.CHECK DOOR KEY CYLINDER SWITCH LH GROUND HARNESS

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

3. Check continuity between front door lock assembly LH (key cylinder switch) connector (A) D14 terminal 4 and body ground.

Connector	Terminals	Continuity
D14	4 – Ground	Yes



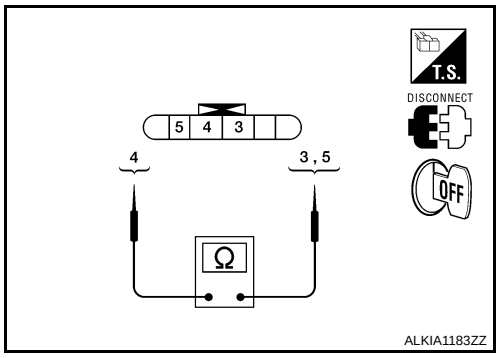
Is the inspection result normal?

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
3 – 4	Key is turned to LOCK or neutral.	No
	Key is turned to UNLOCK.	Yes
4 – 5	Key is turned to UNLOCK or neutral.	No
	Key is turned to LOCK.	Yes



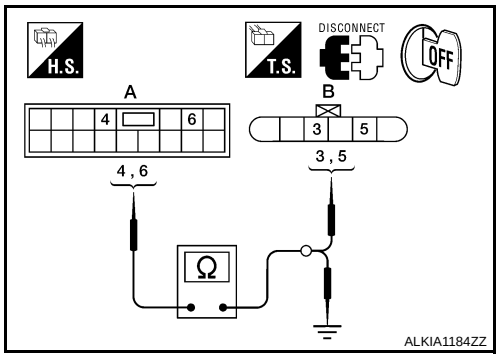
Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-313, "Removal and Installation".

4. CHECK DOOR KEY CYLINDER HARNESS

Check continuity between main power window and door lock/unlock switch connector (A) D7 terminals 4, 6 and front door lock assembly LH (key cylinder switch) connector (B) D14 terminals 3, 5 and body ground.

Connector	Terminals	Connector	Terminals	Continuity
A: Main power window and door lock/unlock switch	4	B: Front door lock assembly LH (key cylinder switch)	5	Yes
	6		3	Yes
	4, 6	Ground		No



Is the inspection result normal?

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

GLASS HATCH AJAR SWITCH

Diagnosis Procedure

INFOID:0000000001733166

1.CHECK GLASS HATCH AJAR SWITCH INPUT SIGNAL

With CONSULT-III
Check glass hatch ajar switch ("TRNK OPN MNTR") in DATA MONITOR mode with CONSULT–III.
- When glass hatch is open:

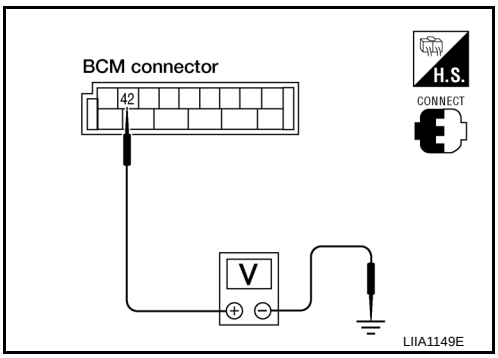
TRNK OPN MNTR : ON

- When glass hatch is closed:

TRNK OPN MNTR : OFF

Without CONSULT-III
Check voltage between BCM connector M19 terminal 42 and ground.

Connector	Item	Terminals		Condition	Voltage (V) (Approx.)
		(+)	(–)		
M19	BCM	42	Ground	Open ↓ Closed	0 ↓ Battery voltage



Is the inspection result normal?

YES >> System is OK.
NO >> GO TO 2

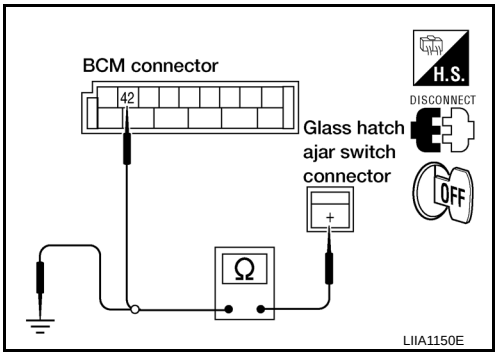
2.CHECK GLASS HATCH AJAR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and glass hatch ajar switch.
3. Check continuity between BCM connector M19 terminal 42 and glass hatch ajar switch connector D503 terminal 1 (+) .

42 - 1 (+) : Continuity should exist.

4. Check continuity between glass hatch ajar switch connector D503 terminal 1 (+) and ground.

1 (+) - Ground : Continuity should not exist.



