SECTION SEC
SECURITY CONTROL SYSTEM

CONTENTS

INTELLIGENT KEY SYSTEM

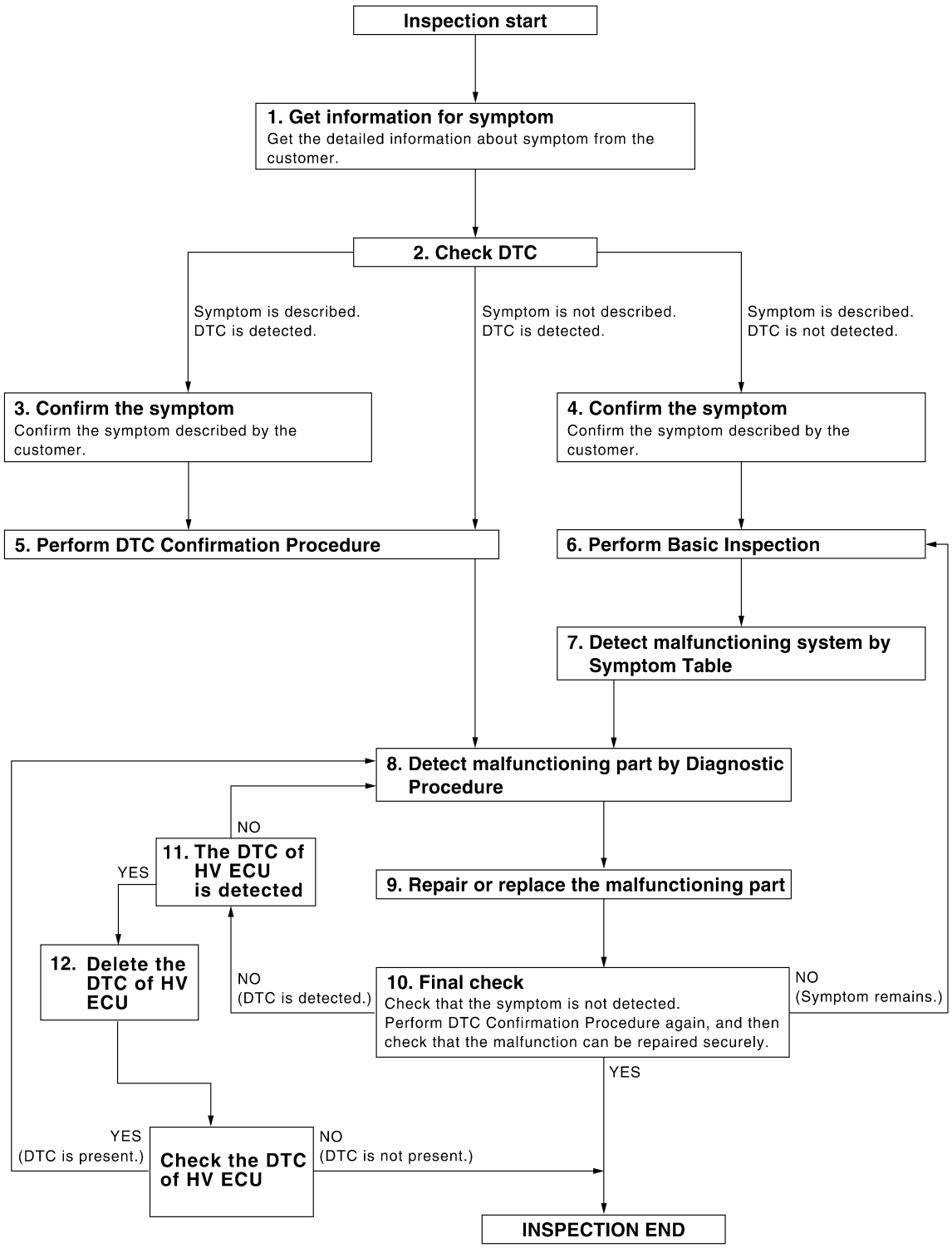
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000003071281

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 WITH BCM AND IPDM E/R

1. Check “Self Diagnostic Result” with CONSULT-III.
2. Perform the following procedure if DTC is displayed.

- Record DTC and freeze frame data (Print them out with CONSULT-III.)
- 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 ship 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 ship 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.
At this time, always keep CONSULT-III connected to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to SEC-165, "DTC Inspection Priority Chart" and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

Yes >> GO TO 8.
No >> Refer to GI-42, "Intermittent Incident".

6.PERFORM BASIC INSPECTION

Perform SEC-181, "Basic Inspection".

Inspection End>>GO TO 7.

7.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

Detect malfunctioning system according to following symptom tables based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptoms.

- Intelligent Key system/hybrid system start function: SEC-178, "Symptom Table".
- Vehicle security system: SEC-179, "Symptom Table".

- Nissan vehicle immobilizer system-NATS: SEC-180, "Symptom Table".

>> GO TO 8.

8. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

NOTE:

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

Is malfunctioning part detected?

Yes >> GO TO 9.
No >> Check voltage of related BCM terminals using CONSULT-III.

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 or replacement.
3. Check DTC. If DTC is displayed, erase it.

>> GO TO 10.

10. FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction have been fully repaired.

When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom has been repaired.

YES or NO

NO (DTC is detected)>>GO TO 11.
NO (Symptom remains)>>GO TO 6.
YES >> Inspection end.

11. CHECK DTC WITH HV ECU

Check hybrid vehicle control ECU (HV ECU) “Self Diagnostic Result” with CONSULT-III.

Is any DTC detected?

YES >> GO TO 12.
NO >> GO TO 8.

12. RECHECK DTC WITH HV ECU

1. Erase HV ECU DTCs.
2. Check hybrid vehicle control ECU (HV ECU) “Self Diagnostic Result” with CONSULT-III.

Is any DTC detected?

YES >> GO TO 8.
NO >> Inspection end.

INSPECTION AND ADJUSTMENT
ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION : Description

INFOID:0000000003071282

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-IVIS/NVIS.**
- **If multiple keys are attached to the key holder, separate them before work.**
- **Distinguish keys with unregistered key ID from those with registered ID.**

ECM RE-COMMUNICATING FUNCTION : Special Repair Requirement

INFOID:0000000003071283

1.PERFORM ECM RE-COMMUNICATING FUNCTION

1. Install ECM.
2. Insert the registered Intelligent 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?

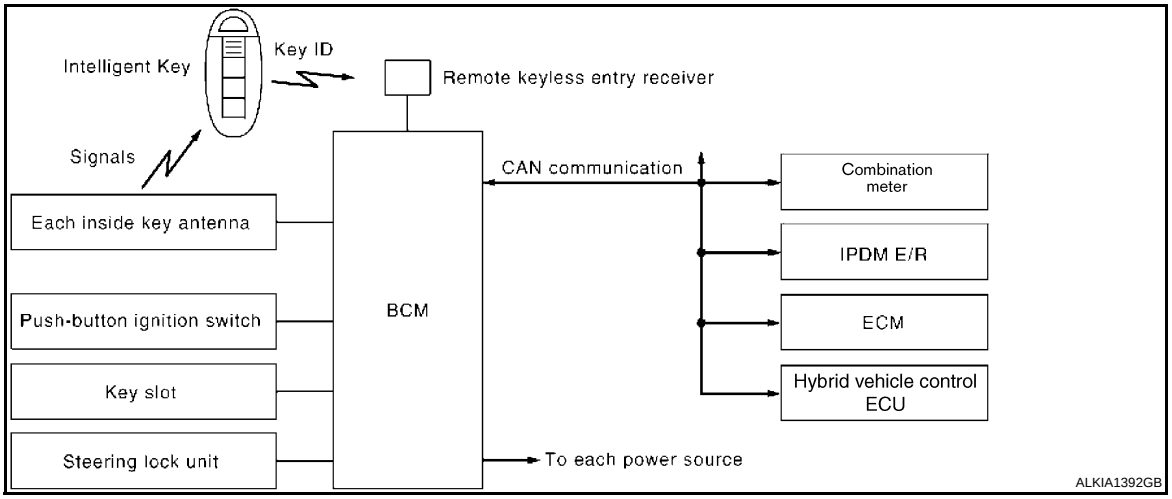
YES >> Procedure is completed.
NO >> Initialize control unit.Refer to CONSULT-III Operation Manual.

FUNCTION DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram

INFOID:0000000003071284



System Description

INFOID:0000000003071285

INPUT/OUTPUT SIGNAL CHART

Switch	Input signal to BCM	BCM function	Actuator
Push-button ignition switch	Push switch	Engine start function	• Steering lock relay • Steering lock unit • KEY warning lamp
ECVT device	P range		
PNP switch	N, P range		
Stop lamp switch	Brake ON/OFF		
Each inside key antenna	Request signal		
Remote keyless entry receiver	Key ID		
Each door switch	Door open/close		
ECM	Engine status signal		

SYSTEM DESCRIPTION

- The engine start function of Intelligent Key system is a system that makes it possible to start and stop the engine without removing the key. It verifies the electronic ID using two-way communications when pressing the push-button ignition switch while carrying the Intelligent Key, which operates based on the results of electronic ID verification for Intelligent Key using two-way communications between the Intelligent Key and the vehicle.
  NOTE:
  The driver should carry the Intelligent Key at all times.
- Intelligent Key has 2 IDs [for Intelligent Key and for NVIS (NATS)]. It can perform the door lock/unlock operation and the push-button ignition switch 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 Intelligent Key to the key slot. At that time, perform the NVIS (NATS) ID verification. If it is used when the Intelligent Key is carried, perform the Intelligent Key ID verification.
- If the ID is successfully verified, and when push-button ignition switch is pressed, steering lock will be released and starting the hybrid system will be possible.
- If the door lock/unlock operation is performed when the Intelligent Key battery is discharged, all doors lock/unlock can be performed by operating the driver door key cylinder using the mechanical key set in the Intelligent Key.
- Intelligent Key can be registered with up to 4 keys on request from the owner.
  NOTE:

- Refer to DLK-16, "INTELLIGENT KEY : System Description" for any functions other than hybrid system start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

- **In the Intelligent Key system of model L32, the transponder [the chip for NVIS (NATS) ID verification] is integrated into the Intelligent Key. (For vehicles without Intelligent Key, it is integrated into the mechanical key.) Therefore, the mechanical key cannot perform the ID verification, and thus it cannot start the hybrid system. Instead, the NVIS (NATS) ID verification can be performed by inserting the Intelligent Key into the key slot, and then it can start the hybrid system.**

OPERATION WHEN INTELLIGENT KEY IS CARRIED

1. When the push-button ignition switch is pressed, the BCM signals the inside key antenna and 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 BCM via the remote keyless entry receiver.
3. The Intelligent Key receives the Intelligent Key ID signal and verifies it with the registered ID.
4. BCM transmits the steering lock unlock signal to steering lock unit and IPDM E/R if the verification results are OK.
5. IPDM E/R turns the steering lock relay ON and supplies power to the steering lock unit.
6. Release of the steering lock will now occur.
7. BCM transmits the power supply stop signal to IPDM E/R when it confirms that the steering lock is in the unlock condition.
8. IPDM E/R turns the steering lock relay OFF and stops power supply to the steering lock unit.
9. BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
10. IPDM E/R turns the ignition relay ON and starts the ignition power supply.
11. BCM confirms that the shift position is P or N.
12. BCM transmits the hybrid system start request signal via CAN communication to IPDM E/R if BCM judges that the hybrid system start condition is satisfied.
13. IPDM E/R transmits hybrid system start signal via CAN communication to the hybrid vehicle control ECU.
    CAUTION:
    If a malfunction is detected in the Intelligent Key system, the “KEY” warning lamp in the combination meter illuminates. At that time, the engine cannot be started.

*: For the hybrid system start condition, refer to “PUSH-BUTTON IGNITION SWITCH OPERATION PROCEDURE”.

OPERATION RANGE

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

OPERATION WHEN KEY SLOT IS USED

When the Intelligent Key battery is discharged, it performs the NVIS (NATS) ID verification between the integrated transponder and BCM by inserting the Intelligent Key into the key slot, and then the hybrid system can be started.
For details relating to starting the hybrid system using key slot, refer to SEC-13, "System Description".

BATTERY SAVER SYSTEM

When all the following conditions are met for 60 minutes, the battery saver system will cut off the power supply to prevent battery discharge.

- The ignition switch is in the ACC position
- All doors are closed
- ECVT selector lever is in the P position

Reset Condition of Battery Saver System

In order to prevent the battery from discharging, the battery saver system will cut off the power supply when all doors are closed, the selector lever is on P position and the ignition switch is left on ACC position for 1 hour. If any of the following conditions are met the battery saver system is released and the steering will change automatically to lock position from OFF position.

- Opening any door
- Operating with request switch on door lock
- Operating with Intelligent Key on door lock

Press push-button ignition switch will change to ACC position from OFF position.

PUSH-BUTTON IGNITION SWITCH OPERATION PROCEDURE

The power supply position changing operation can be performed with the following operations.

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna and when it is inserted to the key slot, it is equivalent to the operations below.
- When starting the engine, the BCM monitors under the hybrid system start conditions,
- Brake pedal operating condition
- ECVT selector lever position
- Vehicle speed
- Unless each condition is fulfilled, the hybrid system will not respond regardless of how many times the hybrid system switch is pressed. At that time, illumination repeats the position in the order of LOCK→ACC→ON→OFF.

Power supply position	Hybrid system start/stop condition		Push-button ignition switch operation frequency
	Brake pedal	ECVT selector lever position	
LOCK → ACC	Not depressed	Any position	1
LOCK → ACC → ON	Not depressed	Any position	2
LOCK → ACC → ON → OFF	Not depressed	Any position	3
LOCK → START ACC → START ON → START (Engine start)	Depressed	P or N position (*1)	1 [If the switch is pressed once, the engine starts from any power supply position (LOCK, ACC, and ON)]
Engine is running → OFF (Engine stop)	—	Any position	1
Engine is running → ACC (Engine stop)	—	Any position other than P (*2)	1
Engine stall return operation while driving	—	N position	1

*1: When the eCVT selector lever position is N position, the engine start condition is different according to the vehicle speed.

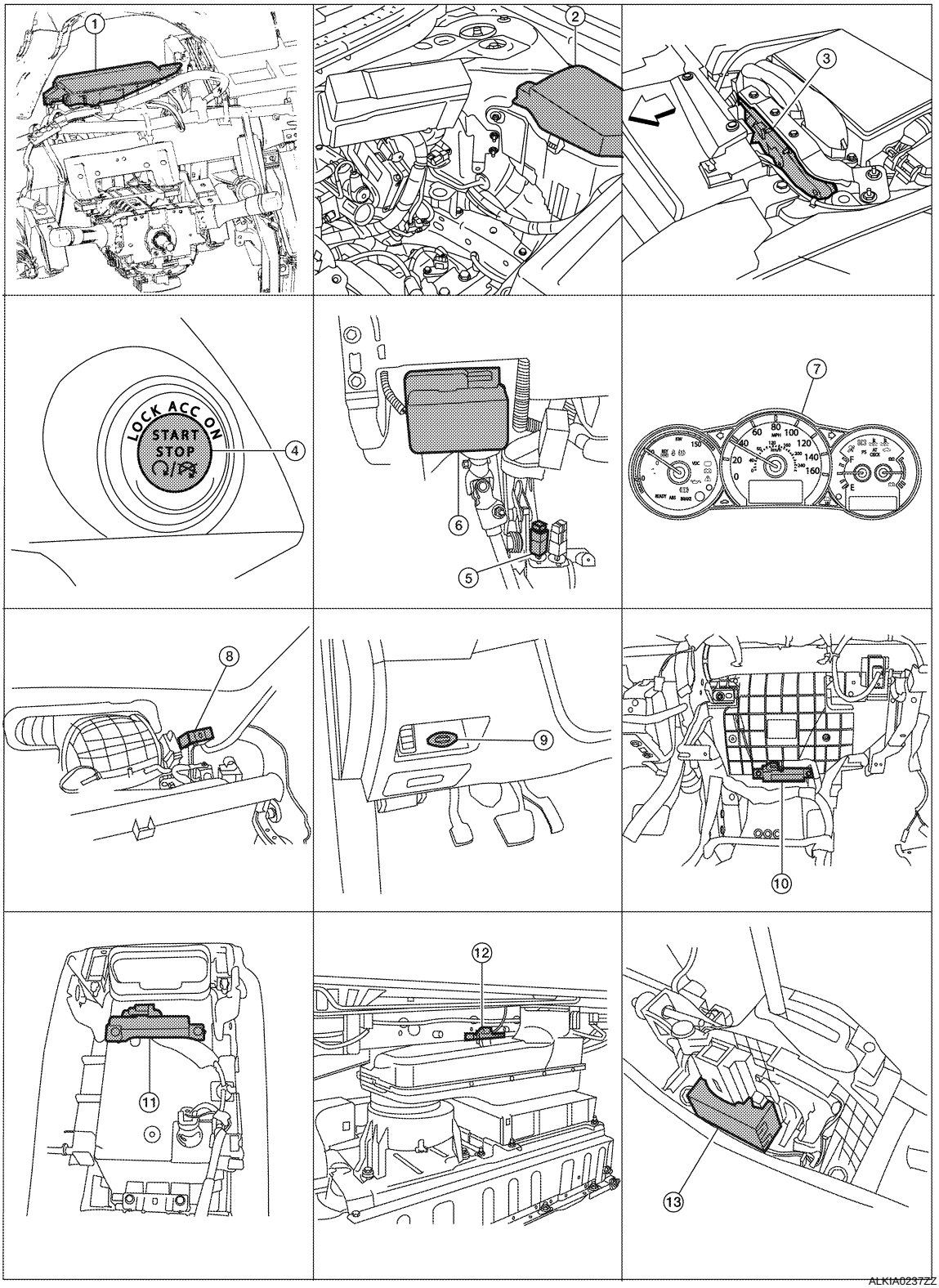
- At vehicle speed of 4 km/h or less, the engine can start only when the brake pedal is depressed.
- At vehicle speed of 4 km/h or more, the engine can start even if the brake pedal is not depressed. (It is the same as “Engine stall return operation while driving”.)

*2: When the eCVT selector lever position is in any position other than P position and when the vehicle speed is 5 km/h or more, the engine stop condition is different.

- Press and hold the push-button ignition switch for 2 seconds or more. (When the push-button ignition switch is pressed for too short a time, the operation may be invalid, so properly press and hold to prevent an incorrect operation.)
- Press the push-button ignition switch 3 times or more within 1.5 seconds. (Emergency stop operation)

Component Parts Location

INFOID:0000000003071286



⇦ Front

1. BCM M16, M17, M18, M19, M21 (view with instrument panel removed)
2. IPDM E/R E17, E18
3. ECM E10
4. Push button ignition switch M38
5. Stop lamp switch E38 (view with instrument lower cover LH removed)

6. Electronic steering column lock M32
7. Combination meter M24
8. Remote keyless entry receiver M27 (view with instrument panel removed)
9. Key slot M40
10. Instrument panel antenna M49 (view with instrument panel removed)
11. Front console antenna M203 (bottom view of console)
12. Rear parcel shelf antenna B29
13. ECVT device (detent switch) M23

Component Description

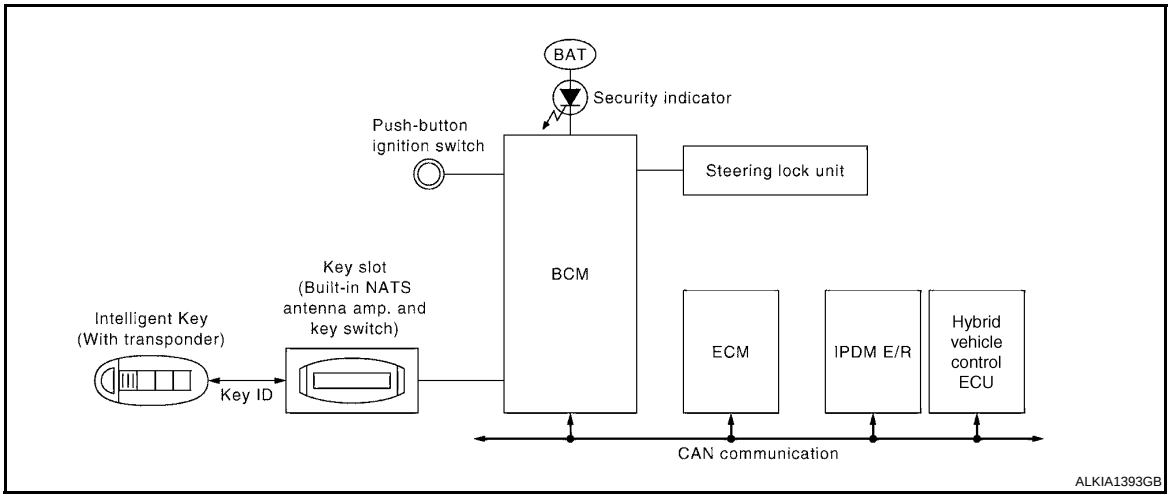
INFOID:0000000003071287

Component	Reference
BCM	SEC-80
Steering lock unit	SEC-69
Push-button ignition switch	SEC-81
Door switch	DLK-52
ECVT device (detention switch)	SEC-47
Inside key anttena	DLK-42
Remote keyless entry receiver	DLK-108
Stop lamp switch	SEC-40
Park/neutral position switch	SEC-58
Steering lock relay	SEC-60
Security indicator	SEC-107
Key warning lamp	SEC-106

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

INFOID:0000000003071288



System Description

INFOID:0000000003071289

INPUT/OUTPUT SIGNAL CHART

Switch	Input signal to BCM	BCM function	Actuator
Push-button ignition switch	Push switch	NVIS (NATS)	• Steering lock relay • Steering lock unit • KEY warning lamp • Security indicator lamp
ECVT device	P range		
PNP switch	N, P range		
Stop lamp switch	Brake ON/OFF		
Key slot	Key ID		
Each door switch	Door open/close		
ECM	Engine status signal		

SYSTEM DESCRIPTION

- The NVIS (NATS) is an anti-theft system by registering an Intelligent Key ID in to the vehicle and prevents the hybrid system being started by an unregistered Intelligent Key. It has a higher protection against auto thefts that duplicate mechanical key.
- It performs the ID verification when starting the hybrid system in the same way as the Intelligent Key system. But, it performs the NVIS (NATS) ID verification when inserting the Intelligent Key and performs the Intelligent Key ID verification when carrying the Intelligent Key.
- The Intelligent Key system of L32 is not the same as the conventional models. The mechanical key integrated in the Intelligent Key cannot start the hybrid system. When the Intelligent Key battery is discharged, the NVIS (NATS) ID verification memorized to the transponder integrated with Intelligent Key is performed by inserting the Intelligent Key into the key slot. If the verification results are OK, the hybrid system start operation can be performed by the push-button ignition switch operation.
- The security indicator always blinks when the Intelligent Key is removed from the key slot and when the push-button ignition switch is in LOCK position.
- Intelligent Key can be registered with up to 4 keys on request from the owner.
- The specified registration is required when replacing ECM, BCM or Intelligent Key. The registration procedure for NVIS (NATS) and registration procedure for Intelligent Key when installing the BCM, refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.
- Possible symptom of NVIS (NATS) malfunction is “hybrid system cannot start”. In L32, the hybrid system can be started with the Intelligent Key system and NVIS (NATS). Identify the possible causes according to “Work Flow”, Refer to SEC-4, "Work Flow".
- If ECM other than Genuine NISSAN part is installed, the hybrid system cannot be started. For ECM replacement procedure, refer to SEC-7, "ECM RE-COMMUNICATING FUNCTION : Special Repair Requirement".

PRECAUTIONS FOR KEY REGISTRATION

- The key registration is a procedure that erases the current NVIS (NATS) ID once, and then re-registers a new ID operation. Therefore the registered Intelligent Key is necessary for this procedure. Before starting the registration operation collect all registered Intelligent Keys from the customer
- When registering the Intelligent Key, performs only one procedure to register simultaneously both ID (NVIS "NATS" ID registration and Intelligent Key ID registration).
  The NVIS (NATS) ID registration is the procedure that registers the ID stored into the transponder (integrated in Intelligent Key) to BCM.
  The Intelligent key ID registration is the procedure that registers the ID to BCM.
- When performing the Intelligent Key system registration only, the hybrid system cannot be started by inserting the key into the key slot. When performing the NVIS (NATS) registration only, the hybrid system cannot be started by the operation when carrying the key. The registration of both systems should be performed.

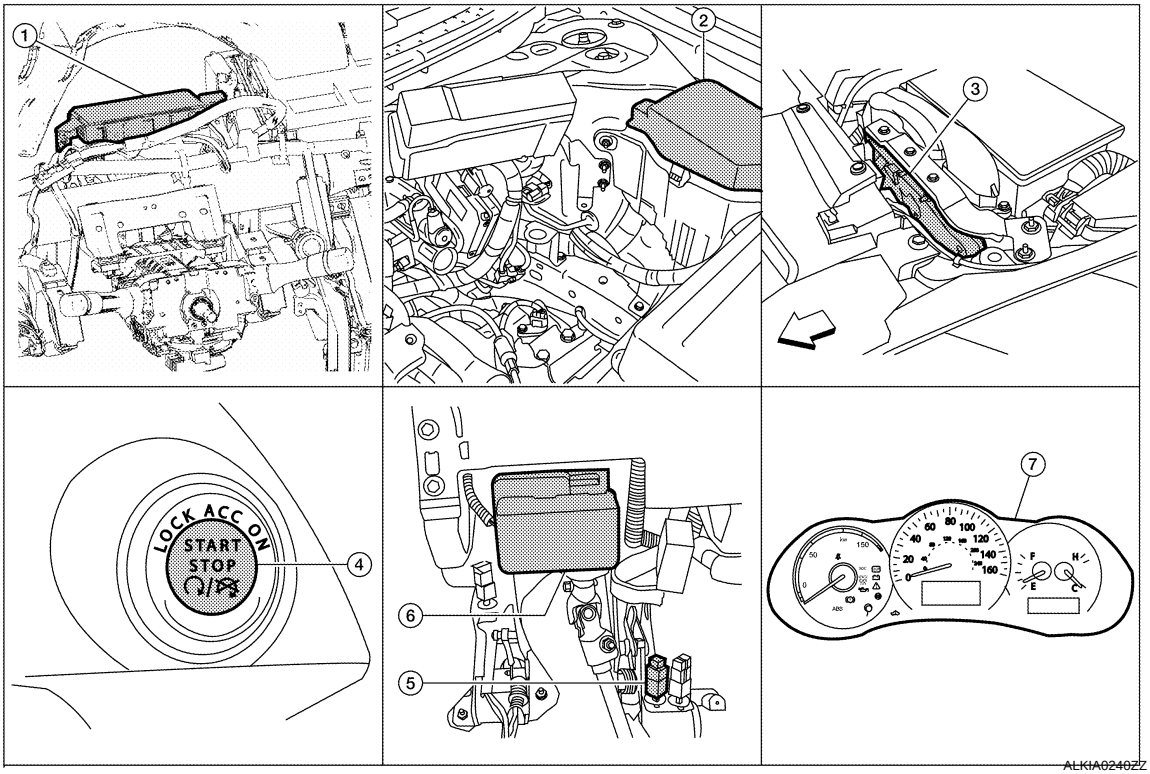
SECURITY INDICATOR

- Warns that the vehicle is equipped with NVIS (NATS).
- The security indicator always blinks when the Intelligent Key is removed from the key slot and when the ignition switch is in LOCK position.

NOTE:
Because security indicator is highly efficient, the battery is barely affected.

Component Parts Location

INFOID:0000000003071290



⇦	Front	1.	BCM M16, M17, M18, M19, M21 (view with instrument panel removed)	2.	IPDM E/R E17, E18
3.	ECM E10	4.	Push-button ignition switch M38	5.	Stop lamp switch E38 (view with instrument lower cover LH removed)
6.	Electronic steering column lock M32	7.	Combination meter M24		

Component Description

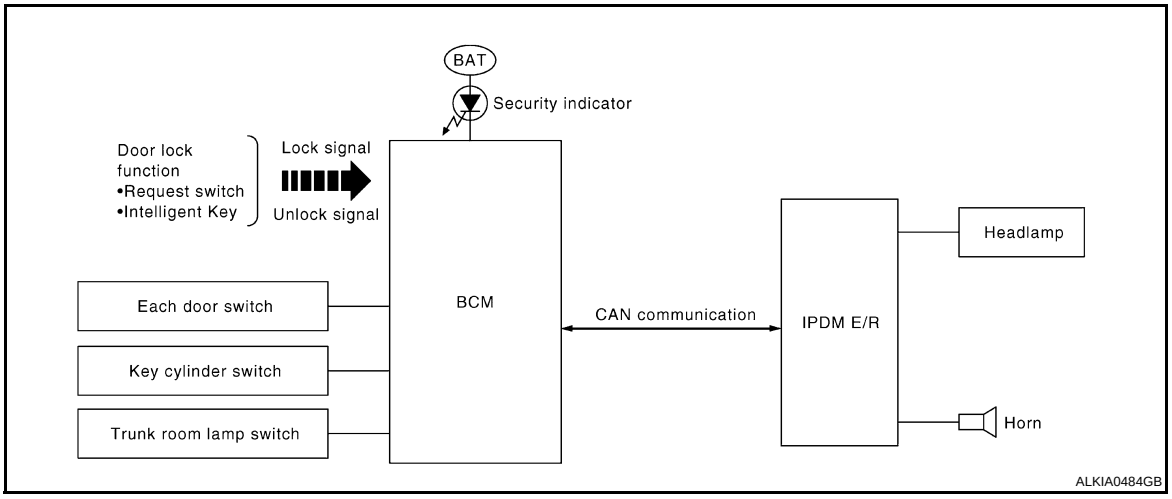
INFOID:0000000003071291

Component	Reference
BCM	SEC-80
Steering lock unit	SEC-69
Push-button ignition switch	SEC-81
Door switch	DLK-52
ECVT device (detent switch)	SEC-47
Inside key antenna	DLK-42
Remote keyless entry receiver	DLK-108
Stop lamp switch	SEC-40
Park/neutral position switch	SEC-58
Steering lock relay	SEC-60
Starter relay	SEC-62
Key warning lamp	SEC-106

VEHICLE SECURITY SYSTEM

System Diagram

INFOID:0000000003071292



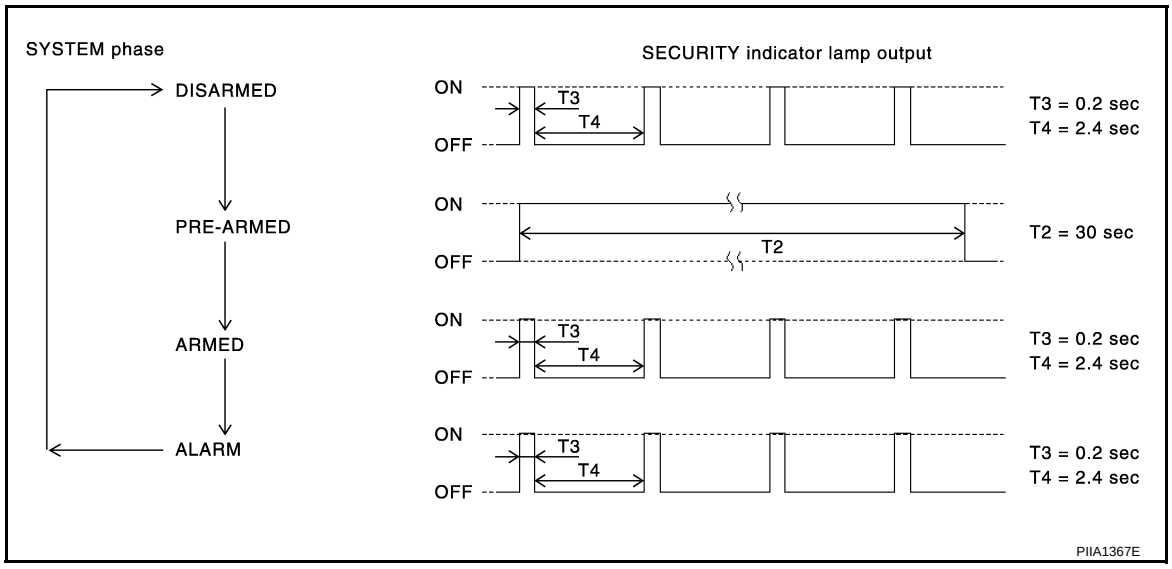
System Description

INFOID:0000000003071293

INPUT/OUTPUT SIGNAL CHART

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

OPERATION FLOW



SETTING THE VEHICLE SECURITY SYSTEM

Initial Condition

- Ignition switch is in OFF position.

Disarmed Phase

- When doors or trunk is open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.
- When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 seconds.

Pre-armed Phase and Armed Phase

When the following operation 1 or 2 is performed, the vehicle security system turns into the “pre-armed” phase. (The security indicator lamp illuminates.)

1. BCM receives LOCK signal from front door key cylinder switch or Intelligent Key, after trunk and all doors are closed.
2. Trunk and all doors are closed after front doors are locked by key or door lock and unlock switch.
   The security indicator lamp illuminates for 30 seconds. Then, the system automatically shifts into the “armed” phase.

CANCELING THE SET VEHICLE SECURITY SYSTEM

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

1. Unlock the doors with the key or Intelligent Key.
2. Turn ignition switch “ON” or “ACC” position.

CANCELING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

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

ACTIVATING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

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

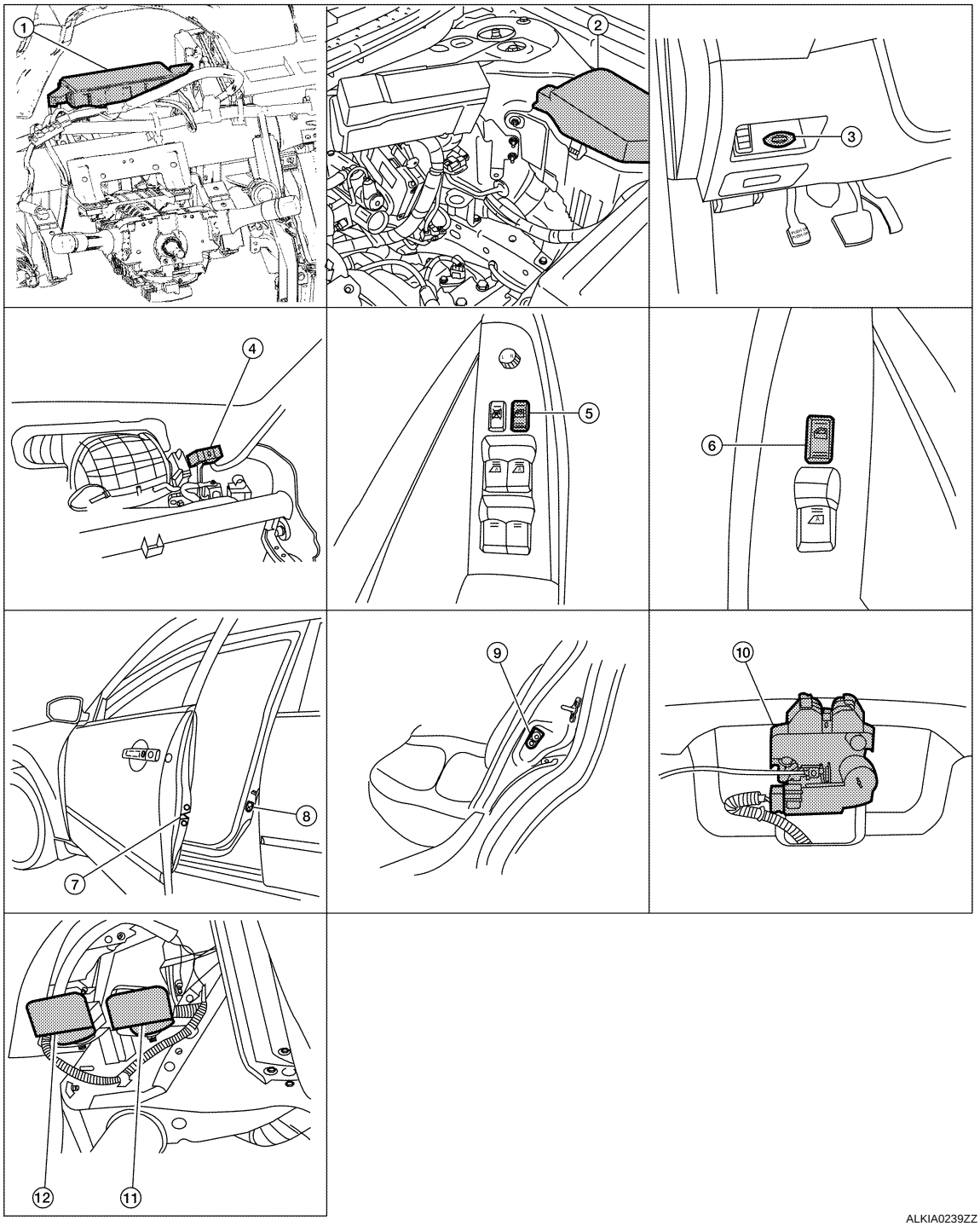
1. Hood, trunk or any door is opened during armed phase.
2. Disconnecting and connecting the battery connector before canceling armed phase.

PANIC ALARM OPERATION

Intelligent Key system may or may not operate vehicle security system (horn and headlamps) as required.
When the Intelligent Key system is triggered, ground is supplied intermittently to both headlamp relay and horn relay.
When headlamp relay and horn relay are energized, then power is supplied to headlamps (LH and RH) and horns (HIGH and LOW).
The headlamp flashes and the horn sounds intermittently.
The alarm automatically turns off after 50 seconds or when BCM receives any signal from Intelligent Key.

Component Parts Location

INFOID:0000000003071294



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1. BCM M16, M17, M18, M19, M21 (view with instrument panel removed)
2. IPDM E/R E17, E18
3. Key slot M40
4. Remote keyless entry receiver M27 (view with instrument panel removed)
5. Main power window and door lock/unlock switch D7, D8
6. Power window and door lock/unlock switch RH D105
7. Front door lock assembly LH (key cylinder switch) D10
8. Front door switch LH B8 RH B108
9. Rear door switch LH B18 RH B116
10. Trunk lamp switch and trunk release solenoid B28 (view with trunk lid inner trim panel removed)
11. Horn (high) E216 (view with front fender protector LH removed)
12. Horn (low) E215

Component Description

INFOID:0000000003071295

Component	Reference
BCM	SEC-16
Horn relay	SEC-103
Security indicator	SEC-107
Door switch	DLK-52
Door lock actuator	DLK-93
Trunk lid lock assembly	DLK-99
Door key cylinder switch	DLK-68
Door lock and unlock switch (driver)	DLK-56
Door lock and unlock switch (passenger)	DLK-60

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : Diagnosis Description

INFOID:0000000003303373

BCM CONSULT-III FUNCTION
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.
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	This function is not used even though it is displayed.

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
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
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		×	
BCM	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

COMMON ITEM : CONSULT-III Function

INFOID:0000000003303374

ECU IDENTIFICATION
Displays the BCM part No.

SELF-DIAG RESULT
Refer to BCS-81, "DTC Index".

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)

INFOID:0000000003303372

BCM CONSULT-III FUNCTION

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.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.

WORK SUPPORT

Monitor item	Description
REMO CONT ID CONFIR	It can be checked whether Intelligent Key ID code is registered or not in this mode.
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch (driver side, passenger side and trunk) mode can be changed to operate (ON) or not operate (OFF) in this mode.
ENGINE START BY I-KEY	Engine start function mode can be changed to operate (ON) or not operate (OFF) with this mode.
TRUNK/GLASS HATCH OPEN	Buzzer reminder function mode by trunk opener request switch can be changed to operate (ON) or not operate (OFF) with this mode.
PANIC ALARM SET	Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode. • 0.5 sec. • 1.5 sec. • OFF: Non-operation
TAKE OUT FROM WIN WARN	Take away warning chime (from window) mode can be changed to operate (ON) or not operate (OFF) with this mode.
PW DOWN SET	Unlock button pressing time on Intelligent Key button can be selected from the following with this mode. • 3 sec. • 5 sec. • OFF: Non-operation
TRUNK OPEN DELAY	Trunk button pressing time on Intelligent Key button can be selected from the following with this mode. • 0.5 sec. • 1.5 sec. • OFF: Non-operation
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operate (ON) or not operate (OFF) with this mode.
KEYLESS FUNCTION	Door lock function with Intelligent Key can be changed to operate (ON) or not operate (OFF) with this mode.
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode.
HAZARD ANSWER BACK	Hazard reminder function mode can be selected from the following with this mode. • LOCK ONLY: Door lock operation only • UNLOCK ONLY: Door unlock operation only • LOCK AND UNLOCK: Lock/unlock operation • OFF: Non-operation
ANS BACK I-KEY LOCK	Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode. • HORN CHIRP: Sound horn • BUZZER: Sound Intelligent Key warning buzzer • OFF: Non-operation
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode.

Monitor item	Description
SHORT CRANKING OUTPUT	Starter motor can operate during the times below. • 70 msec. • 100 msec. • 200 msec.
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis.
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode.
AUTO LOCK SET	Auto door lock function mode can be changed to operate (ON) or not operate (OFF) with this mode.

SELF-DIAG RESULT

Refer to BCS-81, "DTC Index".

DATA MONITOR

Monitor Item	Condition
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [Km/h].
VEH SPEED 2	Display the vehicle speed signal received from ABS or eCVT by numerical value [Km/h].
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value starts changing.
RKE OPE COUN2	**NOTE:** This item is displayed, but cannot be monitored.
REQ SW -DR	Indicates [ON/OFF] condition of door request switch (driver side).
REQ SW -AS	Indicates [ON/OFF] condition of door request switch (passenger side).
REQ SW -BD/TR	Indicates [ON/OFF] condition of trunk opener request switch.
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.
IGN RLY2 -F/B	Indicates [ON/OFF] condition of ignition relay 2.
ACC RLY -F/B	Indicates [ON/OFF] condition of ACC relay.
CLUCH SW	Indicates [ON/OFF] condition of clutch switch.
BRAKE SW 1	Indicates [ON/OFF] condition of brake switch.
DETE/CANCL SW	Indicates [ON/OFF] condition of P position.
SFT PN/N SW	Indicates [ON/OFF] condition of P or N position.
S/L -LOCK	Indicates [ON/OFF] condition of steering lock (LOCK).
S/L -UNLOCK	Indicates [ON/OFF] condition of steering lock (UNLOCK).
S/L RELAY -F/B	Indicates [ON/OFF] condition of ignition switch.
UNLK SEN -DR	Indicates [ON/OFF] condition of driver door UNLOCK status.
PUSH SW -IPDM	Indicates [ON/OFF] condition of push-button ignition switch.
IGN RLY1 -F/B	Indicates [ON/OFF] condition of ignition relay 1.
DETE SW -IPDM	Indicates [ON/OFF] condition of P position.
SFT PN -IPDM	Indicates [ON/OFF] condition of P or N position.
SFT P -MET	Indicates [ON/OFF] condition of P position.
SFT N -MET	Indicates [ON/OFF] condition of N position.
ENGINE STATE	Indicates [STOP/START/CRANK/RUN] condition of engine states.
S/L LOCK-IPDM	Indicates [ON/OFF] condition of steering lock (LOCK).
S/L UNLK-IPDM	Indicates [ON/OFF] condition of steering lock (UNLOCK).
S/L RELAY-REQ	Indicates [ON/OFF] condition of steering lock relay.
DR DOOR STATE	Indicates [LOCK/READY/UNLK] condition of driver side door status.
AS DOOR STATE	Indicates [LOCK/READY/UNLK] condition of passenger side door status.
ID OK FLAG	Indicates [SET/RESET] condition of key ID.

Monitor Item	Condition
PRMT ENG STRT	Indicates [SET/RESET] condition of engine start possibility.
PRMT RKE STRT	**NOTE:** This item is displayed, but cannot be monitored.
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk lid.
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	Indicates [ON/OFF] condition of TRUNK OPEN signal from Intelligent Key.
RKE-PANIC	Indicates [ON/OFF] condition of PANIC button of Intelligent Key.
RKE-P/W OPEN	Indicates [ON/OFF] condition of P/W DOWN signal from Intelligent Key.
RKE-MODE CHG	Indicates [ON/OFF] condition of MODE CHANGE signal from Intelligent Key.

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operation. The interior room lamp will be activated after “ON” on CONSULT-III screen is touched.
PW REMOTO DOWN SET	This test is able to check power window down operation. The power window down will be activated after “ON” on CONSULT-III screen is touched.
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. Intelligent Key warning buzzer sounds when “ON” on CONSULT-III screen is touched.
INSIDE BUZZER	This test is able to check warning chime in combination meter operation. • Take away warning chime sounds when “TAKE OUT” on CONSULT-III screen is touched. • Key warning chime sounds when “KEY WARN” on CONSULT-III screen is touched. • P position warning chime sounds when “P RNG WARN” on CONSULT-III screen is touched. • ACC warning chime sounds when “ACC WARN” on CONSULT-III screen is touched.
INDICATOR	This test is able to check warning lamp operation. • “KEY” Warning lamp illuminates when “KEY IND ON” on CONSULT-III screen is touched. • “KEY” Warning lamp flashes when “KEY IND FSH” on CONSULT-III screen is touched.
INT LAMP	This test is able to check interior room lamp operation. The interior room lamp will be activated after “ON” on CONSULT-III screen is touched.
LCD	This test is able to check meter display information • Engine start information displays when “BRAKE/P” on CONSULT-III screen is touched. • Engine start information displays when “BRAKE/P/ON” on CONSULT-III screen is touched. • Key ID warning displays when “KEY ID NG” on CONSULT-III screen is touched. • Steering lock information displays when “STLCK RELES” on CONSULT-III screen is touched. • P position warning displays when “P RNG IND” on CONSULT-III screen is touched. • Intelligent Key insert information displays when “INSERT KEY” on CONSULT-III screen is touched. • Intelligent Key low battery warning displays when “KEY BAT LOW” on CONSULT-III screen is touched. • Take away through window warning displays when “TK AWAY WDW” on CONSULT-III screen is touched. • Take away warning display when “TAKE AWAY” on CONSULT-III screen is touched. • OFF position warning display when “IGN OFF WARN” on CONSULT-III screen is touched.
TRUNK/GLASS HATCH	This test is able to check trunk lid opener actuator open operation. This actuator opens when “ON” on CONSULT-III screen is touched.
FLASHER	This test is able to check security hazard lamp operation. The hazard lamps will be activated after “ON” on CONSULT-III screen is touched.
HORN	This test is able to check horn operation. The horn will be activated after “ON” on CONSULT-III screen is touched.
IGN CONT2	This test is able to check security hazard lamp operation. The hazard lamps will be activated after “ON” on CONSULT-III screen is touched.
P RANGE	This test is able to check A/T device power supply A/T device power is supplied when “ON” on CONSULT-III screen is touched.

Test item	Description
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation. Push-ignition switch illumination illuminates when “ON” on CONSULT-III screen is touched.
LOCK INDCATOR	This test is able to check LOCK indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when “ON” on CONSULT-III screen is touched.
ACC INDICATOR	This test is able to check ACC indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when “ON” on CONSULT-III screen is touched.
IGNITION ON IND	This test is able to check INGITION ON indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when “ON” on CONSULT-III screen is touched.
KEY SLOT ILLUMI	This test is able to check key slot illumination operation. Key slot illumination flash when “ON” on CONSULT-III screen is touched.

THEFT ALM

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

INFOID:0000000003303375

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

Monitored Item	Description
REQ SW-DR	Indicates [ON/OFF] condition of door request switch (driver side).
REQ SW-AS	Indicates [ON/OFF] condition of door request switch (passenger side).
REQ SW-BD/TR	Indicates [ON/OFF] condition of trunk opener request switch.
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch
UNLK SEN-DR	Indicates [ON/OFF] condition of driver door UNLOCK status.
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
DOOR SW-BK	This is displayed even when it is not equipped.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from front door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from front door key cylinder switch.
KEY CYL SW-TR	This is displayed even when it is not equipped.
TR/BD OPEN SW	Indicates [ON/OFF] condition of trunk lid opener switch.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk room lamp switch.
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	Indicates [ON/OFF] condition of TRUNK OPEN signal from Intelligent Key.

WORK SUPPORT

Test Item	Description
SECURITY ALARM SET	This mode is able to confirm and change security alarm ON-OFF setting.
THEFT ALM TRG	The switch which triggered vehicle security alarm is recorded. This mode is able to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching “CLEAR” on CONSULT-III screen.