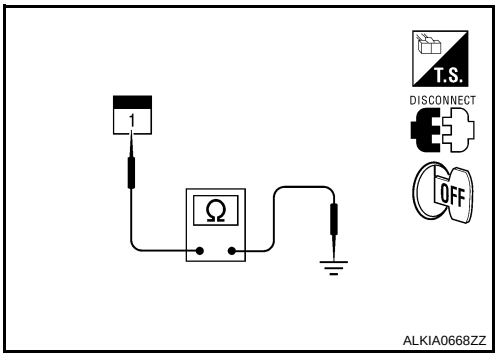
Is the inspection result normal?

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

3.CHECK GLASS HATCH AJAR SWITCH

Check continuity between glass hatch ajar switch connector terminal 1 and ground.

	Terminals	Condition	Continuity
Glass hatch ajar switch	1 – Ground	Open	Yes
		Closed	No



Is the inspection result normal?

YES >> Check glass hatch ajar switch case ground condition.
NO >> Replace glass hatch ajar switch.

HORN FUNCTION

Symptom Table

INFOID:0000000001689631

HAZARD AND HORN REMINDER FUNCTION MALFUNCTION

NOTE:

- Before performing the diagnosis in the following table, check “Work flow”. Refer to SEC-97, "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 key fob. (Horn reminder operate.)	1. Check “HAZARD ANSWER BACK” setting in “WORK SUPPORT”.	SEC-107
	2. Check hazard function.	EXL-4
	3. Check key fob battery inspection.	DLK-234
Horn reminder does not operate by key fob. (Hazard reminder operate.)	1. Check “HORN WITH KEYLESS LOCK” setting in “WORK SUPPORT”.	SEC-107
	2. Check horn function.	HRN-3
	3. Check Intermittent Incident.	GI-51

VEHICLE SECURITY INDICATOR

Description

INFOID:0000000001728848

- 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:0000000001728849

1.CHECK FUNCTION

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

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

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Refer to SEC-124, "Diagnosis Procedure".

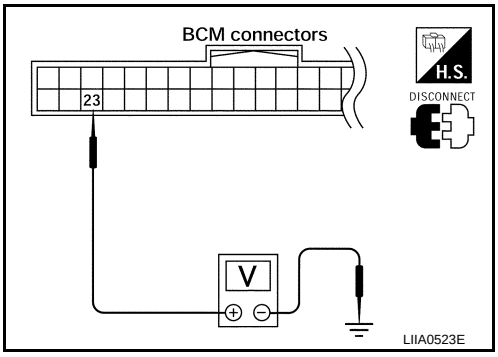
Diagnosis Procedure

INFOID:0000000001728850

1.SECURITY INDICATOR LAMP ACTIVE TEST

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

Without CONSULT-III
1. Disconnect BCM.
2. Check voltage between BCM harness connector M18 terminal 23 and ground.



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

Is the inspection result normal?

YES >> Security indicator lamp is OK.
NO >> GO TO 2

2.SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace security indicator lamp.

3.CHECK HARNESS CONTINUITY

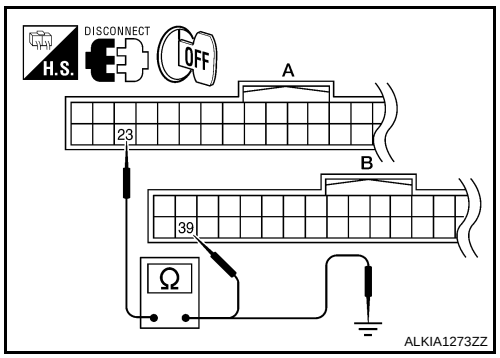
1. Turn ignition switch OFF.
2. Disconnect BCM and security indicator lamp connector.

3. Check continuity between BCM connector (A) M18 terminal 23 and combination meter connector (B) M24 terminal 39.

23 - 39 : Continuity should exist.

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

23 - Ground : Continuity should not exist.



Is the inspection result normal?

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

NO >> Repair or replace harness.