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when “ON” on CONSULT-III screen is touched.
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation. The horns will be activated for 0.5 seconds after “ON” on CONSULT-III screen is touched.
HEADLAMP(HI)	This test is able to check vehicle security lamp operation. The headlamps will be activated for 0.5 seconds after “ON” on CONSULT-III screen is touched.
FLASHER	This test is able to check vehicle security hazard lamp operation. The hazard lamps will be activated after “ON” on CONSULT-III screen is touched.

IMMU

IMMU : CONSULT-III Function (BCM - IMMU)

INFOID:0000000003303380

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 BCM.

DATA MONITOR

Monitor item	Content
CONFRM ID ALL	Indicates [YET] at all time. Switch to [DONE] when a registered Intelligent Key is inserted into the key slot.
CONFIRM ID4	
CONFIRM ID3	
CONFIRM ID2	
CONFIRM ID1	
TP 4	Indicates the number of ID which has been registered.
TP 3	
TP 2	
TP 1	
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.

ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when “ON” on CONSULT-III screen touched.

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000003071301

Refer to SEC-26, "Description".

DTC Logic

INFOID:0000000003071302

DTC DETECTION LOGIC

CONSULT-III display description	DTC Detection Condition	Possible cause
CAN COMM CIRCUIT [U1000]	When IPDM E/R 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. • ECVT • Receiving (ECM) • Receiving (VDC/TCS/ABS) • Receiving (METER/M&A) • Receiving (MULTI AV) • Receiving (IPDM E/R)

Diagnosis Procedure

INFOID:0000000003071303

1. PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 second or more.
2. Check “Self Diagnostic Result”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to LAN-8, "CAN Communication Control Circuit".
NO >> Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000003071304

DTC DETECTION LOGIC

CONSULT-III display description	DTC Detection Condition	Possible cause
CAN COMM CIRCUIT [U1010]	BCM detected internal CAN communication circuit malfunction.	BCM

Diagnosis Procedure

INFOID:0000000003071305

1. REPLACE BCM

When DTC U1010 is detected, replace BCM.

>> Replace BCM. Refer to BCS-85, "Removal and Installation".

B2190, P1614 NATS ANTENNA AMP.

Description

INFOID:0000000003071306

Performs ID verification through BCM and Intelligent Key when push-button ignition switch is pressed.
Prohibits the release of steering lock or start of engine when an unregistered ID of Intelligent Key is used.

DTC Logic

INFOID:0000000003071307

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Insert Intelligent Key into the key slot.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-28, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-28, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071308

1. INSPECTION START

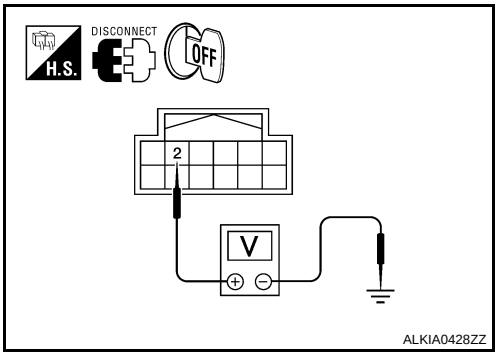
Check the case in which DTC is detected.
- Case1: It is detected when Intelligent Key is inserted into key slot.
- Case2: It is detected after Intelligent Key is inserted into key slot and push-button ignition switch is pressed.

In which case is DTC detected?

Case1. >> GO TO 2.
Case2. >> GO TO 4.

2.CHECK KEY SLOT INPUT SIGNAL

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



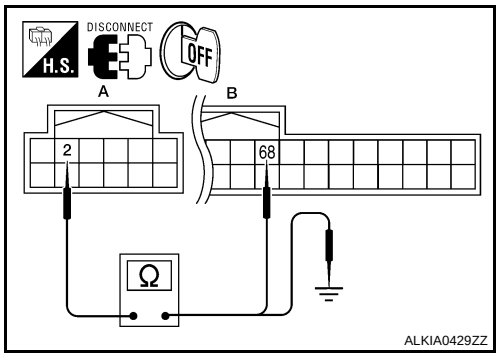
Key slot		Ground	Voltage [V] (approx.)
Connector	Terminal		
M40	2	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace key slot.
NO >> GO TO 3.

3. CHECK KEY SLOT CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between key slot harness connector M40 (A) terminal 2 and BCM harness connector M19 (B) terminal 68.



Key slot		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: M40	2	B: M19	68	Yes

3. Check continuity between key slot harness connector M40 (A) terminal 2 and ground.

Key slot		Ground	Continuity
Connector	Terminal		
A: M40	2	Ground	No

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair harness or connector.

4. CHECK PUSH-IGNITION SWITCH OPERATION

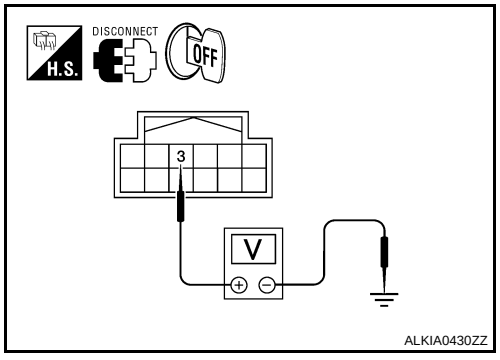
Press push-button ignition switch and check if it turns ON.

Does ignition switch turn to ON?

YES >> GO TO 5.
NO >> GO TO 7.

5. CHECK KEY SLOT COMMUNICATION SIGNAL

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



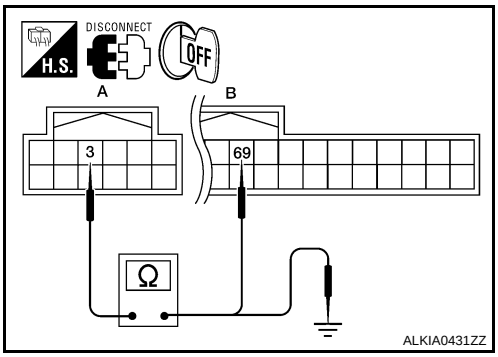
Key slot		Ground	Continuity
Connector	Terminal		
M40	3	Ground	Yes

Is the inspection result normal?

YES >> Replace key slot.
NO >> GO TO 6.

6. CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between key slot harness connector M40 (A) terminal 3 and BCM harness connector M19 (B) terminal 69.



Key slot		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: M40	3	B: M19	69	Yes

3. Check continuity between key slot harness connector M40 (A) terminal 3 and ground.

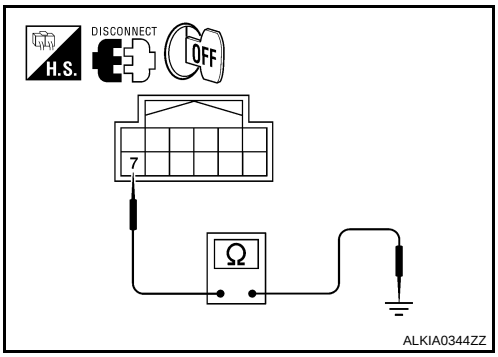
Key slot		Ground	Continuity
Connector	Terminal		
A: M40	3	Ground	No

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair harness or connector.

7. CHECK KEY SLOT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect key slot harness connector.
3. Check continuity between key slot harness connector and ground.



Key slot		Ground	Continuity
Connector	Terminal		
M40	7	Ground	Yes

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair harness or connector.

8. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2191, P1615 DIFFERENCE OF KEY

Description

INFOID:0000000003071309

Performs ID verification through BCM and Intelligent Key when push-button ignition switch is pressed.
Prohibits the release of steering lock or start of engine when an unregistered ID of Intelligent Key is used.

DTC Logic

INFOID:0000000003071310

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 Intelligent Key are NG. The registration is necessary.	• Intelligent Key

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-32, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071311

1.PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Re-register all Intelligent Keys.
For initialization and registration of Intelligent Key. Refer to “CONSULT-III Operation Manual NATS-IVIS/NVIS”.

Can the system be initialized and can the engine be started with re-registered Intelligent Key?

YES >> Intelligent Key was unregistered.
NO >> BCM is malfunctioning.
- Replace BCM
- Perform initialization again

B2192, P1611 ID DISCORD, IMMU-ECM

Description

INFOID:0000000003071312

BCM performs the ID verification with hybrid vehicle control ECU that allows the hybrid system to start. Start the hybrid system if the ID is OK. hybrid vehicle control ECU prevents the hybrid system from starting if the ID is not registered. BCM starts the communication with hybrid vehicle control ECU if ignition switch is turned ON.

DTC Logic

INFOID:0000000003071313

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions.
- ECVT selector lever is in the P or N position
- Do not depress the brake pedal
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000003071314

1.PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Re-register all Intelligent Keys.
For initialization and registration of Intelligent Key. Refer to “CONSULT-III Operation Manual NATS-IVIS/NVIS”.

Can the system be initialized and can the hybrid system be started with re-registered Intelligent Key?

YES >> ID was unregistered.
NO >> BCM is malfunctioning.
- Replace BCM
- Perform initialization again
- Replace hybrid vehicle control ECU

B2193, P1612 CHAIN OF ECM-IMMU

Description

INFOID:0000000003071315

BCM performs the ID verification with hybrid vehicle control ECU that allows the hybrid system to start. Start the hybrid system if the ID is OK. Hybrid vehicle control ECU prevents the hybrid system from starting if the ID is not registered. BCM starts the communication with hybrid vehicle control ECU if ignition switch is turned ON.

DTC Logic

INFOID:0000000003071316

DTC DETECTION LOGIC

NOTE:

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

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions.
- ECVT selector lever is in the P or N position.
- Do not depress brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000003071317

1. REPLACE BCM

1. Replace BCM.
2. Perform initialization with CONSULT-III.
   For initialization, refer to “CONSULT-III Operation Manual”.

Does the hybrid system start?

YES >> BCM is malfunctioning.
- Replace BCM.
- Perform initialization again and delete the DTC of hybrid vehicle control ECU.

NO >> Hybrid vehicle control ECU is malfunctioning.
- Replace hybrid vehicle control ECU.
- Perform re-communicating function.

B2013 ID DISCORD, IMMU-STRG

Description

INFOID:0000000003071318

BCM performs the ID verification with the steering lock unit and releases the steering lock if both BCM and steering lock unit ID are same. BCM starts the communication with the steering lock unit when Intelligent Key is carried into the passenger compartment and the push-button ignition switch is pressed.

DTC Logic

INFOID:0000000003071319

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2013	ID DISCORD, IMMU-STRG	The ID verification results between BCM and steering control unit are NG. The registration is necessary.	• Steering wheel lock unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Lock steering.
2. Press the push-button ignition switch
3. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-35, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071320

1.PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Re-register all Intelligent Keys.
For initialization and registration of Intelligent Key. Refer to “CONSULT-III Operation Manual”.

Can the system be initialized and can steering lock be released with re-registered Intelligent Key?

YES >> Steering lock unit was unregistered.
NO >> BCM is malfunctioning.
- Replace BCM
- Perform initialization again

B2014 CHAIN OF STRG-IMMU

Description

INFOID:0000000003071321

BCM performs the ID verification with the steering lock unit to release the steering. BCM starts the communication with the steering lock unit when Intelligent Key is carried into the passenger compartment and the push-button ignition switch is pressed.

DTC Logic

INFOID:0000000003071322

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2014	CHAIN OF STRG-IMMU	Inactive communication between steering control unit and BCM	• Harness or connectors (steering lock unit circuit is open or shorted) • Steering lock unit • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Lock steering.
2. Press the push-button ignition switch.
3. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

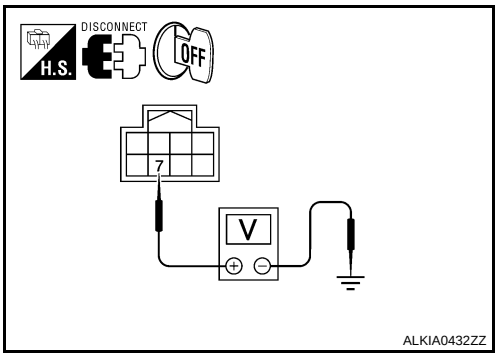
YES >> Refer to SEC-36, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071323

1.CHECK STEERING LOCK UNIT POWER SUPPLY

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



Steering lock unit		Ground	Ignition switch position	Voltage [V]
Connector	Terminal			
M32	7	Ground	OFF or ACC	Battery voltage
			ON	0

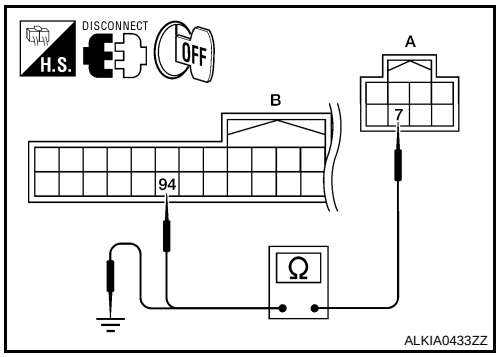
Is the inspection normal?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK STEERING LOCK UNIT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM harness connector.
3. Check continuity between steering lock unit harness connector M32 (A) terminal 7 and BCM harness connector M19 (B) terminal 94.



Steering lock unit		BCM		Continuity
Connector	Terminal	connector	Terminal	
A: M32	7	B: M19	94	Yes

4. Check continuity between steering lock unit harness connector M32 (A) terminal 7 and ground.

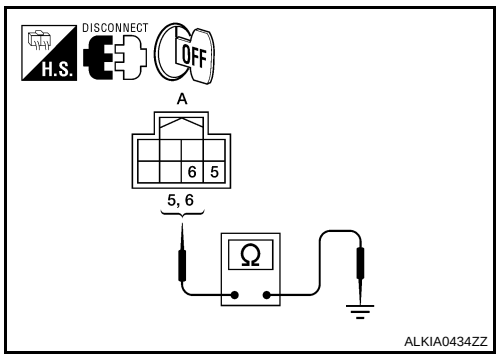
Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	7	Ground	No

Is the inspection normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

3. CHECK STEERING LOCK UNIT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between steering lock unit and ground.



Steering lock unit		Ground	Continuity
Connector	Terminal		
M32	5	Ground	Yes
	6		

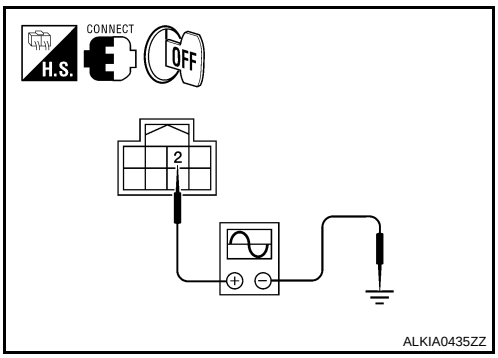
Is the inspection normal?

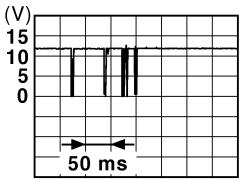
YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK STEERING LOCK UNIT COMMUNICATION SIGNAL

1. Connect steering lock unit harness connector.

2. Using an oscilloscope, read voltage signal between steering lock unit harness connector and ground.



Steering lock unit		Ground	Steering lock unit condition	Value
Connector	Terminal			
M32	2	Ground	Lock	Battery voltage
			Lock or unlock	 JMKIA0066GB
			For 15 seconds after unlock	Battery voltage
			15 seconds or later after unlock.	0 V

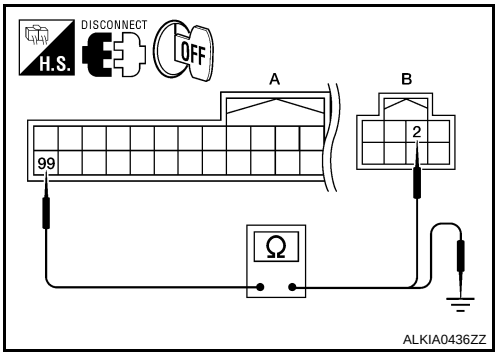
Steering is locked : Opening the door when ignition switch is ON to OFF.
Steering is unlocked : Ignition switch is OFF to ACC.

Is the inspection normal?

YES >> Replace steering lock unit.
NO >> GO TO 5.

5. CHECK STEERING LOCK UNIT COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM harness connector.
3. Check continuity between BCM harness connector M19 (A) terminal 99 and steering lock unit harness connector M32 (B) terminal 2.



BCM		Steering lock unit		Continuity
Connector	Terminal	connector	Terminal	
A: M19	99	B: M32	2	Yes

4. Check continuity between BCM harness connector M19 (A) terminal 99 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	99	Ground	No

Is the inspection normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2555 STOP LAMP

Description

INFOID:0000000003071324

BCM detects the stop lamp status and confirms the stop lamp switch ON/OFF status. BCM confirms the engine start condition according to the stop lamp switch ON/OFF status.

DTC Logic

INFOID:0000000003071325

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2555	STOP LAMP	BCM makes a comparison between the upper voltage and lower voltage of stop lamp switch. It judges from their values to detect the malfunctioning circuit.	• Harness or connectors (stop lamp switch circuit is open or shorted) • Stop lamp switch • Fuse

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Depress the brake pedal and wait for at least 1 second.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

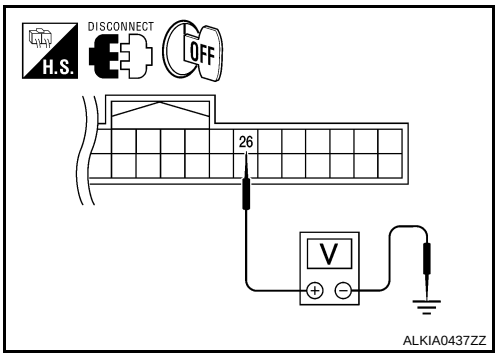
YES >> Refer to SEC-40, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071326

1.CHECK STOP LAMP SWITCH INPUT SIGNAL

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



BCM		Ground	Stop lamp switch position	Voltage [V]
Connector	Terminal			
M18	26	Ground	Depressed	Battery voltage
			Released	0

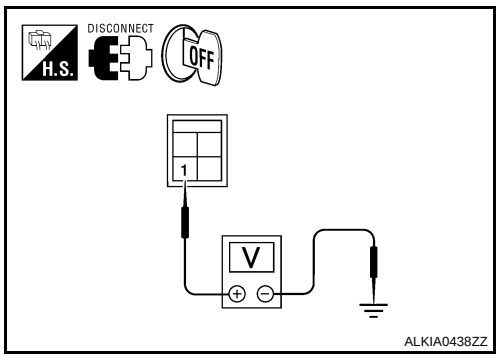
Is the inspection normal?

YES >> Stop lamp switch is OK.
NO >> GO TO 2.

2.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Disconnect stop lamp switch harness connector.

2. Check voltage between stop lamp harness connector and ground.



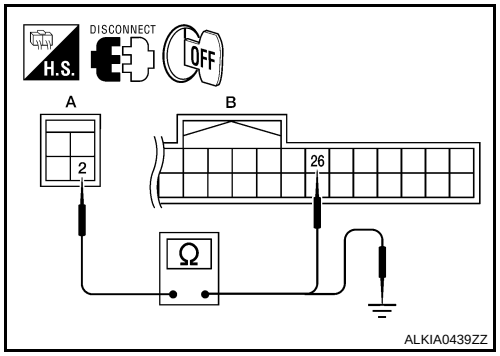
Stop lamp switch		Ground	Voltage [V]
Connector	Terminal		
E38	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Check harness for open or short between stop lamp switch and fuse.

3. CHECK STOP LAMP SWITCH CIRCUIT

1. Check continuity between stop lamp switch harness connector E38 (A) terminal 2 and BCM harness connector M18 (B) terminal 26.



Stop lamp switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: E38	2	B: M18	26	Yes

2. Check continuity between stop lamp switch harness connector E38 (A) terminal 2 and ground.

Stop lamp switch		Ground	Continuity
Connector	Terminal		
A: E38	2	Ground	No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK STOP LAMP SWITCH

Refer to SEC-42, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace stop lamp switch.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

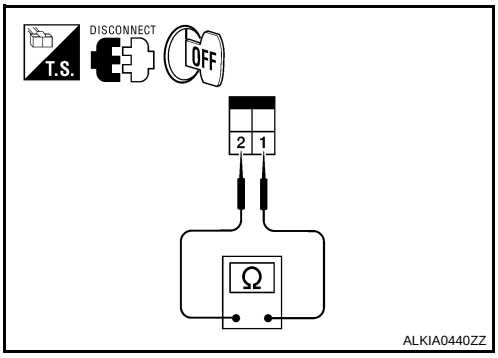
>> INSPECTION END.

Component Inspection

INFOID:0000000003071327

1. CHECK STOP LAMP SWITCH

1. Turn ignition switch OFF.
2. Disconnect stop lamp switch harness connector.
3. Check continuity between stop lamp switch terminals under the following conditions.



Stop lamp switch Terminal		Condition		Continuity
1	2	Brake pedal	Not depressed	No
			Depressed	Yes

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Replace stop lamp switch.

B2556 PUSH-BUTTON IGNITION SWITCH

Description

INFOID:0000000003071328

The switch that changes the power supply position. BCM maintains the power supply position status. BCM changes the power supply position with the operation of the push-button ignition switch.

DTC Logic

INFOID:0000000003071329

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2556	PUSH-BUTTON IGNITION SWITCH	BCM detects the push-button ignition switch stuck to ON for 100 seconds or more	• Harness or connectors (Push-button ignition switch circuit is shorted.) • Push-button ignition switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine and wait for at least 100 seconds.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

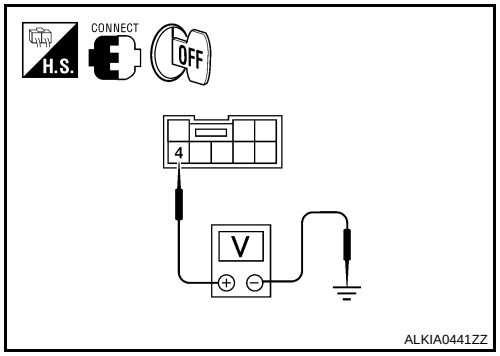
YES >> Refer to SEC-43, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071330

1.CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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



Push-button ignition switch		Ground	Voltage [V]
Connector	Terminal		
M38	4	Ground	Battery voltage

Is the inspection normal?

YES >> GO TO 2.
NO >> GO TO 4.

2.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-44, "Component Inspection".

Is the inspection normal?

YES >> GO TO 3.
NO >> Replace push-button ignition switch. Refer to SEC-184, "Removal and Installation".

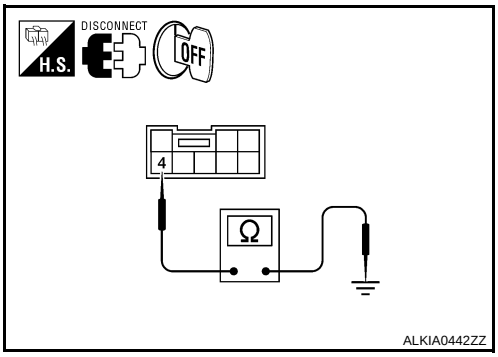
3.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

4.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT FOR SHORT

1. Disconnect BCM harness connector and IPDM E/R harness connector.
2. Check continuity between push-button ignition switch harness connector and ground.



Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M38	4	Ground	No

Is the inspection normal?

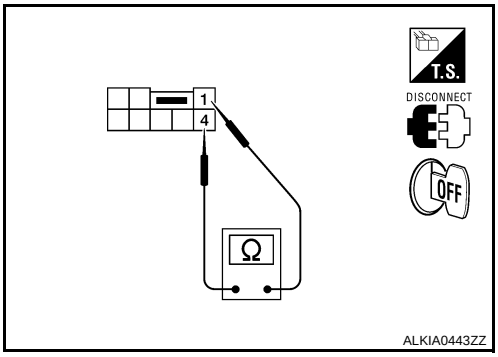
YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> Repair harness or connector.

Component Inspection

INFOID:0000000003071331

1.CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch harness connector.
3. Check continuity between push-button ignition switch terminals under the following conditions.



Push-button ignition switch		Condition	Continuity
Terminal			
1	4	Pressed	Yes
		Not pressed	No

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Replace push-button ignition switch. Refer to SEC-184, "Removal and Installation".

B2557 VEHICLE SPEED

Description

INFOID:0000000003071332

BCM receives the 2 vehicle speed signals via CAN communication. 1 signal is transmitted by the combination meter. Another signal is transmitted by “ABS actuator and electric unit (control unit)”. BCM compares both signals to detect the vehicle speed.