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000001689635

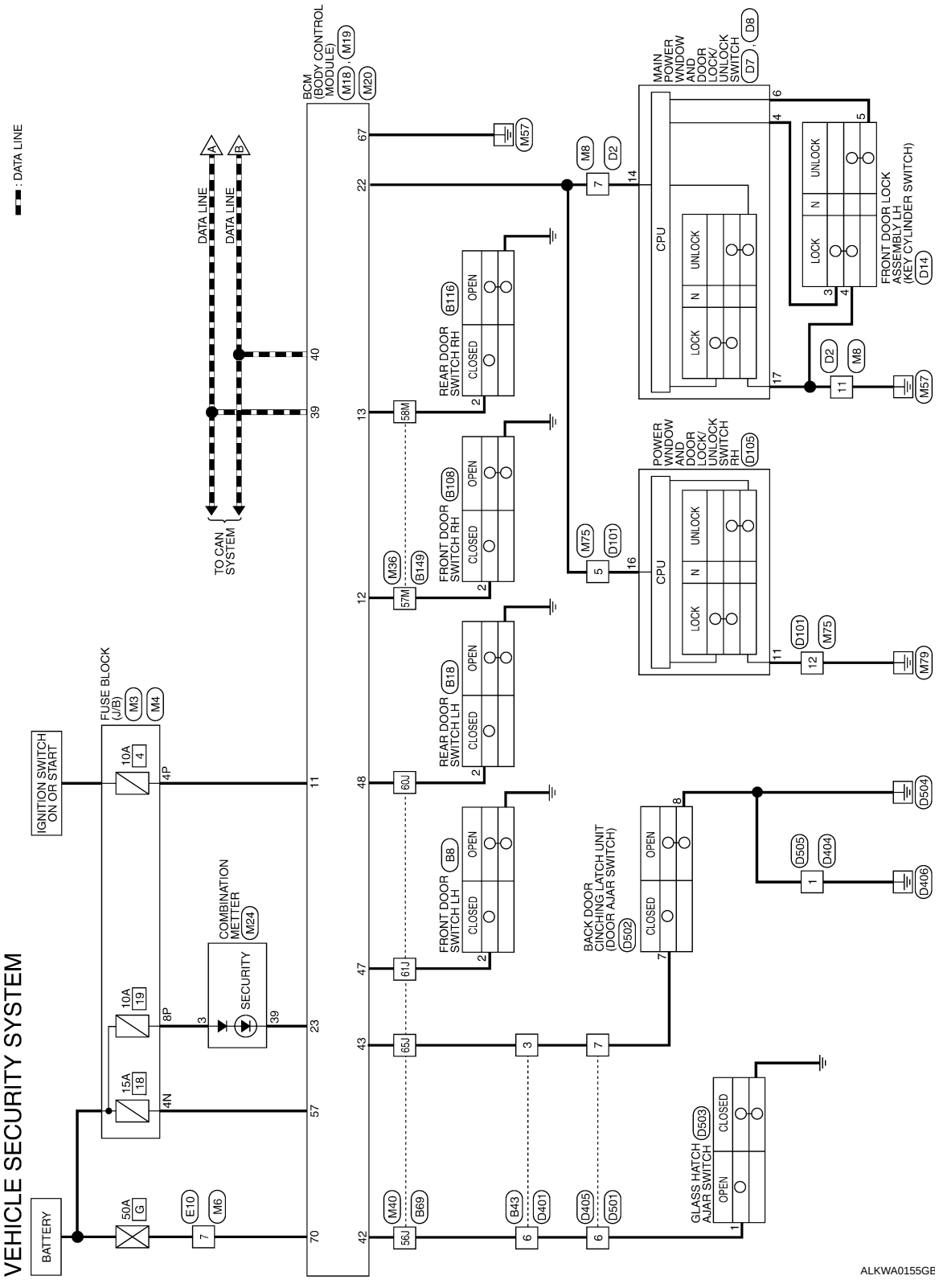
VALUES ON THE DIAGNOSIS TOOL
Refer to BCS-38, "Reference Value".

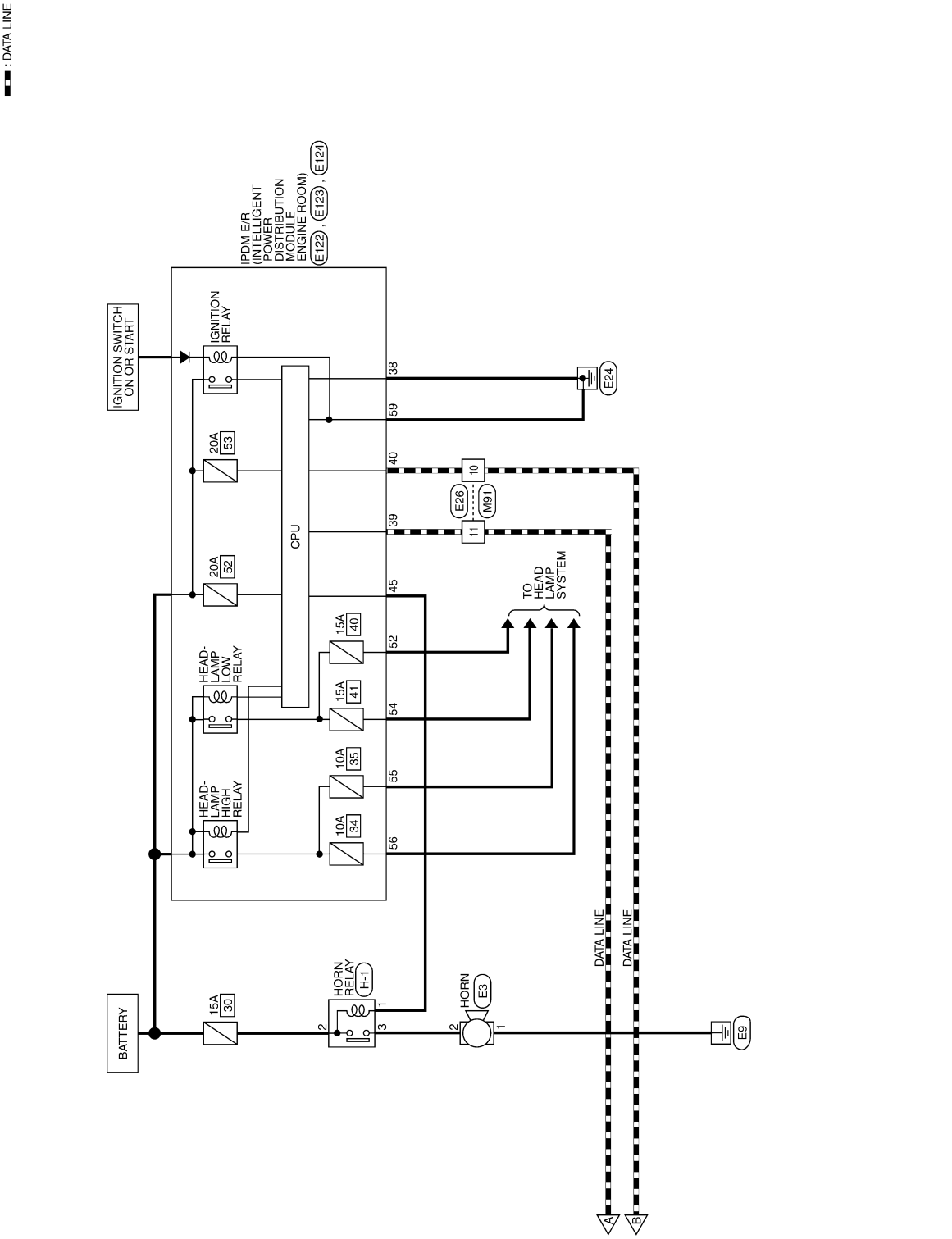
TERMINAL LAYOUT
Refer to BCS-41, "Terminal Layout".

PHYSICAL VALUES
Refer to BCS-41, "Physical Values".

Wiring Diagram - VEHICLE SECURITY SYSTEM

INFOID:0000000001728851





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VEHICLE SECURITY SYSTEM CONNECTORS

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4N	R/Y	–

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

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
4P	G/B	–
8P	R/Y	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
7	W	–

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

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
7	V	–
11	B	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
11	G/B	ACC SW
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
22	V	BUS
23	G	SECURITY INDICATOR OUTPUT
39	L	CAN-H
40	P	CAN-L

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

H.S.

41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

Terminal No.	Color of Wire	Signal Name
42	LG	GLASS HATCH AJAR
43	SB	BACK DOOR SW
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)

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

H.S.

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

Terminal No.	Color of wire	Signal Name
57	R/Y	BAT(FUSE)
67	B	GND (POWER)
70	W	BAT(F/L)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	R/Y	–
39	G	–

Terminal No.	Color of Wire	Signal Name
57M	LG	–
58M	L	–

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

H.S.

5M	4M	3M	2M	1M
10M	9M	8M	7M	6M

21M	20M	19M	18M	17M	16M	15M	14M	13M	12M	11M
30M	29M	28M	27M	26M	25M	24M	23M	22M		

41M	40M	39M	38M	37M	36M	35M	34M	33M	32M	31M
50M	49M	48M	47M	46M	45M	44M	43M	42M		

61M	60M	59M	58M	57M	56M	55M	54M	53M	52M	51M
70M	69M	68M	67M	66M	65M	64M	63M	62M		

75M	74M	73M	72M	71M
80M	79M	78M	77M	76M

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

H.S.

5	4		3	2	1
12	11	10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
5	V	–
12	B	–

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
7	W	–

Terminal No.	Color of Wire	Signal Name
56J	LG	–
60J	P	–
61J	GR	–
65J	SB	–

Connector No.	E3
Connector Name	HORN
Connector Color	BLACK

H.S.

1	2

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

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

H.S.

5J	4J	3J	2J	1J
	9J	8J	7J	6J
	10J			

21J	20J	19J		18J	17J	16J	15J	14J	13J	12J	11J
	30J	29J		28J	27J	26J	25J	24J	23J	22J	
41J	40J	39J		38J	37J	36J	35J	34J	33J	32J	31J
	50J	49J		48J	47J	46J	45J	44J	43J	42J	
61J	60J	59J		58J	57J	56J	55J	54J	53J	52J	51J
	70J	69J		68J	67J	66J	65J	64J	63J	62J	
				75J	74J	73J	72J		71J		
					80J	79J	78J	77J	76J		

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

7	6	5	4		3	2	1
16	15	14	13	12	11	10	9	8

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

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

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

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

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
45	LG	HORN RLY

Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

H.S.

51		50	49
56	55	54	53	52

Terminal No.	Color of Wire	Signal Name
52	P	H/LAMP_LO_LH
54	R	H/LAMP_LO_RH
55	G	H/LAMP_HI_LH
56	L	H/LAMP_HI_RH

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

H.S.