DTC Logic

INFOID:0000000003071333

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC	Self-diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	BCM detects the following difference between the vehicle speed from “unified meter” and the one from “ABS actuator and electric unit” for 10 seconds continuously • One is 10km/h or more and the other is 4km/h or less.	• Wheel sensor • Combination meter • ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Drive the vehicle at the vehicle speed of 10 km/h or more and wait for at least 10 seconds.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-45, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071334

1.CHECK DTC WITH ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Check “Self diagnostic result” with CONSULT-III. Refer to BRC-156, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace.

2.CHECK COMBINATION METER.

Check combination meter. Refer to MWI-4, "Work Flow".

>> INSPECTION END.

B2560 STARTER CONTROL RELAY

Description

INFOID:0000000003071335

Hybrid system starting condition, integrated in hybrid vehicle control ECU, permits the hybrid system operation when in N or P position and the steering is locked or unlocked.

DTC Logic

INFOID:0000000003071336

DTC DETECTION LOGIC

NOTE:

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC	Self-diagnosis name	DTC detecting condition	Possible causes
B2560	STARTER CONTROL RELAY	BCM detects a mismatch between the OFF request of hybrid vehicle control ECU to BCM and the feedback. (The feedback is ON instead of OFF.)	• hybrid vehicle control ECU

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions and wait for at least 2 seconds.
- ECVT selector lever is in the P position
- Depress the brake pedal
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-46, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071337

1.CHECK DTC WITH HV ECU

Check “Self diagnostic result” with CONSULT-III. Refer to HBC-611, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2601 SHIFT POSITION

Description

INFOID:0000000003071338

BCM confirms the shift position with the following 3 signals.
- ECVT selector lever
- P/N position switch
- P position signal from hybrid vehicle control ECU.

DTC Logic

INFOID:0000000003071339

DTC DETECTION LOGIC

NOTE:
- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2601	SHIFT POSITION	BCM detects when a difference between the shift P input signal and the shift position signal received from hybrid vehicle control ECU continues for 2 seconds or more	• Harness or connectors (eCVT device circuit is open or shorted.) • ECVT device (detention switch)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for at least 2 seconds.
- ECVT selector lever is in the P or N position.
- Do not depress the brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

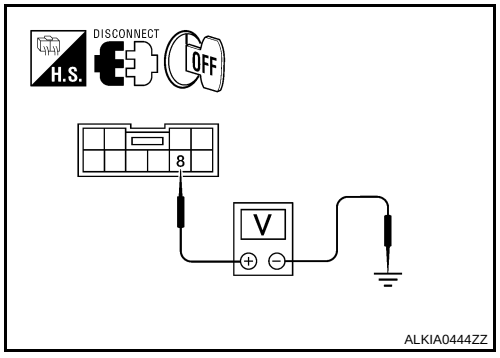
YES >> Refer to SEC-47, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071340

1.CHECK ECVT DEVICE POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect eCVT device (detention switch) harness connector.
3. Check voltage between eCVT device (detention switch) harness connector and ground.



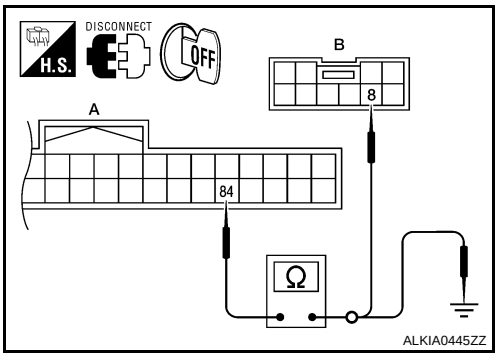
ECVT device (detention switch)		Ground	Voltage [V]
Connector	Terminal		
M23	8	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK ECVT DEVICE POWER SUPPLY CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 84 and eCVT device (detention switch) harness connector M23 (B) terminal 8.



BCM		ECVT device (detention switch)		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	84	B: M23	8	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 84 and ground.

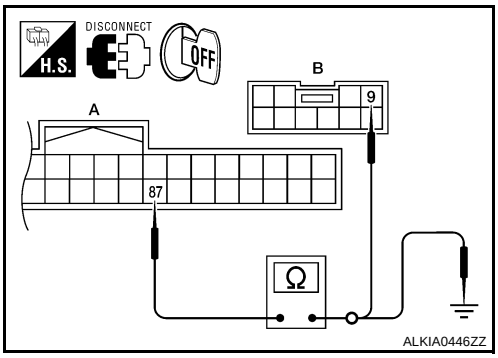
BCM		Ground	Continuity
Connector	Terminal		
A: M19	84	Ground	No

Is the inspection result normal?

YES >> Replace BCM.
NO >> Repair harness or connector.

3.CHECK ECVT DEVICE CIRCUIT (BCM)

1. Disconnect BCM harness connector and IPDM E/R harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 87 and eCVT device (detention switch) harness connector M23 (B) terminal 9.



BCM		ECVT device (detention switch)		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	87	B: M23	9	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 87 and ground.

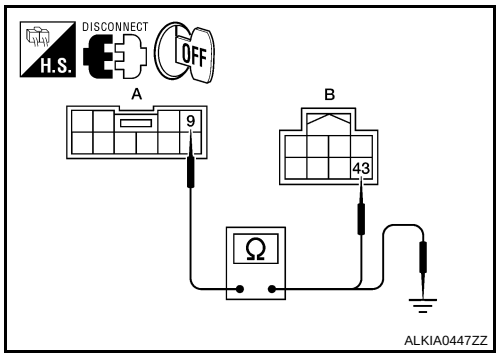
BCM		Ground	Continuity
Connector	Terminal		
A: M19	87	Ground	No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair harness or connector.

4. CHECK ECVT DEVICE CIRCUIT (IPDM E/R)

1. Disconnect BCM harness connector.
2. Check continuity between eCVT device (detention switch) harness connector M23 (A) terminal 9 and IPDM E/R harness connector E17 (B) terminal 43.



ECVT device (detention switch)		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M23	9	B: E17	43	Yes

3. Check continuity between eCVT device (detention switch) harness connector M23 (A) terminal 9 and ground.

ECVT device (detention switch)		Ground	Continuity
Connector	Terminal		
A: M23	9	Ground	No

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair harness or connector.

5. CHECK ECVT DEVICE

Refer to SEC-49, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace eCVT device. Refer to TM-26, "Removal and Installation".

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

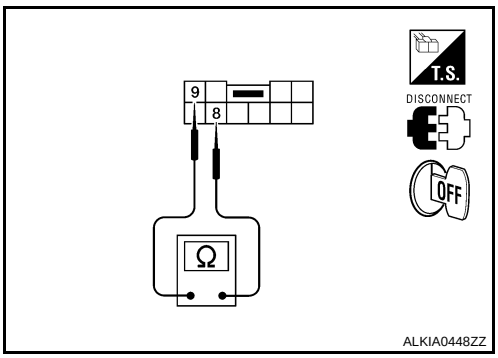
Component Inspection

INFOID:0000000003071341

1. CHECK ECVT DEVICE (DETENTION SWITCH)

1. Turn ignition switch OFF.
2. Disconnect eCVT device (detention switch) harness connector.

3. Check continuity between eCVT device (detention switch) terminals as follows.



ECVT device (detention switch)			Condition		Continuity
Connector	Terminal				
M137	8	9	ECVT selector lever	P position	No
				Other than above	Yes

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace eCVT device. Refer to TM-26, "Removal and Installation".

B2602 SHIFT POSITION

Description

INFOID:0000000003071342

BCM confirms the shift position with the following 3 signals.
- ECVT selector lever
- P/N position switch
- P position signal from hybrid vehicle control ECU

DTC Logic

INFOID:0000000003071343

DTC DETECTION LOGIC

NOTE:
- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT POSITION	BCM detects the following status for 10 seconds. • Shift position is in P position • Vehicle speed is 4km/h or more • Ignition switch is in the ON position	• Harness or connectors (ECVT drive circuit is open or shorted) • ECVT device (detention switch) • ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine under the following conditions and wait for at least 10 seconds.
- ECVT selector lever is in the P or N position
- Depress the brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-51, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071344

1.CHECK DTC WITH “ABS ACTUATOR AND ELECTRIC UNIT”

Check “Self diagnostic result” with CONSULT-III. Refer to BRC-156, "DTC Index".

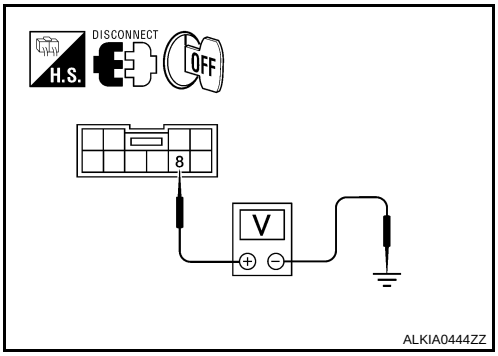
Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace.

2.CHECK ECVT DEVICE POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect eCVT device (detention switch) harness connector.

3. Check voltage between eCVT device (detention switch) harness connector and ground.



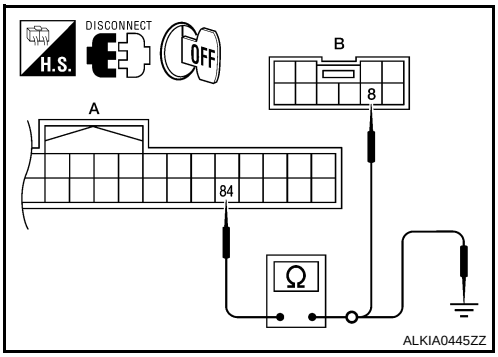
ECVT device (detention switch)		Ground	Voltage [V]
Connector	Terminal		
M23	8	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 3.

3.CHECK ECVT DEVICE POWER SUPPLY CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 84 and eCVT device (detention switch) harness connector M23 (B) terminal 8.



BCM		ECVT device (detention switch)		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	84	B: M23	8	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 84 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	84	Ground	No

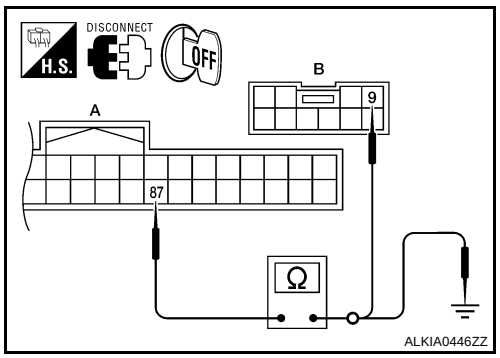
Is the inspection result normal?

YES >> Replace BCM.
NO >> Repair harness or connector.

4.CHECK ECVT DEVICE CIRCUIT

1. Disconnect BCM harness connector.

2. Check continuity between ECVT device (detention switch) harness connector and BCM harness connector.



BCM		ECVT device (detention switch)		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	87	B: M23	9	Yes

3. Check continuity between ECVT device (detention switch) harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	87	Ground	No

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair harness or connector.

5. CHECK ECVT DEVICE

Refer to SEC-49, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace ECVT device. Refer to TM-26, "Removal and Installation".

6. CHECK INTERMITTETNT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2603 SHIFT POSITION STATUS

Description

INFOID:0000000003071345

BCM confirms the shift position with the following 3 signals.
- ECVT selector lever
- P/N position switch
- P position signal from hybrid vehicle control ECU

DTC Logic

INFOID:0000000003071346

DTC DETECTION LOGIC

NOTE:
- If DTC B2603 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2603 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC	Self-diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSITION STATUS	BCM detects the followings status for 500 ms or more when shift is in P position and, ignition switch is in ON position. • Park/neutral position (PNP) switch: approx. 0V • ECVT device (detention switch): approx 0V	• Harness or connector (eCVT device circuit is open or shorted.) • Harness or connectors [Park/neutral position (PNP) switch circuit is open or shorted.] • ECVT device (detention switch) • Park/neutral position (PNP) switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine under the following conditions and wait for at least 1 second.
- ECVT selector lever is in the P or N position.
- Do not depress the brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-54, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071347

1.CHECK DTC WITH HV ECU

Check “Self diagnostic result” with CONSULT-III. Refer to HBC-611, "DTC Index".

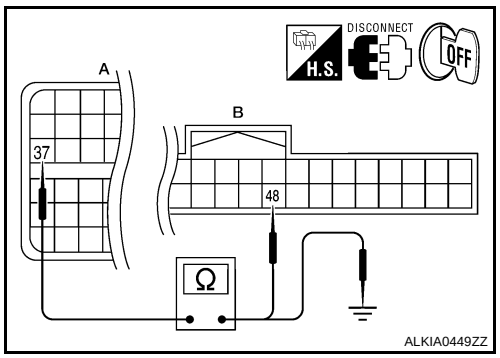
Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace.

2.CHECK PNP SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect hybrid vehicle control ECU harness connector and BCM harness connector.

3. Check continuity between hybrid vehicle control ECU harness connector E65 (A) terminal 37 and BCM harness connector M18 (B) terminal 48.



Hybrid vehicle control ECU		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: E65	37	B: M18	48	Yes

4. Check continuity between hybrid vehicle control ECU harness connector E65 (A) terminal 37 and ground.

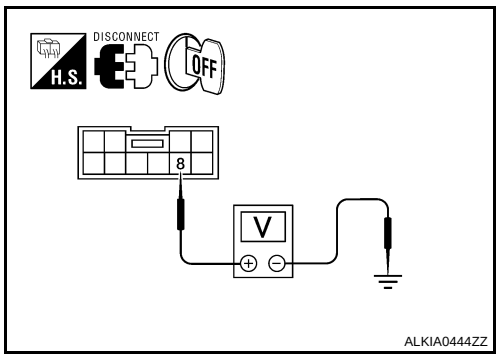
Hybrid vehicle control ECU		Ground	Continuity
Connector	Terminal		
A: E65	37	Ground	No

Is the inspection result normal?

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

3. CHECK ECVT DEVICE POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect eCVT device (detention switch) harness connector.
3. Check voltage between eCVT device (detention switch) harness connector and ground.



ECVT device (detention switch)		Ground	Voltage [V]
Connector	Terminal		
M23	8	Ground	Battery voltage

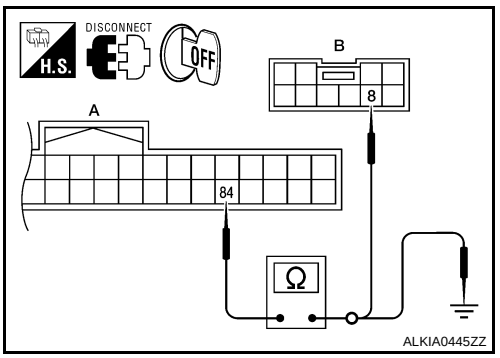
Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 4.

4. CHECK ECVT DEVICE POWER SUPPLY CIRCUIT

1. Disconnect BCM harness connector.

2. Check continuity between BCM harness connector M19 (A) terminal 84 and eCVT device (detention switch) harness connector M23 (B) terminal 8.



BCM		ECVT device (detention switch)		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	84	B: M23	8	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 84 and ground.

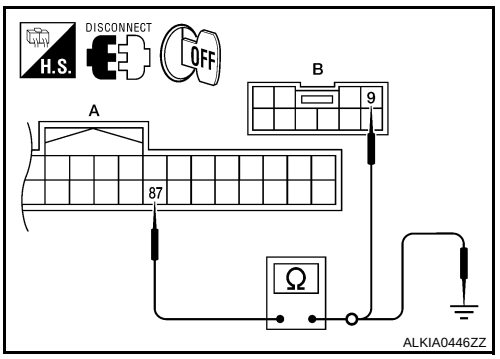
BCM		Ground	Continuity
Connector	Terminal		
A: M19	84	Ground	No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> Repair harness or connector.

5. CHECK ECVT DEVICE CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 87 and eCVT device (detention switch) harness connector M23 (B) terminal 9.



BCM		ECVT device (detention switch)		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	87	B: M23	9	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 87 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	87	Ground	No

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

6. CHECK ECVT DEVICE

Refer to SEC-49, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace eCVT device. Refer to TM-26, "Removal and Installation".

7. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2604 PNP SWITCH

Description

INFOID:0000000003071348

BCM confirms the shift position with the following 3 signals.
- ECVT selector lever
- P/N position switch
- P position signal from hybrid vehicle control ECU

DTC Logic

INFOID:0000000003071349

DTC DETECTION LOGIC

NOTE:
- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2604	PNP SWITCH	BCM detects the following status for 500 ms or more when the ignition switch is in the ON position. • N position input signal exists. Shift position signal from hybrid vehicle control ECU does not exist. • N position input signal does not exist. Shift position signal from hybrid vehicle control ECU exists.	• Harness or connectors [The park/neutral position (PNP) switch circuit is open or shorted.] • Park/ neutral position (PNP) switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the hybrid system under the following conditions and wait for at least 1 second.
- ECVT selector lever is in the P or N position
- Do not depress the brake pedal
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-58, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071350

1.CHECK DTC WITH HV ECU

Check “Self diagnostic result” with CONSULT-III. Refer to HBC-611, "DTC Index".

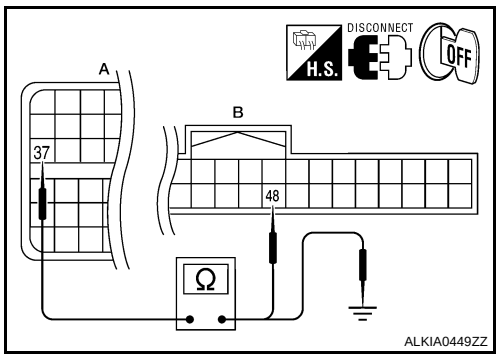
Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace.

2.CHECK PNP SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect hybrid vehicle control ECU harness connector and BCM harness connector.

3. Check continuity between hybrid vehicle control ECU harness connector and BCM harness connector.



Hybrid vehicle control ECU		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: E65	37	B: M18	48	Yes

4. Check continuity between hybrid vehicle control ECU harness connector and ground.

Hybrid vehicle control ECU		Ground	Continuity
Connector	Terminal		
A: E65	37	Ground	No

Is the inspection result normal?

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

3. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2607 STEERING LOCK RELAY

Description

INFOID:0000000003071351

BCM requests to IPDM E/R to supply power to steering lock unit. After receiving the power, the steering lock unit transmits an ON signal to BCM.

DTC Logic

INFOID:0000000003071352

DTC DETECTION LOGIC

NOTE:

- If DTC B2607 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2607 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2607	STEERING LOCK RELAY	BCM detects that there is a difference between the following statuses. • Steering lock unit ON signal transmitted by IPDM E/R • The steering lock unit status feedback	• Harness or connectors (steering lock unit power supply circuit is open or shorted) • Steering lock relay (in IPDM E/R)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions.
- ECVT selector lever is in the P or N position
- Do not depress brake pedal
2. Steering lock is locked.
3. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-60, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071353

1.CHECK DTC WITH IPDM E/R

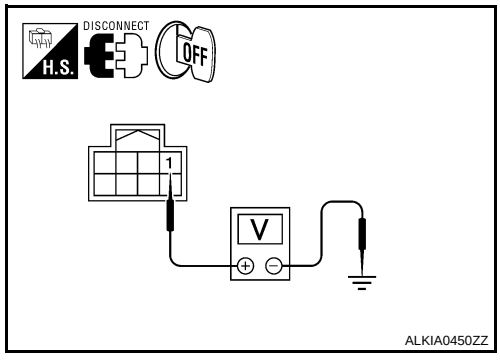
Check “Self diagnostic result” with CONSULT-III. Refer to PCS-32, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace malfunctioning component.

2.CHECK STEERING LOCK UNIT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect steering lock unit harness connector.
3. Check voltage between steering lock unit and ground under the following conditions.



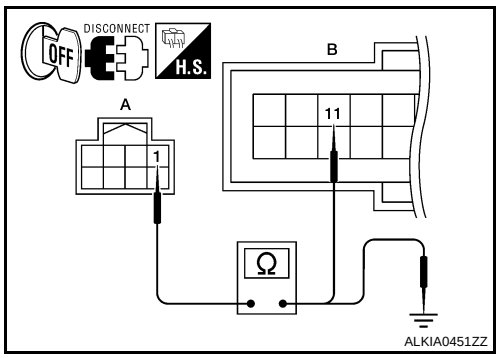
Steering lock unit		Ground	Condition	Voltage (V)
Connector	Terminal			
M32	1	Ground	Press push-button ignition switch when steering lock is in lock condition.	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 3.

3. CHECK STEERING LOCK UNIT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector.
3. Check continuity between steering lock unit connector M32 (A) terminal 1 and IPDM E/R harness connector E18 (B) terminal 11.



Steering lock unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	1	B: E18	11	Yes

4. Check continuity between steering lock unit connector M32 (A) terminal 1 and ground.

Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	1	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".
NO >> Repair harness or connector.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2608 STARTER RELAY

Description

INFOID:0000000003071354

The hybrid system start enabling condition is located in the hybrid vehicle control ECU. The starting system is turned ON by the BCM when the ignition switch is in START position. Hybrid vehicle control ECU transmits the starting signal to BCM via CAN communication.

DTC Logic

INFOID:0000000003071355

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2608	STARTER RELAY	BCM receives starting signal (CAN) from hybrid vehicle control ECU even if BCM turns the hybrid system OFF	• Harness or connectors (starter relay circuit is open or shorted.) • Hybrid vehicle control ECU

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions.
- ECVT selector lever is in the P or N position.
- Depress the brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

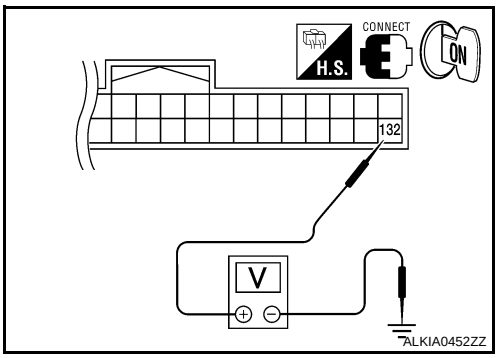
YES >> Refer to SEC-62, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071356

1. CHECK STARTER RELAY

1. Turn ignition switch ON.
2. Check voltage between BCM harness connector and ground under the following condition.



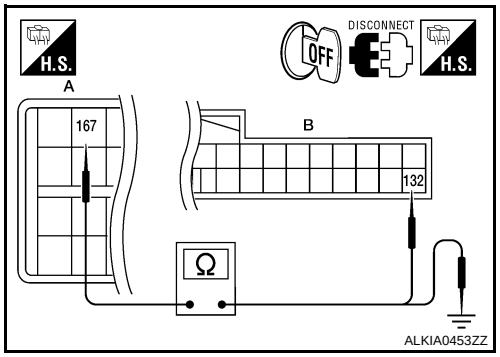
BCM		Ground	Condition		Voltage (V)
Connector	Terminal				
M21	132	Ground	ECVT selector lever	N or P position	Battery voltage
				Other than above	0

Is the measurement value within the specification?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK HV ECU CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM harness connector M121 and hybrid vehicle control ECU harness connector E66.
3. Check continuity between hybrid vehicle control ECU harness connector E66 (A) terminal 167 and BCM harness connector M21 (B) terminal 132.



Hybrid vehicle control ECU		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E66	167	M21	132	Yes

4. Check continuity between hybrid vehicle control ECU harness connector E66 (A) terminal 167 and ground.

Hybrid vehicle control ECU		Ground	Continuity
Connector	Terminal		
E66	167	Ground	No

Is the inspection result normal?

YES >> Refer to hybrid control system HBC-9, "Work Flow".
NO >> Repair harness or connector.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2609 STEERING STATUS

Description

INFOID:0000000003071357

There are 2 switches in the steering lock unit (steering lock/unlock switch 1 and 2). BCM compares those two switches conditions to judge the present steering status.

DTC Logic

INFOID:0000000003071358

DTC DETECTION LOGIC

NOTE:

- If DTC B2609 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2609 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2609	STEERING STATUS	BCM detects the malfunction of steering lock unit switches for 1 second.	• Harness or connectors [steering lock unit circuit (BCM side) is open or shorted] • Harness or connectors [steering lock unit circuit (IPDM E/R side) is open or shorted.] • Steering lock unit • IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- ECVT selector lever is in the P or N position.
- Do not depress brake pedal
- Steering is locked
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-64, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Press door switch.
4. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-64, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071359

1.INSPECTION START

Check the case in which DTC is detected.