59	58	57
62	61	60

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

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

H.S.

1
2
3

Terminal No.	Color of Wire	Signal Name
2	GR	–

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

H.S.

1
2
3

Terminal No.	Color of Wire	Signal Name
2	P	–

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Terminal No.	Color of Wire	Signal Name
56J	LG	–
60J	P	–
61J	GR	–
65J	SB	–

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

H.S.

Connector No.	B43
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	SB	–
6	LG	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	LG	–

ALKIA0466GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
57M	LG	–
58M	L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
7	V	–
11	B	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
4	SB	KEY CYL LOCK SW
6	R/W	KEY CYL UNLOCK SW
14	V	POWER WINDOW SERIAL LINK

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

H.S.

Terminal No.	Color of Wire	Signal Name
17	B	GND

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

H.S.

Terminal No.	Color of Wire	Signal Name
3	SB	–
4	B	–
5	R/W	–

ALKIA0467GB

Connector No.	D401
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
3	SB	–
6	LG	–

Connector No.	D105
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
11	B	GND
16	V	POWER WINDOW SERIAL LINK

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

H.S.

1	2	3	4	5
6	7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
5	V	–
12	B	–

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
6	LG	–
7	SB	–

Connector No.	D405
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
6	LG	–
7	SB	–

Connector No.	D404
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

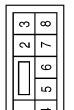
4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	B	–

ALKIA0937GB

Connector No.	D502
Connector Name	BACK DOOR CINCHING LATCH UNIT
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
7	SB	–
8	B	–

Connector No.	D503
Connector Name	GLASS HATCH AJAR SWITCH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	–

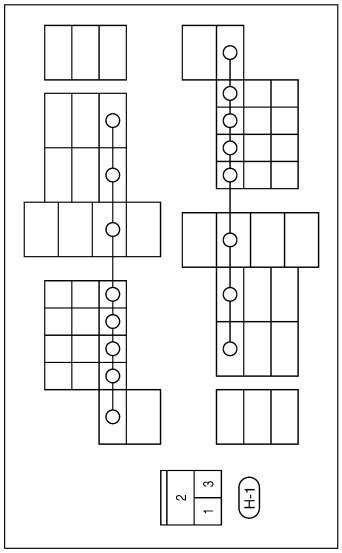
Connector No.	D505
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–

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

H.S.

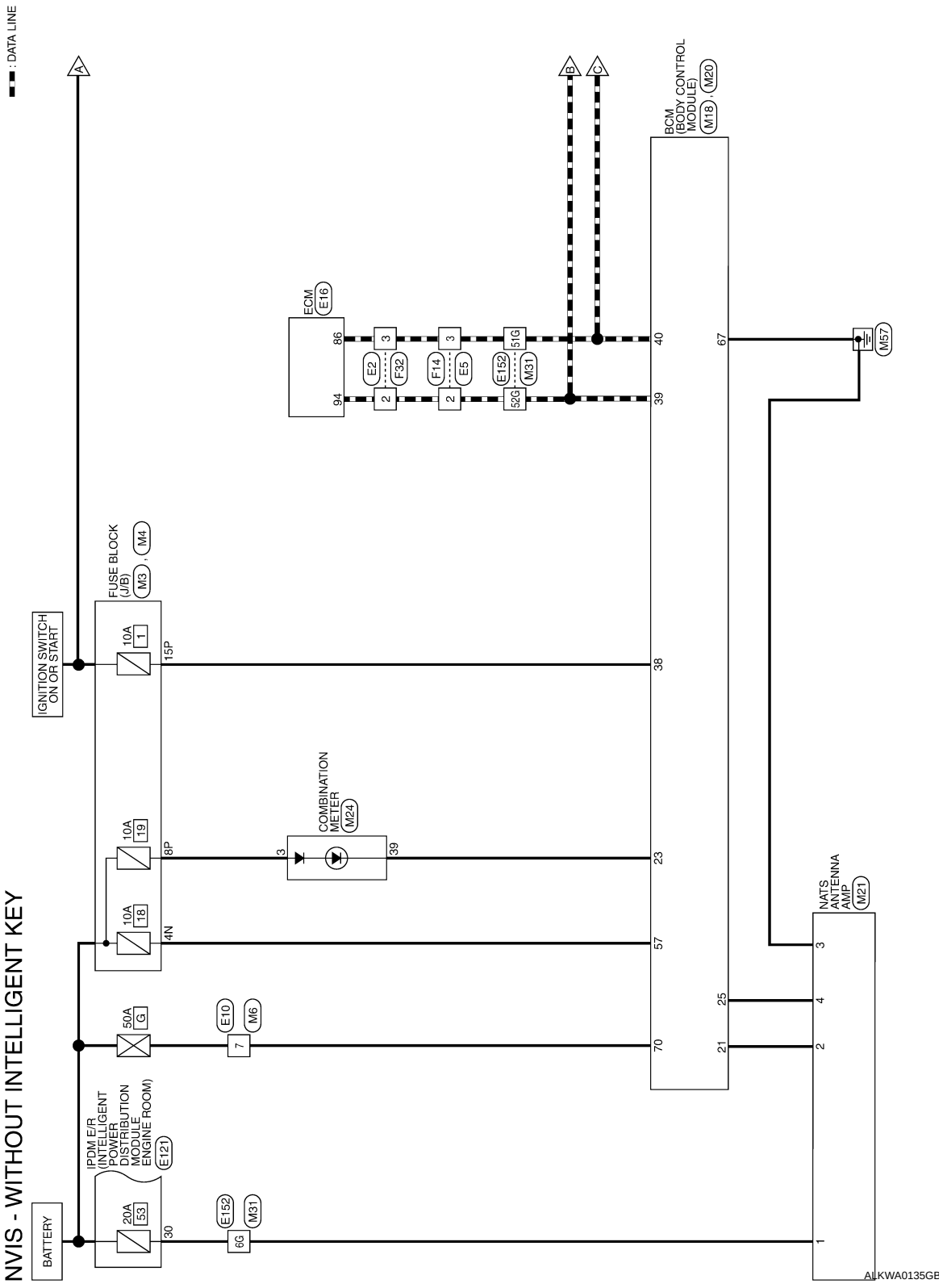


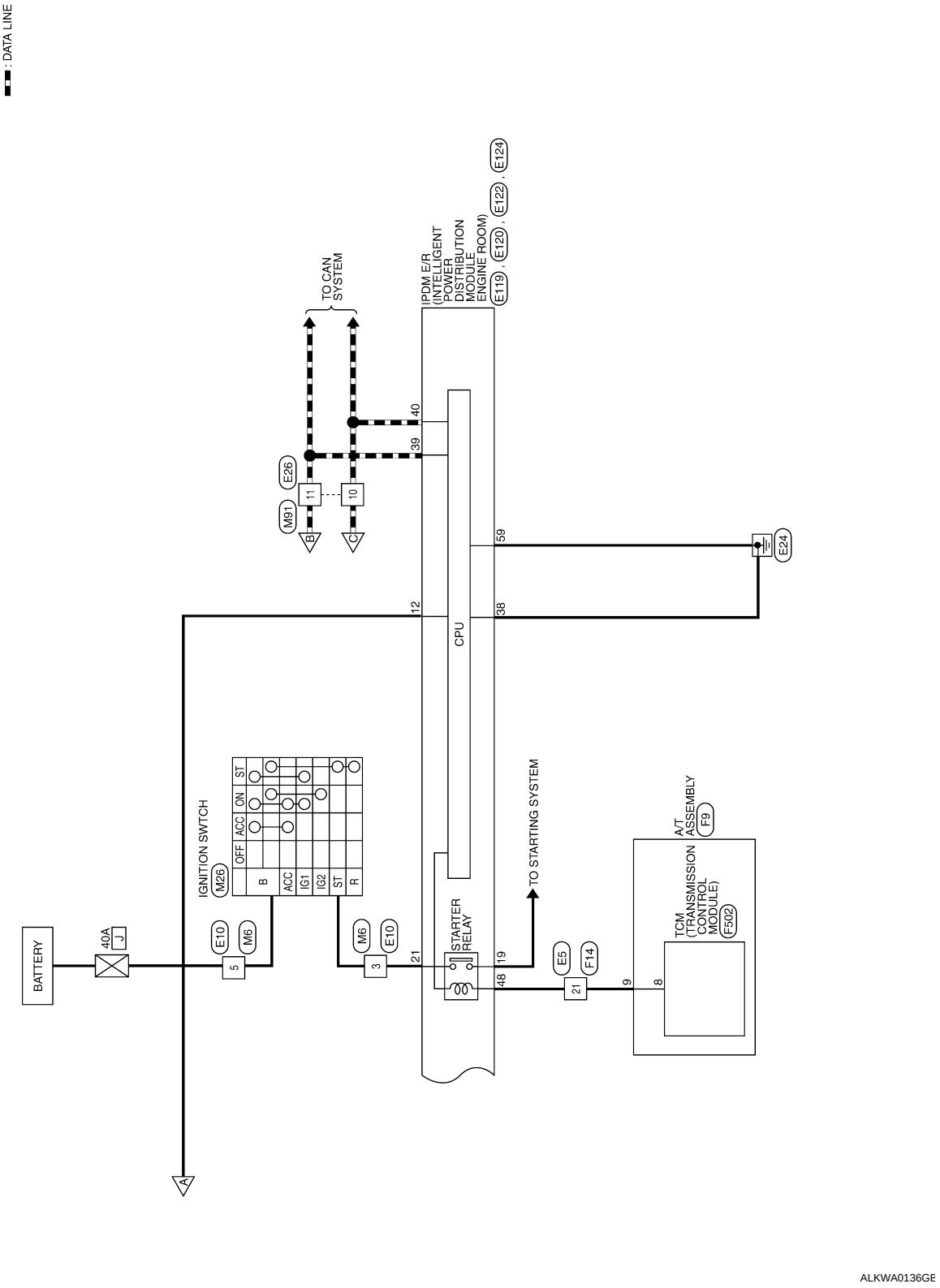
Terminal No.	Color of Wire	Signal Name
1	BR	–
2	O	–
3	G	–