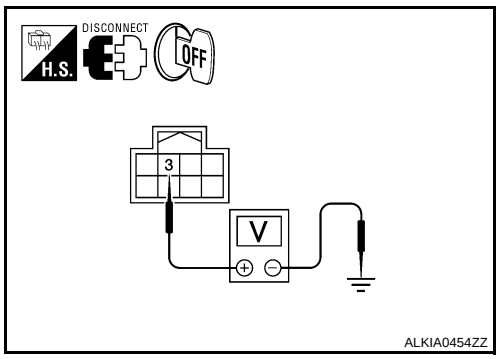
- Case1: It is detected after ignition switch is changed from ON to OFF and door switch is pressed
- Case2: It is detected after ignition switch is changed from ON to OFF

In which case is DTC detected?

Case1 >> GO TO 2.
Case2 >> GO TO 7.

2.CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect steering lock unit harness connector and IPDM E/R harness connector.
3. Check voltage between steering lock unit harness connector and ground.



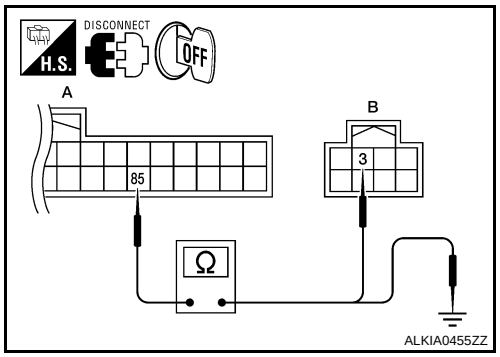
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 3.

3. CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 85 and steering lock unit harness connector M32 (B) terminal 3.



BCM		Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	85	B: M32	3	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 85 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	85	Ground	No

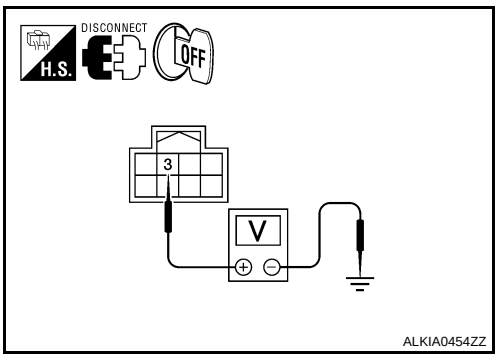
Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

4. CHECK IPDM E/R OUTPUT SIGNAL

1. Connect IPDM E/R harness connector.
2. Disconnect BCM harness connector.

3. Check voltage between steering lock unit harness connector and ground.



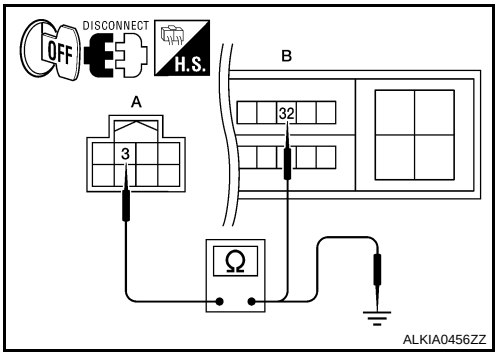
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace steering lock unit.
NO >> GO TO 5.

5. CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector M32 (A) terminal 3 and IPDM E/R harness connector E18 (B) termial 32.



Steering lock unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	3	B: E18	32	Yes

2. Check continuity between steering lock unit harness connector M32 (A) terminal 3 and ground.

Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	3	Ground	No

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

6. CHECK INTERMITTENT INCIDENT

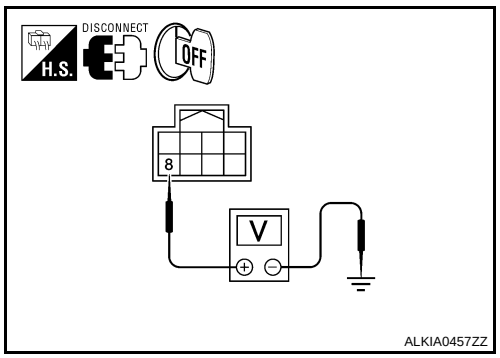
Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

7. CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect steering lock unit harness connector and IPDM E/R harness connector E5.

3. Check voltage between steering lock unit harness connector and ground.



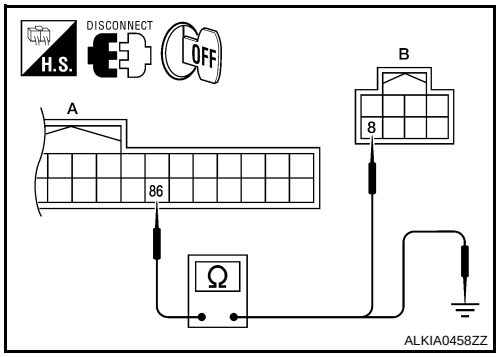
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 9.
NO >> GO TO 8.

8. CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector M122.
2. Check continuity between BCM harness connector M19 (A) terminal 86 and steering lock unit harness connector M32 (B) terminal 8.



BCM		Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	86	B: M32	8	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 86 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	86	Ground	No

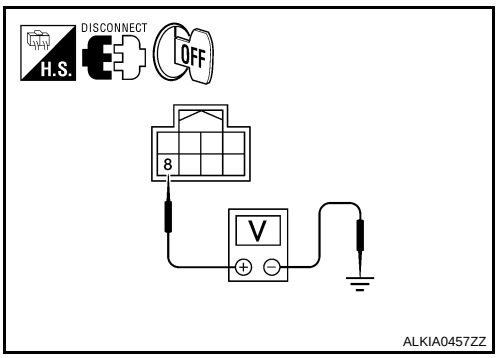
Is the inspection result normal?

YES >> GO TO 11.
NO >> Repair harness or connector.

9. CHECK IPDM E/R OUTPUT SIGNAL

1. Connect IPDM E/R harness connector E5.
2. Disconnect BCM harness connector M122.

3. Check voltage between steering lock unit harness connector and ground.



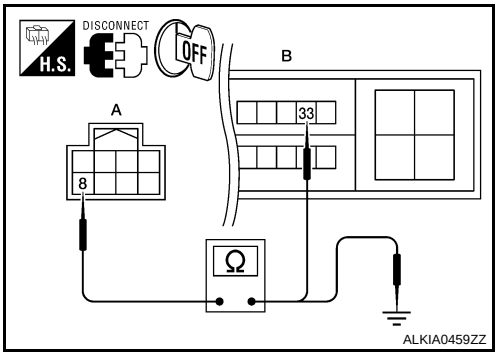
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace steering lock unit.
NO >> GO TO 10.

10. CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector M32 (A) terminal 8 and IPDM E/R harness connector E18 (B) terminal 33.



Steering lock unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	8	B: E18	33	Yes

2. Check continuity between steering lock unit harness connector and ground.

Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	8	Ground	No

Is the inspection result normal?

YES >> GO TO 11.
NO >> Repair harness or connector.

11. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

B260B STEERING LOCK UNIT

Description

INFOID:0000000003071360

The steering lock unit performs the check by itself according to the steering status.

DTC Logic

INFOID:0000000003071361

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260B	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit before steering unlocking.	• Steering lock unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch, when steering is locked.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-69, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071362

1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self diagnostic result” with CONSULT-III.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   See SEC-69, "DTC Logic".

Is the DTC B260B displayed again?

YES >> Replace steering lock unit.
NO >> INSPECTION END.

B260C STEERING LOCK UNIT

Description

INFOID:0000000003071363

The steering lock unit performs the check by itself according to the steering status.

DTC Logic

INFOID:0000000003071364

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260C	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit before steering locking.	• Steering lock unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Press door switch.
4. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-70, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071365

1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self diagnostic result” with CONSULT-III.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   See SEC-70, "DTC Logic".

Is the DTC B260C displayed again?

YES >> Replace steering lock unit. Refer to STC-58, "Removal and Installation".
NO >> INSPECTION END.

B260D STEERING LOCK UNIT

Description

INFOID:0000000003071366

The steering lock unit performs the check by itself according to the steering lock status (before lock, after lock and unlock).

DTC Logic

INFOID:0000000003071367

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260D	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit after steering locking.	• Steering lock unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Press door switch.
4. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-71, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071368

1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self diagnostic result” with CONSULT-III.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   See SEC-71, "DTC Logic".

Is the DTC B260D displayed again?

YES >> Replace steering lock unit.
NO >> INSPECTION END.

B260F ENGINE STATUS

Description

INFOID:0000000003071369

BCM receives the hybrid system status signal from hybrid vehicle control ECU via CAN communication.

DTC Logic

INFOID:0000000003071370

DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260F	INTERRUPTION OF ENGINE STATUS SIGNAL	BCM is not yet received the hybrid system status signal from hybrid vehicle control ECU when ignition switch is in ON position	• Hybrid vehicle control ECU

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions.
- ECVT selector lever is in the P or N position.
- Do not depress the brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-72, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071371

1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self diagnostic result” with CONSULT-III.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   See SEC-72, "DTC Logic".

Is the DTC B260F displayed again?

YES >> GO TO 2.
NO >> INSPECTION END.

2.REPLACE HV ECU

1. Replace hybrid vehicle control ECU. Refer to HBC-636, "Precaution for replacing hybrid vehicle control ECU".
2. Refer to HBC-636, "Removal and Installation".

>> INSPECTION END.

B2612 STEERING STATUS

Description

INFOID:0000000003071372

There are 2 switches in the steering unit. IPDM E/R compares those 2 switches conditions to judge the present steering status and transmit the result to BCM via CAN communication.

DTC Logic

INFOID:0000000003071373

DTC DETECTION LOGIC

NOTE:

- If DTC B2612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC	Self-diagnosis name	DTC detecting condition	Possible causes
B2612	STEERING STATUS	BCM detects the mismatch between the following status for 1 second • Steering lock or unlock • Feedback of steering lock status from IPDM E/R (CAN)	• Harness or connectors [steering lock unit circuit (BCM side) is open or shorted] • Harness or connectors [steering lock unit circuit (IPDM E/R side) is open or shorted.] • Steering lock unit • IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- ECVT selector lever is in the P or N position.
- Do not depress brake pedal.
- Steering is locked.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-73, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Press door switch.
4. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-73, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071374

1.INSPECTION START

Check the case in which DTC is detected.

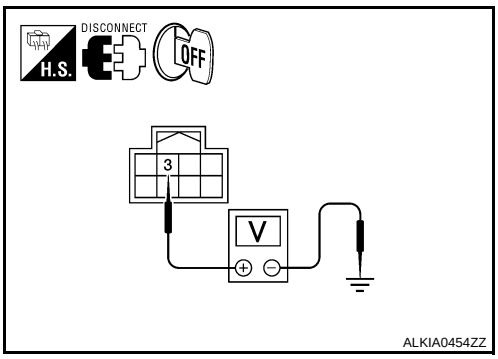
- Case1: It is detected after ignition switch is changed from ON to OFF and door switch is pressed.
- Case2: It is detected after ignition switch is changed from ON to OFF

In which case is DTC detected?

Case1 >> GO TO 2.
Case2 >> GO TO 7.

2.CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect steering lock unit harness connector and IPDM E/R harness connector.
3. Check voltage between steering lock unit harness connector and ground.



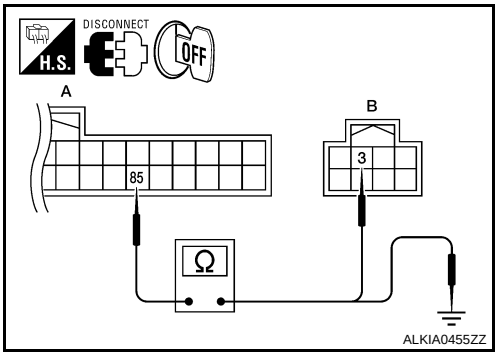
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 3.

3.CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 85 and steering lock unit harness connector M32 (B) terminal 3.



BCM		Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	85	B: M32	3	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 85 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	85	Ground	No

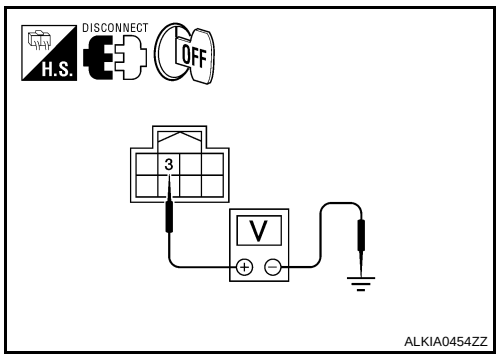
Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

4.CHECK IPDM E/R OUTPUT SIGNAL

1. Connect IPDM E/R harness connector.
2. Disconnect BCM harness connector.

3. Check voltage between steering lock unit harness connector and ground.



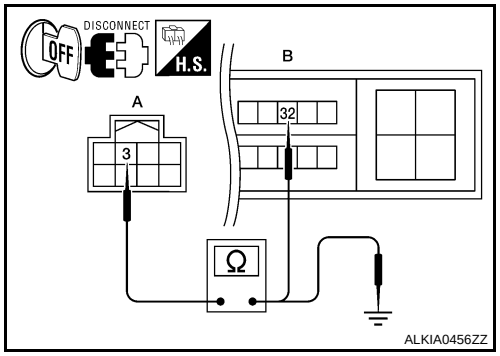
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace steering lock unit.
NO >> GO TO 5.

5. CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector M32 (A) terminal 3 and IPDM E/R harness connector E17 (B) terminal 32.



Steering lock unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	3	B: E17	32	Yes

2. Check continuity between steering lock unit harness connector M32 (A) terminal 3 and ground.

Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	3	Ground	No

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

6. CHECK INTERMITTENT INCIDENT

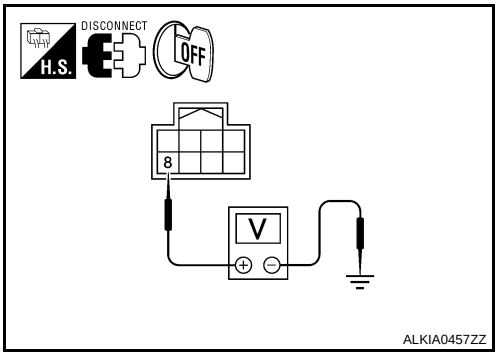
Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

7. CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect steering lock unit harness connector and IPDM E/R harness connector.

3. Check voltage between steering lock unit harness connector and ground.



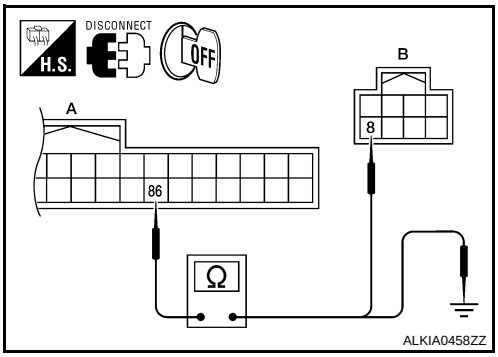
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 9.
NO >> GO TO 8.

8. CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 86 and steering lock unit harness connector M32 (B) terminal 8.



BCM		Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	86	B: M32	8	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 86 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	86	Ground	No

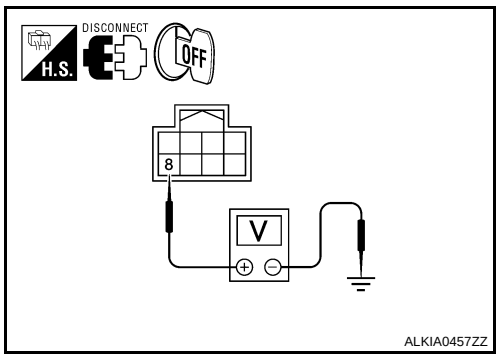
Is the inspection result normal?

YES >> GO TO 11.
NO >> Repair harness or connector.

9. CHECK IPDM E/R OUTPUT SIGNAL

1. Connect IPDM E/R harness connector.
2. Disconnect BCM harness connector.

3. Check voltage between steering lock unit harness connector and ground.



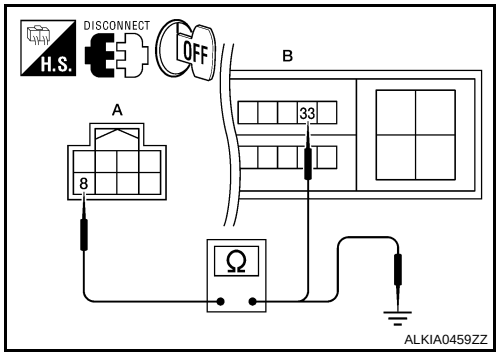
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace steering lock unit.
NO >> GO TO 10.

10. CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector M32 (A) terminal 8 and IPDM E/R harness connector E18 (B) terminal 33.



Steering lock unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	8	B: E18	33	Yes

2. Check continuity between steering lock unit harness connector and ground.

Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	8	Ground	No

Is the inspection result normal?

YES >> GO TO 11.
NO >> Repair harness or connector.

11. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2617 STARTER RELAY CIRCUIT

Description

INFOID:0000000003071375

The hybrid system start enabling condition is located in the hybrid vehicle control ECU. The starting system is turned ON by the BCM when the ignition switch is in START position. Hybrid vehicle control ECU transmits the starting signal to BCM via CAN communication.

DTC Logic

INFOID:0000000003071376

DTC DETECTION LOGIC

NOTE:

- If DTC B2617 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2617 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2617	STARTER RELAY CIRCUIT	An immediate operation of hybrid starting system is requested by by BCM, but there is no response for more than 1 second.	• Harness or connectors (hybrid starting system circuit is open or shorted.) • Hybrid vehicle control ECU

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions.
- ECVT selector lever is in the P or N position.
- Depress the brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

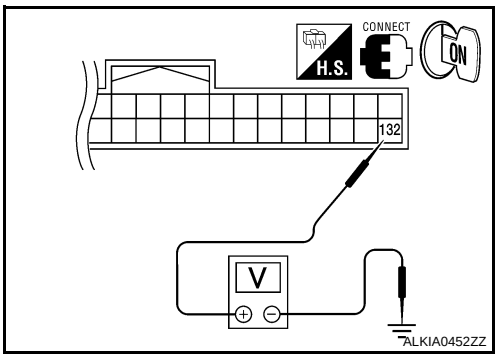
YES >> Refer to SEC-78, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071377

1. CHECK STARTER RELAY

1. Turn ignition switch ON.
2. Check voltage between BCM harness connector and ground under the following condition.



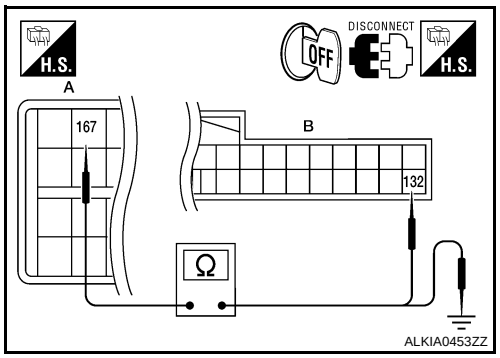
BCM		Ground	Condition		Voltage (V)
Connector	Terminal				
M21	132	Ground	ECVT selector lever	N or P position	Battery voltage
				Other than above	0

Is the measurement value within the specification?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK HV ECU CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM harness connector M121 and hybrid vehicle control ECU harness connector E66.
3. Check continuity between hybrid vehicle control ECU harness connector E66 (A) terminal 167 and BCM harness connector M21 (B) terminal 132.



Hybrid vehicle control ECU		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E66	167	M21	132	Yes

4. Check continuity between hybrid vehicle control ECU harness connector E66 (A) terminal 167 and ground.

Hybrid vehicle control ECU		Ground	Continuity
Connector	Terminal		
E66	167	Ground	No

Is the inspection result normal?

YES >> Refer to hybrid control system HBC-9, "Work Flow".
NO >> Repair harness or connector.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

B2619 BCM

Description

INFOID:0000000003071378

BCM requests IPDM E/R to supply power to steering lock unit. After receiving the power, the steering lock unit transmits an ON signal to BCM.

DTC Logic

INFOID:0000000003071379

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2619	BCM	BCM detects a mismatch between the power supplied to the steering lock unit and the feedback for one second or more.	• BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- ECVT selector lever is in the P or N position
- Do not depress brake pedal
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-80, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000003071380

1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self diagnostic result” with CONSULT-III.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   See SEC-80, "DTC Logic".

Is the DTC B2619 displayed again?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> INSPECTION END

B261A PUSH-BUTTON IGNITION SWITCH

Description

INFOID:0000000003071381

BCM transmits the change in the power supply position with the push-button ignition switch to IPDM E/R via the CAN communication. IPDM E/R transmits the power supply position status via CAN communication to BCM.

DTC Logic

INFOID:0000000003071382

DTC DETECTION LOGIC

NOTE:

- If DTC B261A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B261A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261A	PUSH-BUTTON IGNITION SWITCH	BCM detects the mismatch between the following for 1 second or more • Power supply position with push-button ignition switch • Power supply position from IPDM E/R (CAN)	• Harness or connectors (Push-button ignition switch circuit is open or shorted) • Between BCM and push-button ignition switch • Between IPDM E/R and push-button ignition switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- ECVT selector lever is in the P or N position
- Do not depress brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-81, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000003071383

1.INSPECTION START

Check the case in which DTC is detected.

- Case1: It is detected when push-button ignition switch is pressed for 1 second
- Case2: It is detected after Intelligent Key is inserted into key slot and push-button ignition switch is pressed

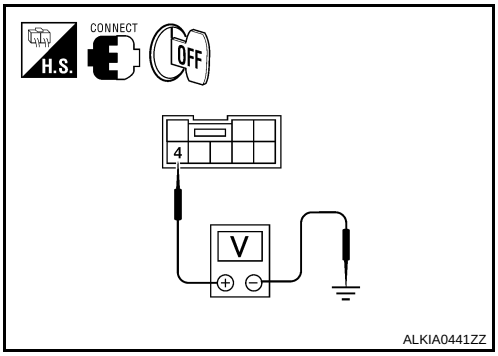
In which case is DTC detected?

Case1 >> GO TO 2.
Case2 >> GO TO 4.

2.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 1

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch harness connector and IPDM E/R harness connector.

3. Check voltage between push-button ignition switch harness connector and ground.



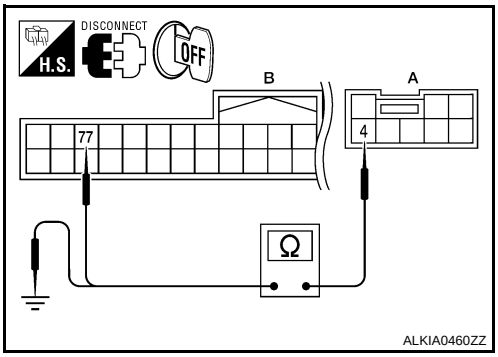
Push-button ignition switch		Ground	Voltage (V)
Connector	Terminal		
M38	4	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between push-button ignition switch harness connector M38 (A) terminal 4 and BCM harness connector M19 (B) terminal 77.



Push-button ignition switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: M38	4	B: M19	77	Yes

3. Check continuity between push-button ignition switch harness connector M38 (A) terminal 4 and ground.

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
A: M38	4	Ground	No

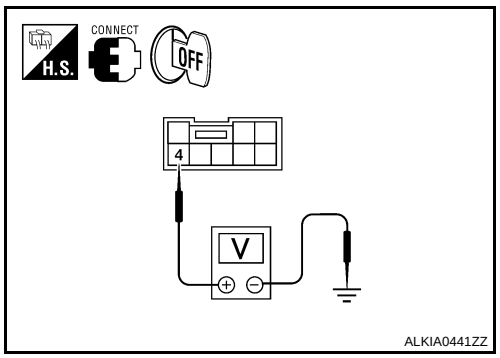
Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

4.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 2

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch harness connector and BCM harness connector.

3. Check voltage between push-button ignition switch harness connector and ground.



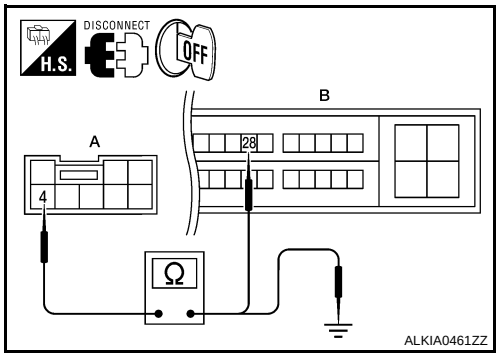
Push-button ignition switch		Ground	Voltage (V)
Connector	Terminal		
M38	4	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 5.

5. CHECK PUSH-BUTTON IGNITION SWITCH

1. Disconnect IPDM E/R harness connector.
2. Check continuity between push-button ignition switch harness connector M38 (A) terminal 4 and IPDM E/R harness connector E18 (B) terminal 28.



Push-button ignition switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M38	4	B: E18	28	Yes

3. Check continuity between push-button ignition switch harness connector and ground.

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
A: M38	4	Ground	No

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

B261E VEHICLE TYPE

Description

INFOID:0000000003071384

There are two types of vehicles.
- HEV
- Conventional

DTC Logic

INFOID:0000000003071385

DTC DETECTION LOGIC

NOTE:
- If DTC B261E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B261E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261E	VEHICLE TYPE	Difference of BCM configration	• BCM

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-84, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000003071386

1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self diagnostic result” with CONSULT-III.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   See SEC-84, "DTC Logic".

Is the 1st trip DTC B261E displayed again?

YES >> Replace BCM. Refer to BCS-85, "Removal and Installation".
NO >> INSPECTION END

B2108 STEERING LOCK RELAY

Description

INFOID:0000000003071387

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication.
IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

INFOID:0000000003071388

DTC DETECTION LOGIC

NOTE:

- If DTC B2108 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2108 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2108	STRG LCK RELAY ON	IPDM E/R detects that the relay is stuck at ON position for about 1 second even if the IPDM E/R receives steering lock relay ON/OFF signal from BCM.	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- ECVT selector lever is in the P or N position
- Do not depress the brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-85, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000003071389

1.CHECK FUSE

1. Turn ignition switch OFF.
2. Check 10A fuse (No. 40, located in IPDM E/R).

Is the inspection normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".
NO >> Check the following.
- Harness for open or short between IPDM E/R and battery
- Fuse

B2109 STEERING LOCK RELAY

Description

INFOID:0000000003071390

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication.
IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

INFOID:0000000003071391

DTC DETECTION LOGIC

NOTE:

- If DTC B2109 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B2109 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2109	STRG LCK RELAY OFF	IPDM E/R detects that the relay is stuck at OFF position for about 1 second even if the IPDM E/R receives steering lock relay ON/OFF signal from BCM.	• Harness or connector (power supply circuit) • IPDM E/R • Battery

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P or N position
- Do not depress the brake pedal
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-86, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000003071392

1. CHECK POWER SUPPLY CIRCUIT

Check IPDM E/R power supply circuit. Refer to PCS-18, "Diagnosis Procedure".

Is the circuit normal?

YES >> GO TO 2
NO >> Repair the malfunctioning part.

2. CHECK FUSE

1. Turn ignition switch OFF.
2. Check 10A fuse (No. 40, located in IPDM E/R).

Is the inspection normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".
NO >> Check the following.
- Harness for open or short between IPDM E/R and battery
- Fuse

B210A STEERING LOCK CONDITION SWITCH

Description

INFOID:0000000003071393

There are 2 switches in the steering unit. IPDM E/R compares those 2 switches conditions to judge the present steering status and transmit the result to BCM via CAN communication.

DTC Logic

INFOID:0000000003071394

DTC DETECTION LOGIC

NOTE:

- If DTC B210A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-26, "DTC Logic".
- If DTC B210A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-27, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210A	STRG LCK STATE SW	BCM detects the mismatch between the following for 1 second • Steering lock or unlock • Feedback of steering lock status from IPDM E/R (CAN)	• Harness or connectors [steering lock unit circuit (BCM side) is open or shorted] • Harness or connectors [steering lock unit circuit (IPDM E/R side) is open or shorted.] • Steering lock unit • IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- ECVT selector lever is in the P or N position
- Do not depress the brake pedal
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-87, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000003071395

1.INSPECTION START

Check the case in which DTC is detected.

- Case1: It is detected after ignition switch is changed from ON to OFF and door switch is pressed
- Case2: It is detected after ignition switch is changed from ON to OFF

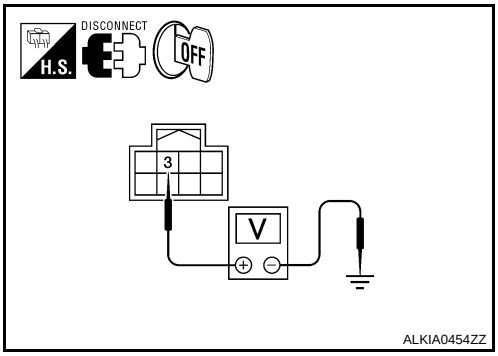
In which case is DTC detected?

Case1 >> GO TO 2.
Case2 >> GO TO 7.

2.CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect steering lock unit harness connector and IPDM E/R harness connector.

3. Check voltage between steering lock unit harness connector and ground.



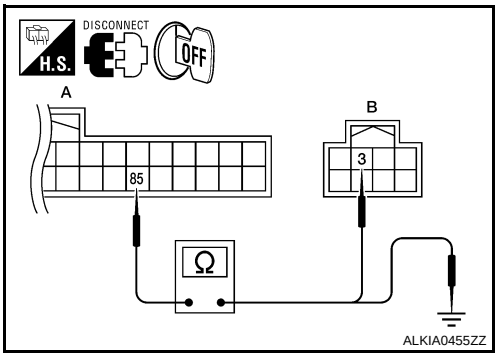
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 3.

3.CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 85 and steering lock unit harness connector M32 (B) terminal 3.



BCM		Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	85	B: M32	3	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 85 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M19	85	Ground	No

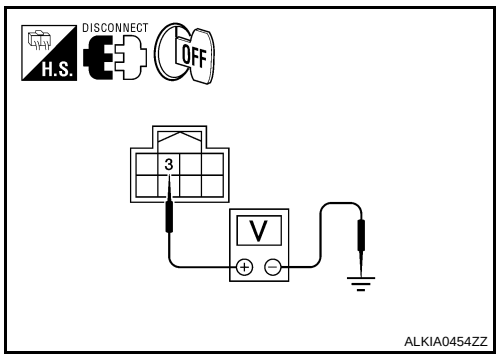
Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

4.CHECK IPDM E/R OUTPUT SIGNAL

1. Connect IPDM E/R harness connector.
2. Disconnect BCM harness connector.

3. Check voltage between steering lock unit harness connector and ground.



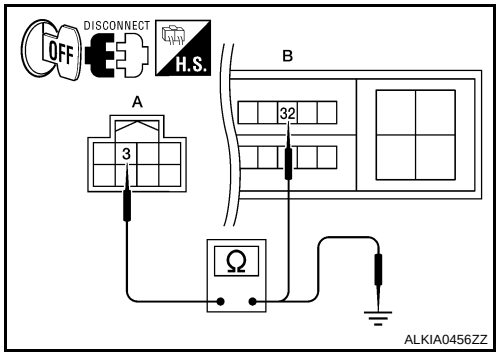
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace steering lock unit.
NO >> GO TO 5.

5. CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector M32 (A) terminal 3 and IPDM E/R harness connector E18 (B) termial 32.



Steering lock unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	3	B: E18	32	Yes

2. Check continuity between steering lock unit harness connector M32 (A) terminal 3 and ground.

Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	3	Ground	No

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair harness or connector.

6. CHECK INTERMITTENT INCIDENT

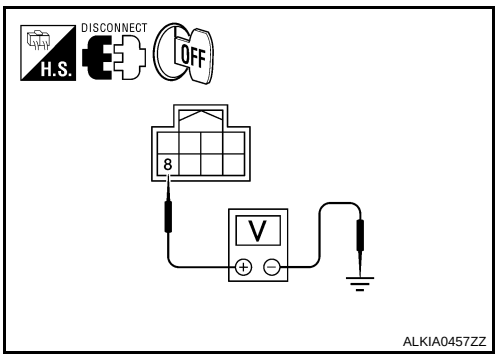
Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

7. CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect steering lock unit harness connector and IPDM E/R harness connector E5.

3. Check voltage between steering lock unit harness connector and ground.



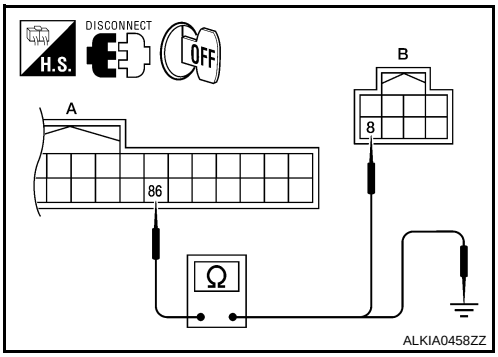
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 9.
NO >> GO TO 8.

8. CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector M122.
2. Check continuity between BCM harness connector M19 (A) terminal 86 and steering lock unit harness connector M32 (B) terminal 8.



BCM		Steering lock unit		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	86	B: M32	8	Yes

3. Check continuity between BCM harness connector M19 (A) terminal 86 and ground.

BCM		Ground	Continuity
Connector	Terminal		
A: M32	8	Ground	No

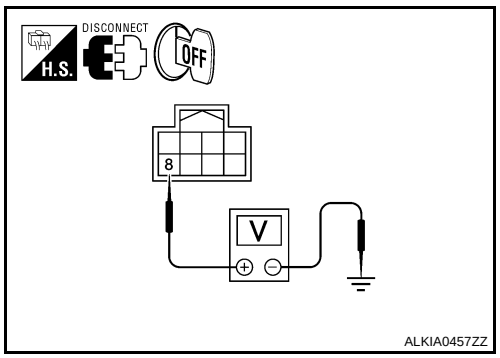
Is the inspection result normal?

YES >> GO TO 11.
NO >> Repair harness or connector.

9. CHECK IPDM E/R OUTPUT SIGNAL

1. Connect IPDM E/R harness connector E5.
2. Disconnect BCM harness connector M122.

3. Check voltage between steering lock unit harness connector and ground.



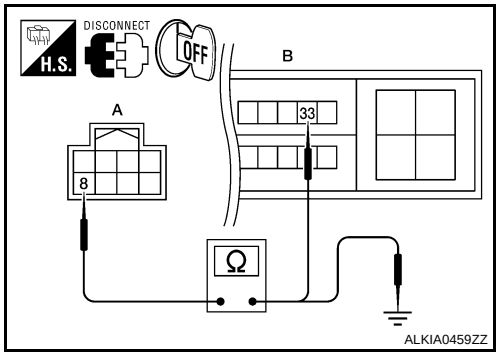
Steering lock unit		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace steering lock unit.
NO >> GO TO 10.

10. CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector M32 (A) terminal 8 and IPDM E/R harness connector E18 (B) terminal 33.



Steering lock unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	8	B: E18	33	Yes

2. Check continuity between steering lock unit harness connector and ground.

Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	8	Ground	No

Is the inspection result normal?

YES >> GO TO 11.
NO >> Repair harness or connector.

11. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT
BCM

BCM : Diagnosis Procedure

INFOID:0000000003303396

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuse or fusible link are blown.

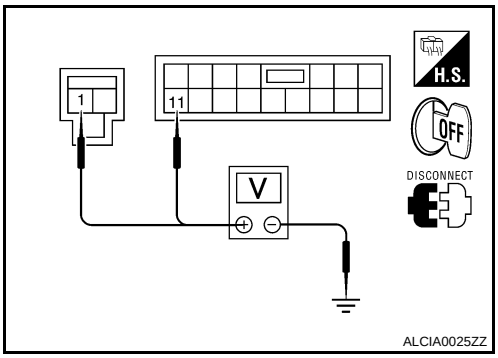
Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	J
11		10

Is the fuse or fusible link blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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



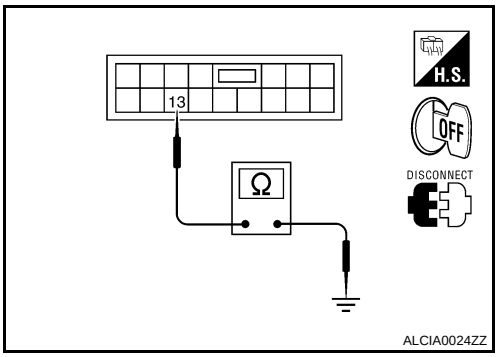
Terminals			Voltage (Approx.)
(+)		(–)	
BCM		Ground	
Connector	Terminal		
M16	1		Battery voltage
M17	11		

Is the measurement normal?

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.



BCM		Ground	Continuity
Connector	Terminal		
M17	13		Yes

Does continuity exist?

YES >> Inspection End.
NO >> Repair or replace harness.

BCM : Special Repair Requirement

INFOID:0000000003303397

1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to CONSULT-III operation manual.

>> Work end.

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

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

agnosis Procedure

INFOID:0000000003303398

1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible link are not blown.

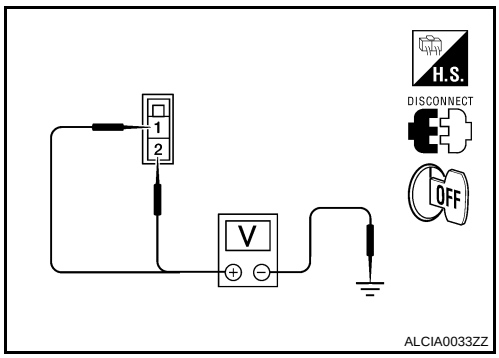
Terminal No.	Signal name	Fuses and fusible link No.
1, 2	Battery power supply	B, E, F
—		42
		43

Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R.
3. Check voltage between IPDM E/R harness connector and ground.



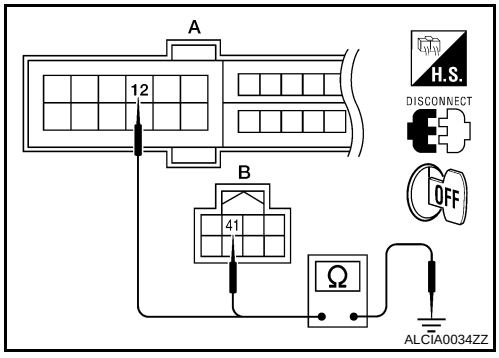
Terminals			Voltage (V) (Approx.)
(+)		(–)	
IPDM E/R			
Connector	Terminal	Ground	
E16	1		Battery voltage
	2		

Is the measurement value normal?

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

3. CHECK GROUND CIRCUIT

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



IPDM E/R		Ground	Continuity
Connector	Terminal		
E18 (A)	12		Yes
E17 (B)	41		

Does continuity exist?

YES >> Inspection End.
NO >> Repair or replace harness.

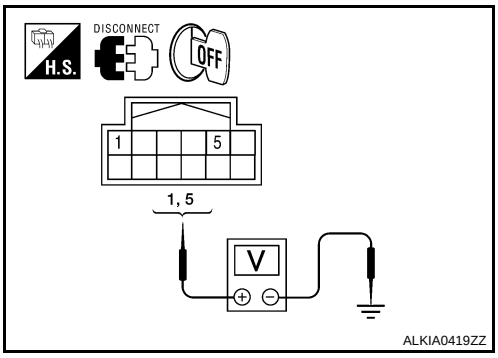
KEY SLOT

Diagnosis Procedure

INFOID:0000000003071398

1.CHECK KEY SLOT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect key slot connector.
3. Check voltage between slot connector and ground.



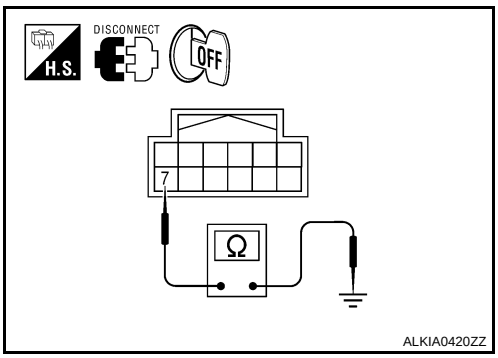
Key slot		Ground	Voltage (V) (Approx.)
Connector	Terminal		
M40	1	Ground	Battery voltage
	5		

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace key slot power supply circuit.

2.CHECK KEY SLOT GROUND CIRCUIT

Check continuity between key slot connector and ground.



Key slot		Ground	Continuity
Connector	Terminal		
M40	7	Ground	Yes

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace key slot ground circuit.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

KEY SLOT ILLUMINATION

Description

INFOID:0000000003071399

Blinks when Intelligent Key insertion is required.

Component Function Check

INFOID:0000000003071400

1.CHECK FUNCTION

With CONSULT-III

Check key slot illumination (“KEY SLOT ILLUMI”) Active Test mode.

Is the inspection result normal?

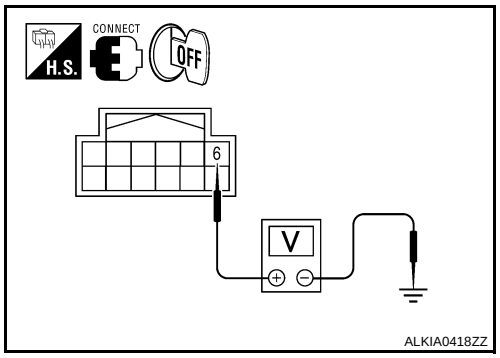
YES >> Key slot function is OK.
NO >> Refer to SEC-95, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003071401

1.CHECK KEY SLOT ILLUMINATION OUTPUT SIGNAL

Check voltage between key slot connector and ground.



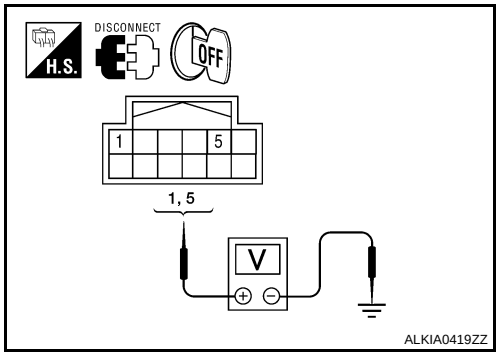
Terminals			Condition	Key slot illumination	Voltage (V) (Approx.)
(+)		(–)			
Key slot connector	Terminal				
M40	6	Ground	Intelligent Key inserted	OFF	Battery voltage
			Intelligent Key removed	ON	0

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 2.

2.CHECK KEY SLOT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect key slot connector.
3. Check voltage between slot connector and ground.



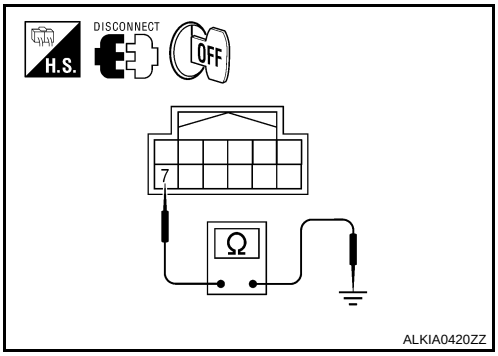
Terminals			Voltage (V) (Approx.)
(+)		(–)	
Key slot connector	Terminal		
M40	1	Ground	Battery voltage
	5		

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace key slot power supply circuit.

3.CHECK KEY SLOT GROUND CIRCUIT

Check continuity between key slot connector and ground.



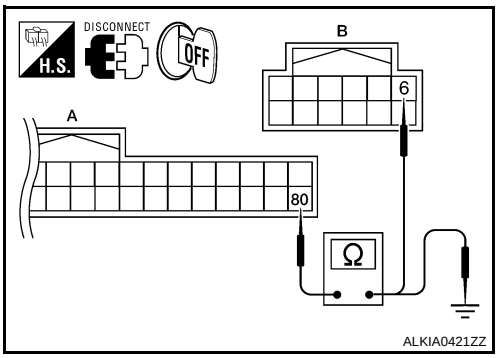
Key slot connector	Terminal	Ground	Continuity
M40	7		Yes

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace key slot ground circuit.

4.CHECK KEY SLOT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and key slot connector.
3. Check continuity between BCM connector and key slot connector.



BCM connector	Terminal	Key slot connector	Terminal	Continuity
A: M19	80	B: M40	6	Yes

4. Check continuity between BCM connector and ground.

BCM connector	Terminal	Ground	Continuity
A: M19	80		No

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness between BCM and key slot.

5. CHECK KEY SLOT

Refer to DLK-67, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace key slot. Refer to SEC-183, "Removal and Installation".

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

KEY CYLINDER SWITCH

Description

INFOID:0000000003071402

For vehicles equipped with LH and RH anti-pinch system, 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.

For vehicles equipped with LH anti-pinch system only, the front door lock assembly LH (key cylinder switch) transmits the LOCK or UNLOCK signal directly to the BCM.

Component Function Check

INFOID:0000000003071403

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check KEY CYL UN-SW, KEY CYL UN-SW in “DATA MONITOR” mode for “POWER DOOR LOCK SYSTEM” with CONSULT-III. Refer to DLK-5, "Work Flow".

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?

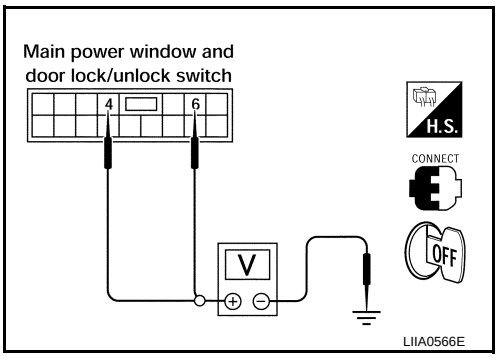
YES >> Key cylinder switch is OK.
NO >> With LH and RH anti-pinch, refer to SEC-98, "Diagnosis Procedure (With LH and RH Anti-Pinch)".
NO >> With LH anti-pinch only, refer to SEC-100, "Diagnosis Procedure (With LH Anti-Pinch Only)".

Diagnosis Procedure (With LH and RH Anti-Pinch)

INFOID:0000000003071404

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between main power window and door lock/unlock switch connector and ground.



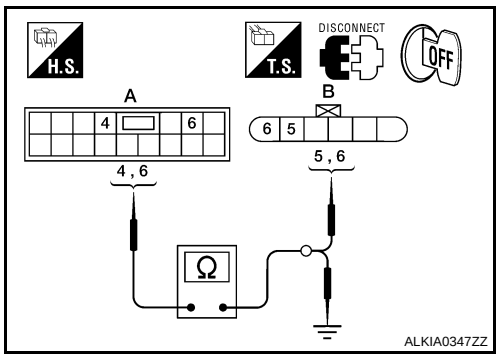
Terminals			Key position	Voltage (V) (Approx.)
(+)		(–)		
Main power window and door lock/unlock switch connector	Terminal			
D7	4	Ground	Lock	0
			Neutral / Unlock	Battery voltage
	6		Unlock	0
			Neutral / Lock	Battery voltage

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-140, "Removal and Installation". After that, Refer to PWC-8, "BASIC INSPECTION : Special Repair Requirement".
NO >> GO TO 2

2. CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect main power window and door lock/unlock switch connector and front door lock assembly LH (key cylinder switch) connector.
3. Check continuity between main power window and door lock/unlock switch connector and front door lock assembly LH (key cylinder switch) connector.



Main power window and door lock/unlock switch connector	Terminal	Front door lock assembly LH (key cylinder switch) connector	Terminal	Continuity
A: D7	4	B: D10	6	Yes
	6		5	

4. Check continuity between main power window and door lock/unlock switch connector and ground.

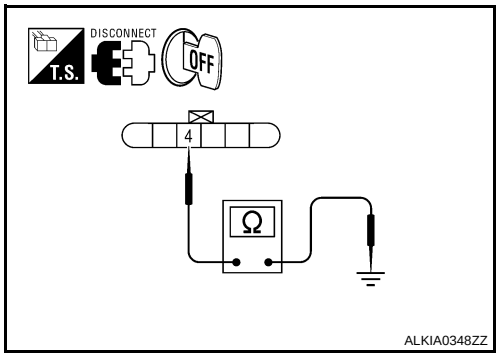
Power window main switch connector	Terminal	Ground	Continuity
A: D7	4		No
	6		

Is the inspection result normal?

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

3. CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

Check continuity between front door lock assembly LH connector and ground.



Front door lock assembly LH connector	Terminal	Ground	Continuity
D10	4		Yes

Is the inspection result normal?

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

4. CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.
Refer to SEC-101, "Component Inspection".

Is the inspection result normal?

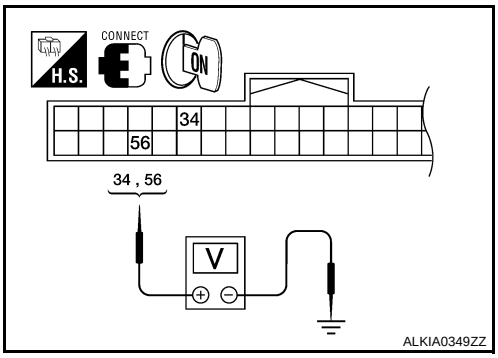
YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-223, "FRONT DOOR LOCK : Removal and Installation". After that, Refer to SEC-102, "Special Repair Requirement".