ALKIA0938GB

Wiring Diagram - NVIS -

INFOID:0000000001689637




: DATA LINE
TO CAN SYSTEM
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119
E120
E122
E124
40
39
E26
M91
11
10
B
C
59
12
38
CPU
E24
IGNITION SWTCH
M26
OFF
ACC
ON
ST
B
ACC
IG1
IG2
ST
R
BATTERY
40A
J
E10
M6
5
M6
E10
3
21
STARTER RELAY
19
48
TO STARTING SYSTEM
E5
F14
21
9
8
A/T ASSEMBLY
F9
TCM (TRANSMISSION CONTROL MODULE)
F502
A
ALKWA0136GE

NVIS - WITHOUT INTELLIGENT KEY SYSTEM CONNECTORS

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4N	R/Y	–

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

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
8P	R/Y	–
15P	W/R	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
3	GR	–
5	G	–
7	W	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
21	GR	IMMOBILSER ATNENNA SIG (CLOCK)
23	G	SECURITY INDICATOR OUTPUT
25	BR	IMMOB ATNENNA SIG (TX,RX)
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L

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

H.S.

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

Terminal No.	Color of wire	Signal Name
57	R/Y	BAT (FUSE)
67	B	GND (POWER)
70	W	BAT (F/L)

ALKIA0930GB

Connector No.	M21
Connector Name	NATS ANTENNA AMP
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R/B	VB (12V)
2	GR	CLOCK
3	B	GND
4	BR	RX,TX

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	R/Y	–
39	G	–

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
B	G	–
ST	GR	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
6G	R/B	–
51G	P	–
52G	L	–

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

ALKIA0931GB

Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
3	GR	–
5	G	–
7	W	–

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

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–
21	R	–

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

9	8	7	6		5	4	3
18	17	16	15	14	13	12	11	10

Terminal No.	Color of Wire	Signal Name
12	W/G	IGN_SW_(IG1)

Connector No.	E2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

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

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
10	P	–
11	L	–

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK

H.S.

106	107	108	109	110	111	112	113		119	120	121
98	99	100	101	102	103	104	105		117	118	
90	91	92	93	94	95	96	97		114	115	116
82	83	84	85	86	87	88	89				

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

ALKIA0932GB

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

21	20	19
24	23	22

Terminal No.	Color of Wire	Signal Name
19	W	STARTER_MOTOR
21	GR	IGN_SW_(ST)

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

H.S.

29	28		27	26	25
36	35	34	33	32	31	30

Terminal No.	Color of Wire	Signal Name
30	R/B	ECM_BAT

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

H.S.

42	41	40	39	38	37
48	47	46	45	44	43

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
48	R	INHIBIT

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

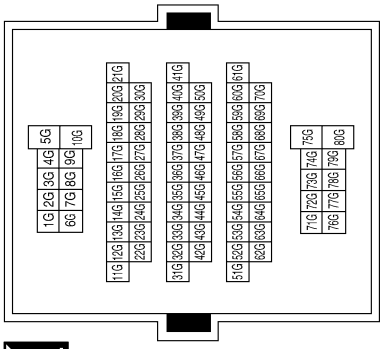
H.S.

59	58	57
62	61	60

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

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

H.S.



Terminal No.	Color of Wire	Signal Name
6G	R/B	–
51G	P	–
52G	L	–

ALKIA0933GB

Connector No.	F9
Connector Name	A/T ASSEMBLY
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
9	R	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–
21	R	–

Connector No.	F32
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
8	G	START-RLY

ALKIA0934GB

DTC Inspection Priority Chart

INFOID:0000000001689639

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

INFOID:0000000001689640

NOTE:

Details of time display

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

CONSULT display	TIME		Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	0	1 - 39	—	SEC-109
U1010: CONTROL UNIT (CAN)	0	1 - 39	—	SEC-110
B2190: NATS ANTENNA AMP	CRNT	PAST	×	SEC-111
B2191: DIFFERENCE OF KEY	CRNT	PAST	×	SEC-114
B2192: ID DISCORD BCM-ECM	CRNT	PAST	×	SEC-115
B2193: CHAIN OF BCM-ECM	CRNT	PAST	×	SEC-117

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

Reference Value

INFOID:0000000001689641

VALUES ON THE DIAGNOSIS TOOL

Refer to PCS-17, "Reference Value".