Diagnosis Procedure (With LH Anti-Pinch Only)

INFOID:0000000003071405

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between BCM connector and ground.



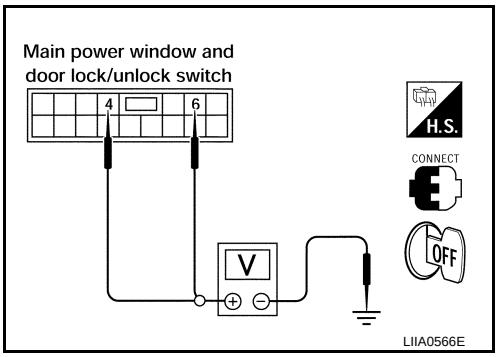
Terminals			Key position	Voltage (V) (Approx.)
(+)		(–)		
BCM connector	Terminal			
M18	56	Ground	Lock	0
			Neutral / Unlock	Battery voltage
	34		Unlock	0
			Neutral / Lock	Battery voltage

Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-60, "Removal and Installation". After that, Refer to PWC-8, "BASIC INSPECTION : Special Repair Requirement".
NO >> GO TO 2

2. CHECK DOOR KEY CYLINDER SWITCH GROUND CIRCUIT

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



Front door lock assembly LH connector	Terminal	Ground	Continuity
D10	4		Yes

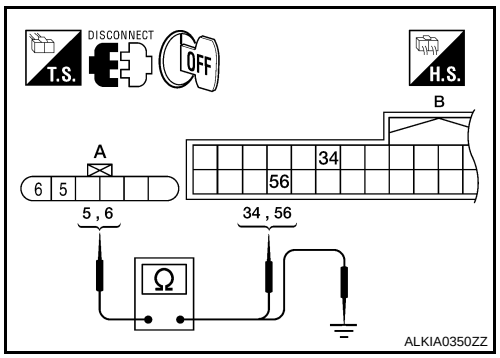
Is the inspection result normal?

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

3. CHECK DOOR KEY CYLINDER SIGNAL CIRCUIT

1. Disconnect BCM connector M18.

2. Check continuity between front door lock assembly LH (key cylinder switch) connector D(10) terminals 5, 6 and BCM connector M18 (B) terminals 34, 35.



Front door lock assembly LH connector	Terminal	BCM connector	Terminal	Continuity
A: D10	5	B: M18	34	Yes
	6		56	

3. Check continuity between front door lock assembly LH (key cylinder switch) connector D10 (A) terminals 5, 6 and ground.

Front door lock assembly LH connector	Terminal	Ground	Continuity
A: D10	5		No
	6		

Is the inspection result normal?

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

4. CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.
Refer to SEC-101, "Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-223, "FRONT DOOR LOCK : Removal and Installation". After that, Refer to PWC-8, "BASIC INSPECTION : Special Repair Requirement".

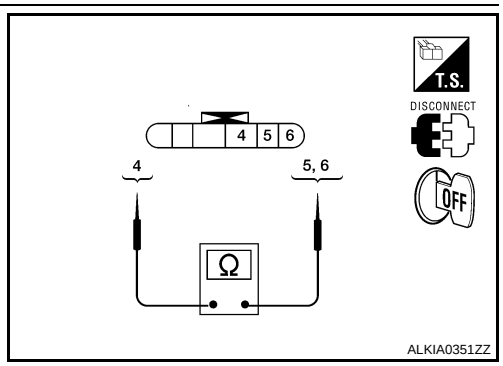
Component Inspection

INFOID:0000000003071406

COMPONENT INSPECTION

1. CHECK DOOR KEY CYLINDER SWITCH

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



Terminal		Key position	Continuity
Front door lock assembly LH (key cylinder switch)			
5	4	Unlock	Yes
		Neutral / Lock	No
6		Lock	Yes
		Neutral / Unlock	No

Is the inspection result normal?

YES >> Key cylinder switch is OK.
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-223, "FRONT DOOR LOCK : Removal and Installation". After that, refer to SEC-102, "Special Repair Requirement".

Special Repair Requirement

INFOID:0000000003071407

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-8, "BASIC INSPECTION : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.
NO >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

HORN

Description

INFOID:0000000003071408

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

Component Function Check

INFOID:0000000003071409

1.CHECK FUNCTION

1. Select HORN in “ACTIVE TEST” mode with CONSULT-III.
2. Check the horn (high/low) operation.

Test item		Description	
HORN	ON	Horn relay	ON (for 20 ms)

Is the operation normal?

YES >> INSPECTION END.
NO >> Refer to SEC-103, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003071410

1.CHECK HORN FUNCTION

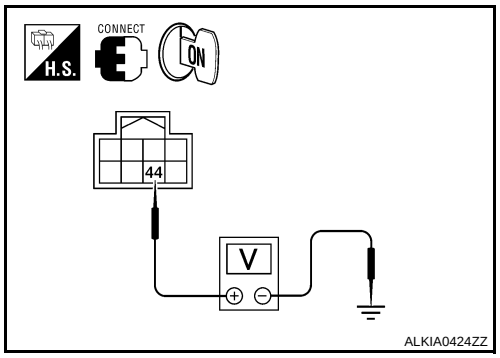
Check horn function with horn switch

Do the horns sound?

YES >> GO TO 2.
NO >> Refer to HRN-3, "Wiring Diagram".

2.CHECK HORN RELAY POWER SUPPLY

1. Turn ignition switch ON.
2. Perform “ACTIVE TEST” (“HORN”) with CONSULT-Ill.
3. Using an analog voltmeter or an oscilloscope, check voltage between IPDM E/R connector E17 terminal 44 and ground.



IPDM E/R		Ground	Test item		Voltage (V) (Approx.)
Connector	Terminal				
E17	44	Ground	HORN	ON	Battery voltage →0 → Battery voltage
				Other than above	Battery voltage

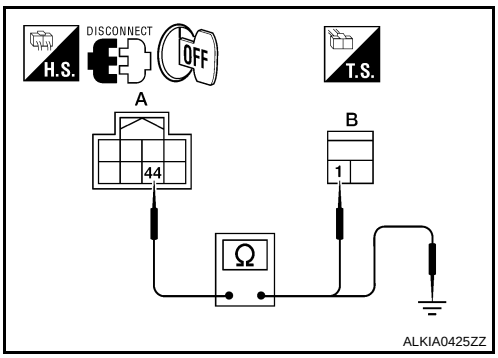
Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 3.

3.CHECK HORN RELAY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and horn relay connector.

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



IPDM E/R		Horn relay		Continuity
Connector	Terminal	Connector	Terminal	
A: E17	44	B: H-1	1	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
A: E17	44	Ground	No

Is the inspection result normal?

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

4. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

Is the inspection result normal?

YES >> Replace IPDM E/R.Refer to PCS-34, "Removal and Installation".
NO >> Repair or replace the malfunctioning part.

HEADLAMP

Description

INFOID:0000000003071411

Headlamp lighting when theft warning system is alarm phase.

Component Function Check

INFOID:0000000003071412

1.CHECK HEADLAMP OPERATION

Check if headlamp operate by lighting switch.

Does headlamp come on when turning switch “ON”?

YES >> Headlamp circuit is OK.
NO >> Check headlamp system. Refer to SEC-105, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003071413

1.CHECK HEADLAMP OPERATION

Refer to EXL-32, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace.

2.CHECK INTER MITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

Is the inspection result normal?

>> INSPECTION END.

WARNING LAMP

Description

INFOID:0000000003071414

- Warning lamp is built in combination meter.
- Intelligent Key system malfunction is reported to the driver by the warning lamp illumination.

Component Function Check

INFOID:0000000003071415

1.CHECK FUNCTION

1. Perform “INDICATOR” in the “Active Test” mode with CONSULT-III.
2. Check warning lamp operation.

Test item		Description	
INDICATOR	ON	Warning lamp	ON
	OFF		OFF

Is the inspection result normal?

YES >> INSPECTION END.
NO >> Refer to SEC-106, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003071416

1.CHECK COMBINATION METER

Check combination meter function. Refer to MWI-4, "Work Flow".

Is the inspection result is normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

VEHICLE SECURITY INDICATOR

Description

INFOID:0000000003071417

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

Component Function Check

INFOID:0000000003071418

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-107, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003071419

1.CHECK COMBINATION METER FUNCTION

Check combination meter. Refer to MWI-4, "Work Flow".

Is the inspection result is normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END.

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000003303399

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	OFF
	Front wiper switch HI	ON
FR WIPER LOW	Other than front wiper switch LO	OFF
	Front wiper switch LO	ON
FR WASHER SW	Front washer switch OFF	OFF
	Front washer switch ON	ON
FR WIPER INT	Other than front wiper switch INT	OFF
	Front wiper switch INT	ON
FR WIPER STOP	Front wiper is not in STOP position	OFF
	Front wiper is in STOP position	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
TURN SIGNAL R	Other than turn signal switch RH	OFF
	Turn signal switch RH	ON
TURN SIGNAL L	Other than turn signal switch LH	OFF
	Turn signal switch LH	ON
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	OFF
	Lighting switch 1ST or 2ND	ON
HI BEAM SW	Other than lighting switch HI	OFF
	Lighting switch HI	ON
HEAD LAMP SW 1	Other than lighting switch 2ND	OFF
	Lighting switch 2ND	ON
HEAD LAMP SW 2	Other than lighting switch 2ND	OFF
	Lighting switch 2ND	ON
PASSING SW	Other than lighting switch PASS	OFF
	Lighting switch PASS	ON
AUTO LIGHT SW	Other than lighting switch AUTO	OFF
	Lighting switch AUTO	ON
FR FOG SW	Front fog lamp switch OFF	OFF
	Front fog lamp switch ON	ON
DOOR SW-DR	Front door LH closed	OFF
	Front door LH opened	ON
DOOR SW-AS	Front door RH closed	OFF
	Front door RH opened	ON
DOOR SW-RR	Rear door RH closed	OFF
	Rear door RH opened	ON
DOOR SW-RL	Rear door LH closed	OFF
	Rear door LH opened	ON

Monitor Item	Condition	Value/Status
DOOR SW-BK	**NOTE:** This item is displayed, but cannot be monitored.	OFF
CDL LOCK SW	Other than power door lock switch LOCK	OFF
	Door lock/unlock switch LOCK	ON
CDL UNLOCK SW	Other than door lock/unlock switch UNLOCK	OFF
	Door lock/unlock switch UNLOCK	ON
KEY CYL LK-SW	Other than front door LH key cylinder LOCK position	OFF
	Front door LH key cylinder LOCK position	ON
KEY CYL UN-SW	Other than front door LH key cylinder UNLOCK position	OFF
	Front door LH key cylinder UNLOCK position	ON
KEY CYL SW-TR	**NOTE:** This item is displayed, but cannot be monitored.	OFF
HAZARD SW	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
FAN ON SIG	When AUTO switch or fan switch is pressed	ON
AIR COND SW	When A/C switch is pressed	ON
TR CANCEL SW	Trunk lid opener cancel switch OFF	OFF
	Trunk lid opener cancel switch ON	ON
TR/BD OPEN SW	Trunk lid opener switch OFF	OFF
	While the trunk lid opener switch is turned ON	ON
TRNK/HAT MNTR	Trunk lid closed	OFF
	Trunk lid opened	ON
RKE-LOCK	When LOCK button of Intelligent Key is not pressed	OFF
	When LOCK button of Intelligent Key is pressed	ON
RKE-UNLOCK	When UNLOCK button of Intelligent Key is not pressed	OFF
	When UNLOCK button of Intelligent Key is pressed	ON
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
	When TRUNK OPEN button of Intelligent Key is pressed	ON
RKE-PANIC	When PANIC button of Intelligent Key is not pressed	OFF
	When PANIC button of Intelligent Key is pressed	ON
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is not pressed and held	OFF
	When UNLOCK button of Intelligent Key is pressed and held	ON
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
OPTICAL (LIGHT) SENSOR	When outside of the vehicle is bright	Close to 5 V
	When outside of the vehicle is dark	Close to 0 V
REQ SW-DR	When front door LH request switch is not pressed	OFF
	When front door LH request switch is pressed	ON
REQ SW-AS	When front door RH request switch is not pressed	OFF
	When front door RH request switch is pressed	ON
REQ SW-BD/TR	When trunk request switch is not pressed	OFF
	When trunk request switch is pressed	ON

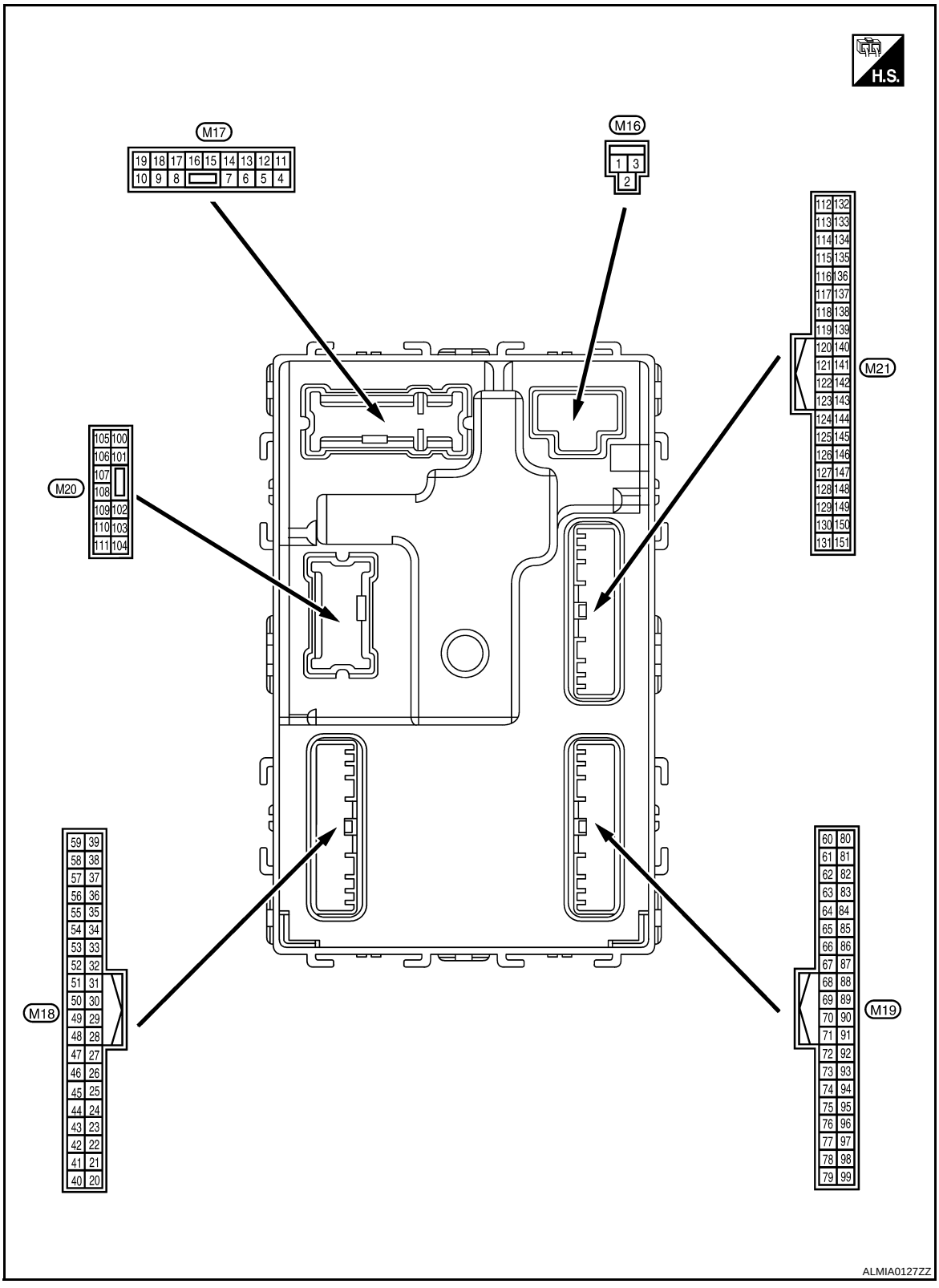
Monitor Item	Condition	Value/Status
PUSH SW	When push-button ignition switch is not pressed	OFF
	When push-button ignition switch is pressed	ON
IGN RLY -F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
ACC RLY -F/B	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
BRAKE SW 1	When the brake pedal is not depressed	ON
	When the brake pedal is depressed	OFF
DETE/CANCL SW	When selector lever is in P position	OFF
	When selector lever is in any position other than P	ON
SFT PN/N SW	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
S/L -LOCK	Electronic steering column lock LOCK status	OFF
	Electronic steering column lock UNLOCK status	ON
S/L -UNLOCK	Electronic steering column lock UNLOCK status	OFF
	Electronic steering column lock LOCK status	ON
S/L RELAY-F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
UNLK SEN-DR	Front door LH UNLOCK status	OFF
	Front door LH LOCK status	ON
PUSH SW -IPDM	When push-button ignition switch is not pressed (IPDM E/R sends via CAN)	OFF
	When push-button ignition switch is pressed (IPDM E/R sends via CAN)	ON
IGN RLY1 F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
DETE SW -IPDM	When selector lever is in P position (IPDM E/R sends via CAN)	OFF
	When selector lever is in any position other than P (IPDM E/R sends via CAN)	ON
SFT PN -IPDM	When selector lever is in any position other than P or N (IPDM E/R sends via CAN)	OFF
	When selector lever is in P or N position (IPDM E/R sends via CAN)	ON
SFT P -MET	When selector lever is in any position other than P (combination meter sends via CAN)	OFF
	When selector lever is in P position (combination meter sends via CAN)	ON
SFT N -MET	When selector lever is in any position other than N (combination meter sends via CAN)	OFF
	When selector lever is in N position (combination meter sends via CAN)	ON
ENGINE STATE	Engine stopped	STOP
	While the engine stalls	STALL
	At engine cranking	CRANK
	Engine running	RUN
S/L LOCK-IPDM	Electronic steering column lock LOCK status (IPDM E/R sends via CAN)	OFF
	Electronic steering column lock UNLOCK status (IPDM E/R sends via CAN)	ON

Monitor Item	Condition	Value/Status
S/L UNLCK-IPDM	Electronic steering column lock UNLOCK status (IPDM E/R sends via CAN)	OFF
	Electronic steering column lock LOCK status (IPDM E/R sends via CAN)	ON
S/L RELAY-REQ	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
DR DOOR STATE	Front door LH LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Front door LH UNLOCK status	UNLK
AS DOOR STATE	Front door RH LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Front door RH UNLOCK status	UNLK
ID OK FLAG	Ignition switch ACC or ON	RESET
	Ignition switch OFF	SET
PRMT ENG STAT	When the hybrid system start is prohibited	RESET
	When the hybrid system start is permitted	SET
PRMT RKE STAT	**NOTE:** This item is displayed, but cannot be monitored.	RESET
KEY SW -SLOT	When Intelligent Key is not inserted into key slot	OFF
	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
RKE OPE COUN2	**NOTE:** This item is displayed, but cannot be monitored.	Operation frequency of Intelligent Key
AIR PRESS FL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	When ID of front LH tire transmitter is registered (refer to WT-6, "ID Registration Procedure")	DONE
	When ID of front LH tire transmitter is not registered (refer to WT-6, "ID Registration Procedure")	YET
ID REGST FR1	When ID of front RH tire transmitter is registered (refer to WT-6, "ID Registration Procedure")	DONE
	When ID of front RH tire transmitter is not registered (refer to WT-6, "ID Registration Procedure")	YET
ID REGST RR1	When ID of rear RH tire transmitter is registered (refer to WT-6, "ID Registration Procedure")	DONE
	When ID of rear RH tire transmitter is not registered (refer to WT-6, "ID Registration Procedure")	YET
ID REGST RL1	When ID of rear LH tire transmitter is registered (refer to WT-6, "ID Registration Procedure")	DONE
	When ID of rear LH tire transmitter is not registered (refer to WT-6, "ID Registration Procedure")	YET

Monitor Item	Condition	Value/Status
WARNING LAMP	Tire pressure indicator OFF	OFF
	Tire pressure indicator ON	ON

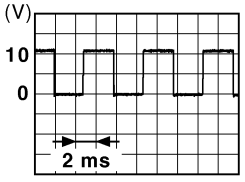
Terminal Layout

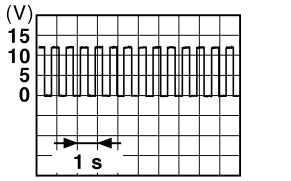
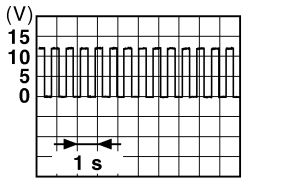
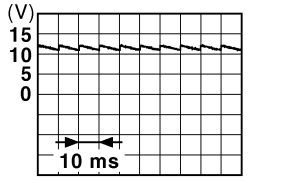
INFOID:0000000003303400

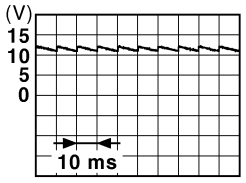
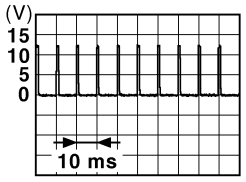
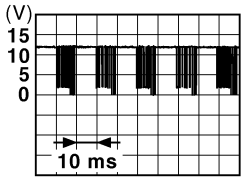


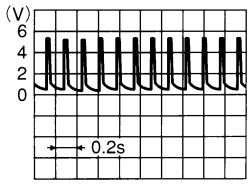
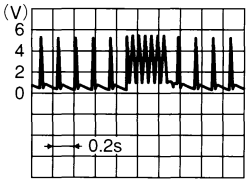
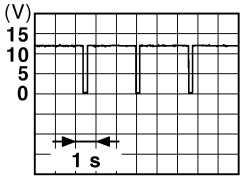
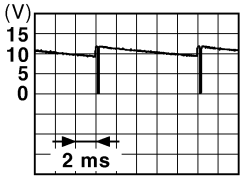
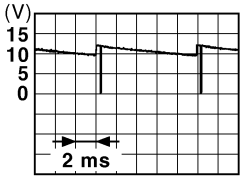
Physical Values

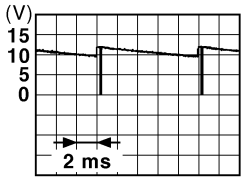
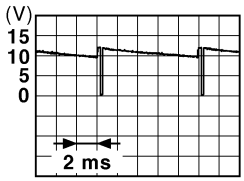
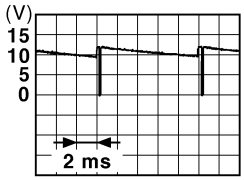
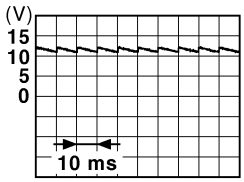
INFOID:0000000003303401

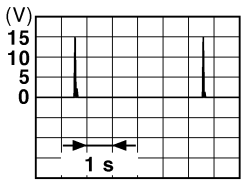
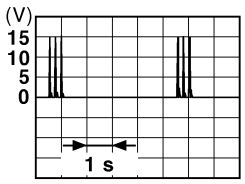
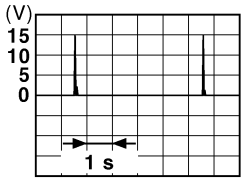
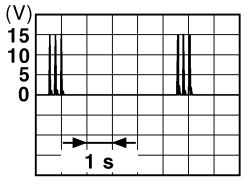
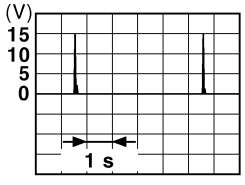
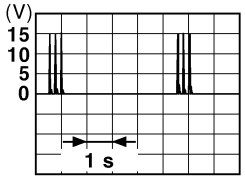
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OFF		Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4 (P/W)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
5 (G/Y)	Ground	Front door RH UNLOCK	Output	Front door RH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
7 (R/W)	Ground	Step lamp	Output	Room lamp timer	ON	Battery voltage
					OFF	0V
8 (V)	Ground	All doors LOCK	Output	All doors	LOCK (actuator is activated)	Battery voltage
					Other than LOCK (actuator is not activated)	0V
9 (G)	Ground	Front door LH UNLOCK	Output	Front door LH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
10 (G/Y)	Ground	Rear door RH and rear door LH UNLOCK	Output	Rear door RH and rear door LH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON		0V
14 (R/Y)	Ground	Push-button ignition switch illumination ground	Input	Tail lamp	OFF	0V
					ON	**NOTE:** When the illumination brightening/dimming level is in the neutral position  JSNIA0010GB
15 (Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage
					ACC	0V