TERMINAL LAYOUT

Refer to PCS-19, "Terminal Layout".

Fail Safe

INFOID:0000000001689642

Refer to PCS-26, "Fail Safe".

DTC Index

INFOID:0000000001689643

Refer to PCS-28, "DTC Index".

SYMPTOM DIAGNOSIS

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000001689644

Procedure			Diagnostic procedure	Refer to page
Symptom				
1	Vehicle security system cannot be set by ….	Door switch	Check door switch (LF, RF, LR, RR, back)	DLK-214
		Glass ajar switch	Check glass hatch ajar switch	SEC-122
		Key cylinder switch	Check key cylinder switch	DLK-221
		—	Check Intermittent Incident	GI-51
	Security indicator does not turn ON.		Check vehicle security indicator	SEC-124
			Check Intermittent Incident	GI-51
2	* Vehicle security system does not sound alarm when ….	Any door is opened.	Check door switch (LF, RF, LR, RR, back)	DLK-214
		Glass ajar switch	Check glass hatch ajar switch	SEC-122
		—	Check Intermittent Incident	GI-51
3	Vehicle security alarm does not activate.	Horn alarm	Check horn switch	HRN-3
			Check Intermittent Incident	GI-51
4	Vehicle security system cannot be canceled by ….	Key cylinder switch	Check key cylinder switch	SEC-120
			Check Intermittent Incident	GI-51

*: Check the system is in the armed phase.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

INFOID:0000000001689645

NOTE:
- Before performing the diagnosis in the following table, check “SEC-97, "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.	1. Check vehicle security indicator	SEC-124
	2. Check Intermittent Incident	GI-51

ON-VEHICLE MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

INFOID:0000000001689646

1.INSPECTION START

Turn ignition switch “OFF”.
NOTE:
Before starting operation check, open front windows.

>> GO TO 2.

2.CHECK SECURITY INDICATOR LAMP

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

Does the security indicator lamp illuminate?

YES >> GO TO 3.
NO >> Perform diagnosis and repair. Refer to SEC-104, "System Description".

3.CHECK ALARM FUNCTION

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

Does the alarm function properly?

YES >> GO TO 4.
NO >> Check the following.
- The vehicle security system does not phase in alarm mode. Refer to SEC-146, "Symptom Table".
- Alarm (horn and headlamps) does not operate. Refer to SEC-146, "Symptom Table".

4.CHECK ALARM CANCEL OPERATION

Unlock any door using keyfob or mechanical key.

Alarm (horn and headlamps) should stop.

OK >> INSPECTION END.
NG >> Check door lock function. Refer to DLK-199, "DOOR LOCK AND UNLOCK SWITCH : System Description".

ON-VEHICLE REPAIR

VEHICLE SECURITY SYSTEM

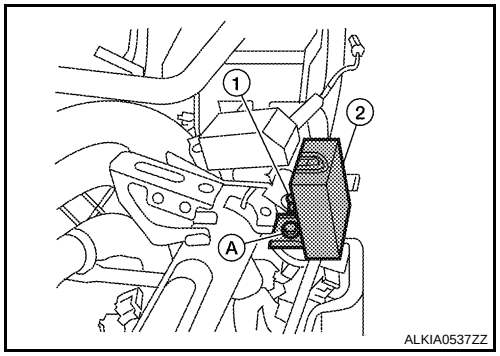
Removal and Installation

INFOID:0000000001689647

REMOTE KEYLESS ENTRY RECEIVER

Removal

1. Remove the instrument panel. Refer to IP-10, "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.

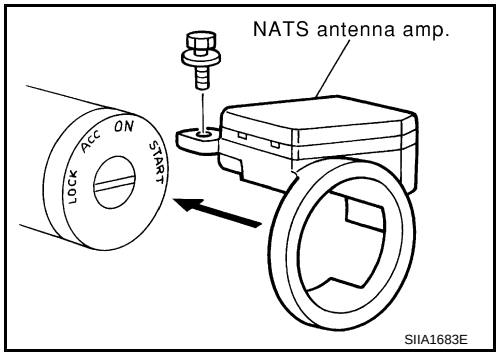
NATS ANTENNA AMP

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".
3. Remove the bolt, disconnect the electrical connector, and remove the NATS antenna amp.



Installation

Installation is in the reverse order of removal.

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

INFOID:0000000001683794

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 cluster lid A. Refer to IP-10, "Exploded View".
3. Remove the bolt, disconnect the electrical connector, and remove the NATS antenna amp.

INSTALLATION

Installation is in the reverse order of removal.

REMOTE KEYLESS ENTRY RECEIVER

Removal

INFOID:0000000001730846

1. Disconnect the battery negative cable.
2. Remove the upper glove box. Refer to IP-10, "Exploded View".
3. Remove the bolt, disconnect and remove the remote keyless entry receiver.

Installation

INFOID:0000000001730847

Installation is in the reverse order of removal.