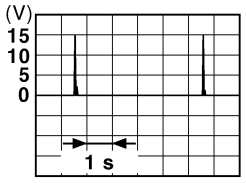
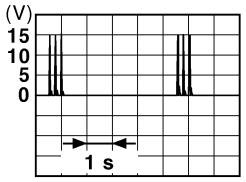
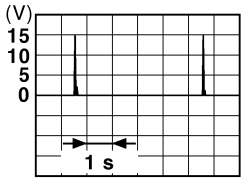
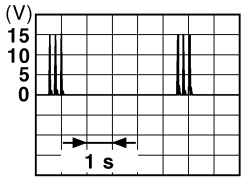
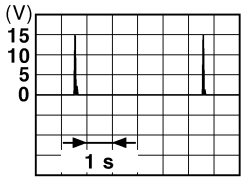
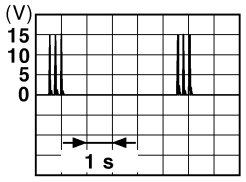
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch RH	 PKID0926E 6.5V
18 (G/O)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch LH	 PKID0926E 6.5V
19 (Y)	Ground	Room lamp timer control	Output	Interior room lamp	Lamps fully OFF	Battery voltage
					Lamps fully ON	0V
21 (P/B)	Ground	Optical sensor signal	Input	Ignition switch ON	When outside of the vehicle is bright	Close to 5V
					When outside of the vehicle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input	—		Battery voltage
26 (O/L)	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is not depressed)	0V
					ON (brake pedal is depressed)	Battery voltage
				ICC brake hold relay (with ICC)	OFF	0V
					ON	Battery voltage
27 (G/W)	Ground	Front door lock assembly LH (unlock sensor)	Input	Front door LH	LOCK status	 JPMIA0011GB 11.8V
					UNLOCK status	0V
29 (Y)	Ground	Key slot switch	Input	When Intelligent Key is inserted into key slot		Battery voltage
				When Intelligent Key is not inserted into key slot		0V
30 (V/Y)	Ground	ACC feedback signal	Input	Ignition switch	OFF	0
					ACC or ON	Battery voltage
31 (G)	Ground	Ignition relay-2 feedback signal	Input	Ignition switch	OFF	0V
					ON	Battery voltage

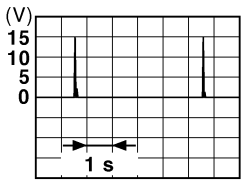
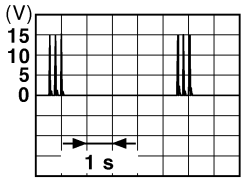
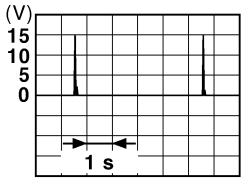
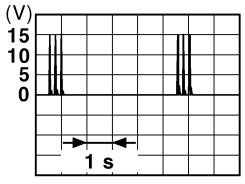
Terminal No. (Wire color) (+)	Terminal No. (Wire color) (-)	Description Signal name	Description Input/ Output	Condition		Value (Approx.)
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	 JPMIA0011GB 11.8V
					ON (when front door RH opens)	0V
33 (SB)	Ground	Compressor ON signal	Input	A/C switch	OFF	Battery voltage
					ON	0V
34* (L/R)	Ground	Front door lock assembly LH (key cylinder switch) (unlock)	Input	Front door lock assembly LH (key cylinder switch)	OFF (neutral)	Battery voltage
					ON (unlock)	0V
36* (GR)	Ground	Lock switch signal	Input	Door lock/unlock switch	Lock	Battery Voltage
					Unlock	0V
37 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	CANCEL	 JPMIA0012GB 1.1V
					ON	0V
38 (GR/ W)	Ground	Rear window defogger ON signal	Input	Rear window defogger switch	OFF	Battery Voltage V
					ON	0V
39* (GR/ R)	Ground	Unlock switch signal	Input	Door lock/unlock switch	Unlock	Battery Voltage
					Lock	0V
40* (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		 JPMIA0013GB 10.2V
				Ignition switch OFF or ACC		0V
41 (W)	Ground	Push-button ignition switch illumination	Output	Engine switch (push switch) illumination	ON	5.5V
					OFF	0V
42 (R)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON	0V
					OFF	Battery voltage
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		0V

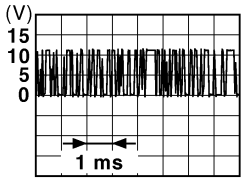
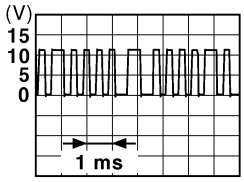
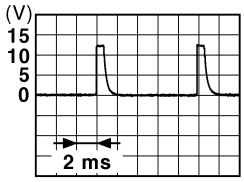
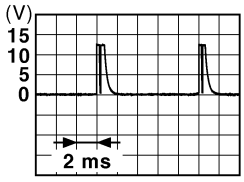
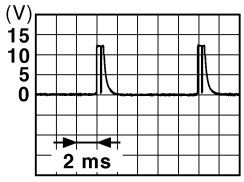
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
46 (V/W)	Ground	Receiver & sensor power supply output	Output	Ignition switch	OFF	0V
					ACC or ON	5.0V
47 (G/O)	Ground	Tire pressure receiver signal	Input/ Output	Ignition switch ON	Standby state	 OCC3881D
					When receiving the signal from the transmitter	 OCC3880D
48 (R/B)	Ground	Selector lever P/N position signal	Input	Selector lever	P or N position	12.0V
					Except P and N positions	0V
49 (L/O)	Ground	Security indicator signal	Output	Security indicator	ON	0V
					Blinking	 JPMIA0014GB 11.3V
					OFF	Battery voltage
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Lighting switch 1ST	 JPMIA0031GB 10.7V
					Lighting switch high-beam	
					Lighting switch 2ND	
					Turn signal switch RH	
51 (L/W)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front wiper switch HI (Wiper intermittent dial 4)	 JPMIA0032GB 10.7V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	

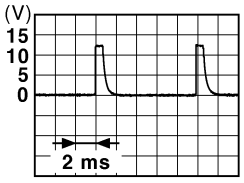
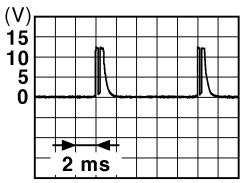
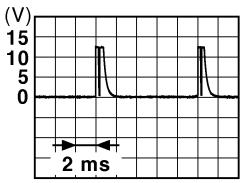
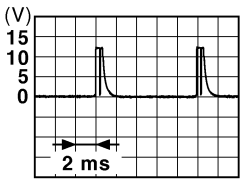
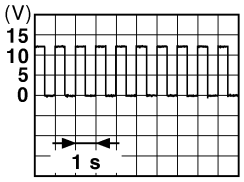
Terminal No. (Wire color) (+)	Terminal No. (Wire color) (-)	Description Signal name	Description Input/ Output	Condition		Value (Approx.)
52 (G/B)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front washer switch ON (Wiper intermittent dial 4)	 JPMIA0033GB 10.7V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 5 • Wiper intermittent dial 6	
53 (LG/ R)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Front wiper switch INT	 JPMIA0034GB 10.7V
					Front wiper switch LO	
					Lighting switch AUTO	
54 (G/Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Front fog lamp switch ON	 JPMIA0035GB 10.7V
					Lighting switch 2ND	
					Lighting switch flash-to-pass	
					Turn signal switch LH	
55 (BR/ W)	Ground	Front blower monitor	Input	Front blower motor switch	ON	Battery voltage
					OFF	0V
56 (L/B)	Ground	Front door lock assembly LH (key cylinder switch) (lock)	Input	Front door lock assembly LH (key cylinder switch)	OFF (neutral)	Battery voltage
					ON (lock)	0V
57 (W)	Ground	Tire pressure warning check switch	Input	—		Battery voltage
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	 JPMIA0011GB 11.8V
					ON (front door LH OPEN)	0V
59 (G/R)	Ground	Rear window defogger relay	Output	Rear window defogger	Active	Battery voltage
					Not activated	0V

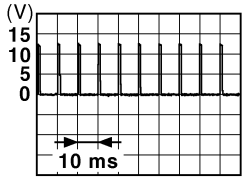
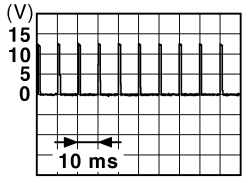
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
60 (B/R)	Ground	Front console antenna 2 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
61 (W/R)	Ground	Center console antenna 2 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
62 (B/Y)	Ground	Front outside handle RH antenna (-)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

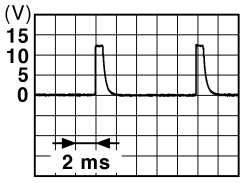
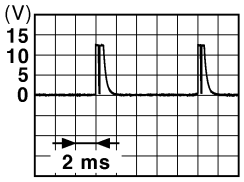
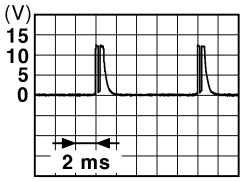
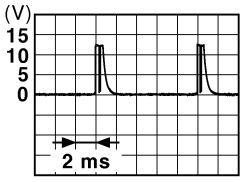
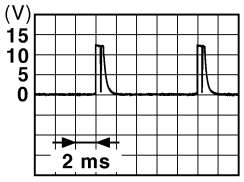
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
63 (LG)	Ground	Front outside handle RH antenna (+)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
64 (V)	Ground	Front outside handle LH antenna (-)	Output	When the front door LH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
65 (P)	Ground	Front outside handle LH antenna (+)	Output	When the front door LH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

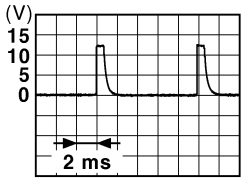
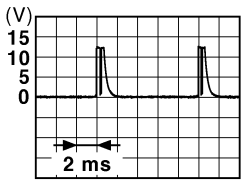
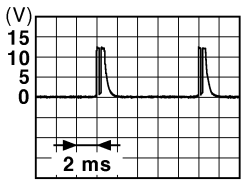
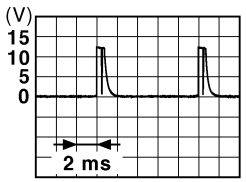
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
66 (R)	Ground	Instrument panel antenna (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
67 (G)	Ground	Instrument panel antenna (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70 (R/B)	Ground	Ignition relay-2 control	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage

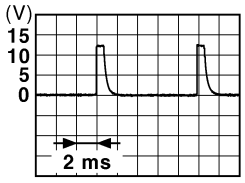
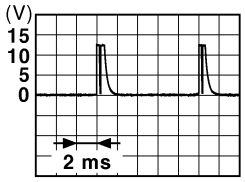
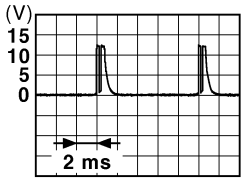
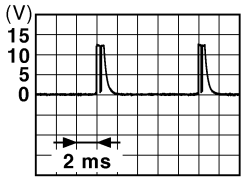
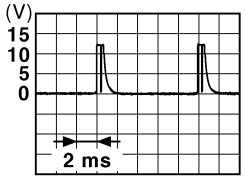
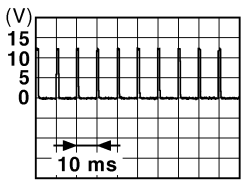
Terminal No. (Wire color) (+)	Terminal No. (Wire color) (-)	Description Signal name	Description Input/ Output	Condition		Value (Approx.)
71 (L/O)	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		 JMKIA0064GB
				When operating either button on Intelligent Key		 JMKIA0065GB
75 (R/Y)	Ground	Combination switch INPUT 5	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Front fog lamp switch ON (Wiper intermittent dial 4)	 JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	 JPMIA0040GB 1.3V

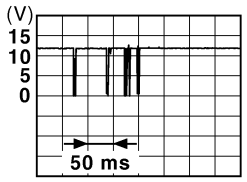
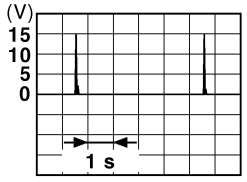
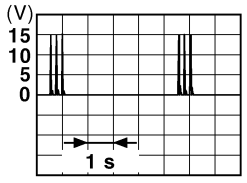
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
76 (R/G)	Ground	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch high-beam (Wiper intermittent dial 4)	 JPMIA0036GB 1.3V
					Lighting switch 2ND (Wiper intermittent dial 4)	 JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	 JPMIA0040GB 1.3V
77 (BR)	Ground	Push-button ignition switch	Input	Engine switch (push switch)	Pressed	0V
					Not pressed	Battery voltage
78 (P)	Ground	CAN-L	Input/ Output	—		—
79 (L)	Ground	CAN-H	Input/ Output	—		—
80 (R/L)	Ground	Key slot illumination	Output	Key slot illumination	OFF	0V
					Blinking	 JPMIA0015GB 6.5V
					ON	Battery voltage

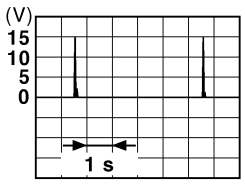
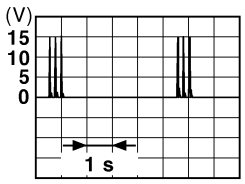
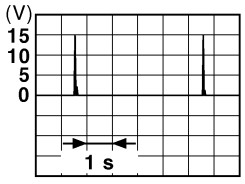
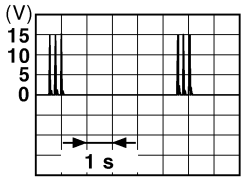
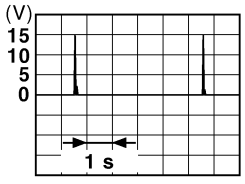
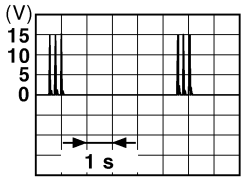
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
81 (LG)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0V
83 (L)	Ground	ACC relay control	Output	Ignition switch	OFF	0V
					ACC or ON	Battery voltage
84 (Y/R)	Ground	ECTV device (detent switch)	Output	—		Battery voltage
85 (L/O)	Ground	Electronic steering column lock condition No. 1	Input	Electronic steering column lock	Lock status	0V
					Unlock status	Battery voltage
86 (G/R)	Ground	Electronic steering column lock condition No. 2	Input	Electronic steering column lock	Lock status	Battery voltage
					Unlock status	0V
87 (G/B)	Ground	ECTV device (detent switch)	Input	Selector lever	P position	0V
					Any position other than P	Battery voltage
88 (P/L)	Ground	Front door RH request switch	Input	Front door RH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
89 (B/W)	Ground	Front door LH request switch	Input	Front door LH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
90 (Y)	Ground	Front blower motor relay control	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		Battery voltage
94 (G/Y)	Ground	Electronic steering column lock CPU power supply	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0V

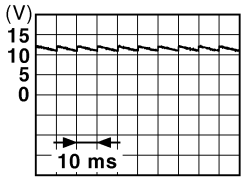
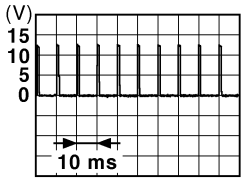
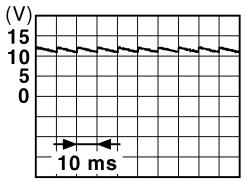
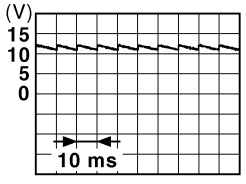
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
95 (R/W)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Turn signal switch LH	 JPMIA0037GB 1.3V
					Turn signal switch RH	 JPMIA0036GB 1.3V
					Front wiper switch LO	 JPMIA0038GB 1.3V
					Front washer switch ON	 JPMIA0039GB 1.3V

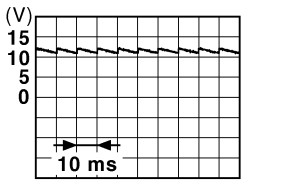
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
96 (P/B)	Ground	Combination switch INPUT 4	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch AUTO (Wiper intermittent dial 4)	 JPMIA0038GB 1.3V
					Lighting switch 1ST (Wiper intermittent dial 4)	 JPMIA0036GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	 JPMIA0039GB 1.3V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
97 (R/B)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit-tent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Lighting switch flash-to-pass	 JPMIA0037GB 1.3V
					Lighting switch 2ND	 JPMIA0036GB 1.3V
					Front wiper switch INT	 JPMIA0038GB 1.3V
					Front wiper switch HI	 JPMIA0040GB 1.3V
98 (G/R)	Ground	Hazard switch	Input	Hazard switch	Pressed	0 V
					Not pressed	 JPMIA0012GB 1.1V

Terminal No. (Wire color) (+)	Terminal No. (Wire color) (-)	Description: Signal name	Description: Input/ Output	Condition		Value (Approx.)
99 (L/Y)	Ground	Electronic steering column lock CPU communication	Input/ Output	Electronic steering column lock	LOCK status	Battery voltage
					LOCK or UNLOCK	 JMKIA0066GB
					For 15 seconds after UNLOCK	Battery voltage
					15 seconds or later after UNLOCK	0V
103 (V)	Ground	Trunk lid opening	Output	Trunk lid	Open (trunk lid opener actuator is activated)	Battery voltage
					Close (trunk lid opener actuator is not activated)	0V
110 (V/W)	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V
					OFF	Battery voltage
114 (B)	Ground	Trunk room antenna 1 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
115 (W)	Ground	Trunk room antenna 1 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
118 (L/O)	Ground	Rear bumper antenna (-)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
119 (BR/ W)	Ground	Rear bumper antenna (+)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

Terminal No. (Wire color) (+)	Terminal No. (Wire color) (-)	Description Signal name	Description Input/ Output	Condition		Value (Approx.)
127 (BR/ W)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0V
130 (Y/G)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	 JPMIA0011GB 11.8V
					ON (trunk is open)	0V
132 (R)	Ground	Start signal	Output	Ignition switch ON	When selector lever is in P or N position and the brake peddle is not depressed	0V
					When selector lever is in P or N position and the brake peddle is depressed	Battery voltage
141 (G/R)	Ground	Trunk request switch	Input	Trunk request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
144 (GR)	Ground	Request switch buzzer	Output	Request switch buzzer	Sounding	0V
					Not sounding	Battery voltage
147 (L/R)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Pressed	0V
					Not pressed	 JPMIA0011GB 11.8V
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	 JPMIA0011GB 11.8V
					ON (when rear door RH opens)	0V

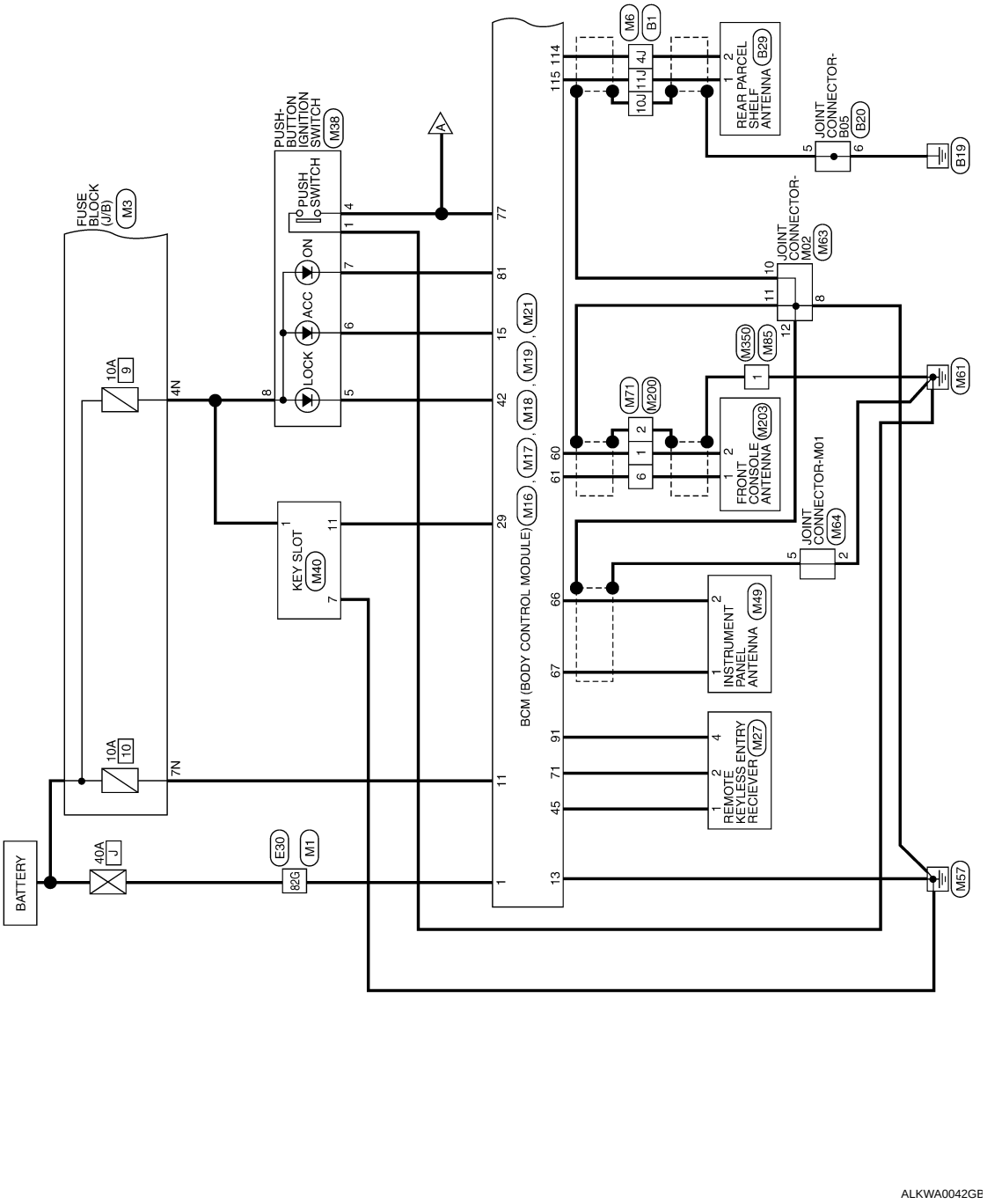
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	 JPMIA0011GB 11.8V
					ON (when rear door LH opens)	0V

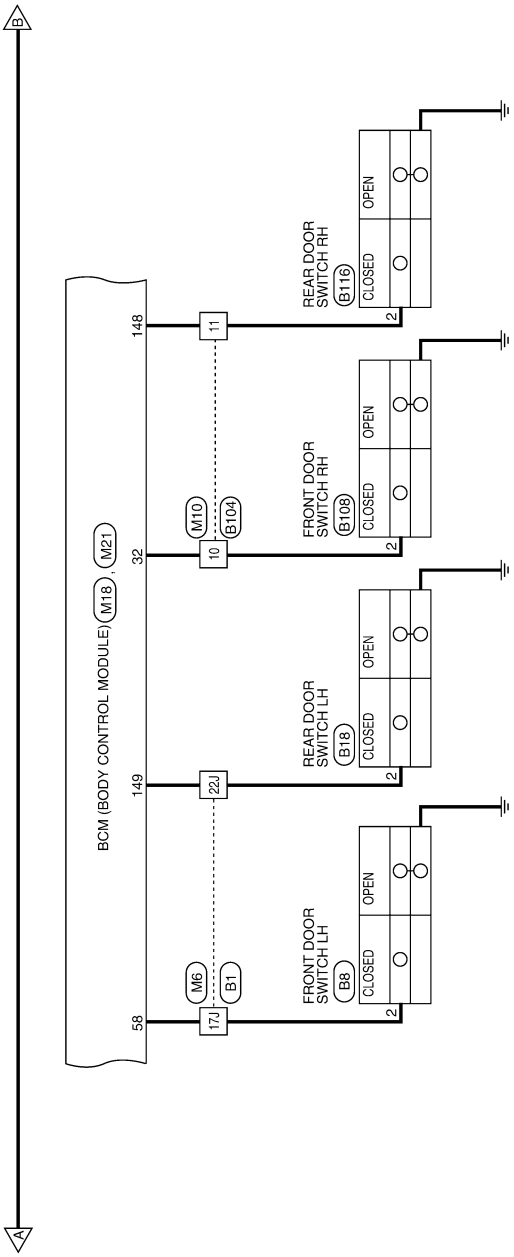
*: With LH and RH front window anti-pinch system

Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -

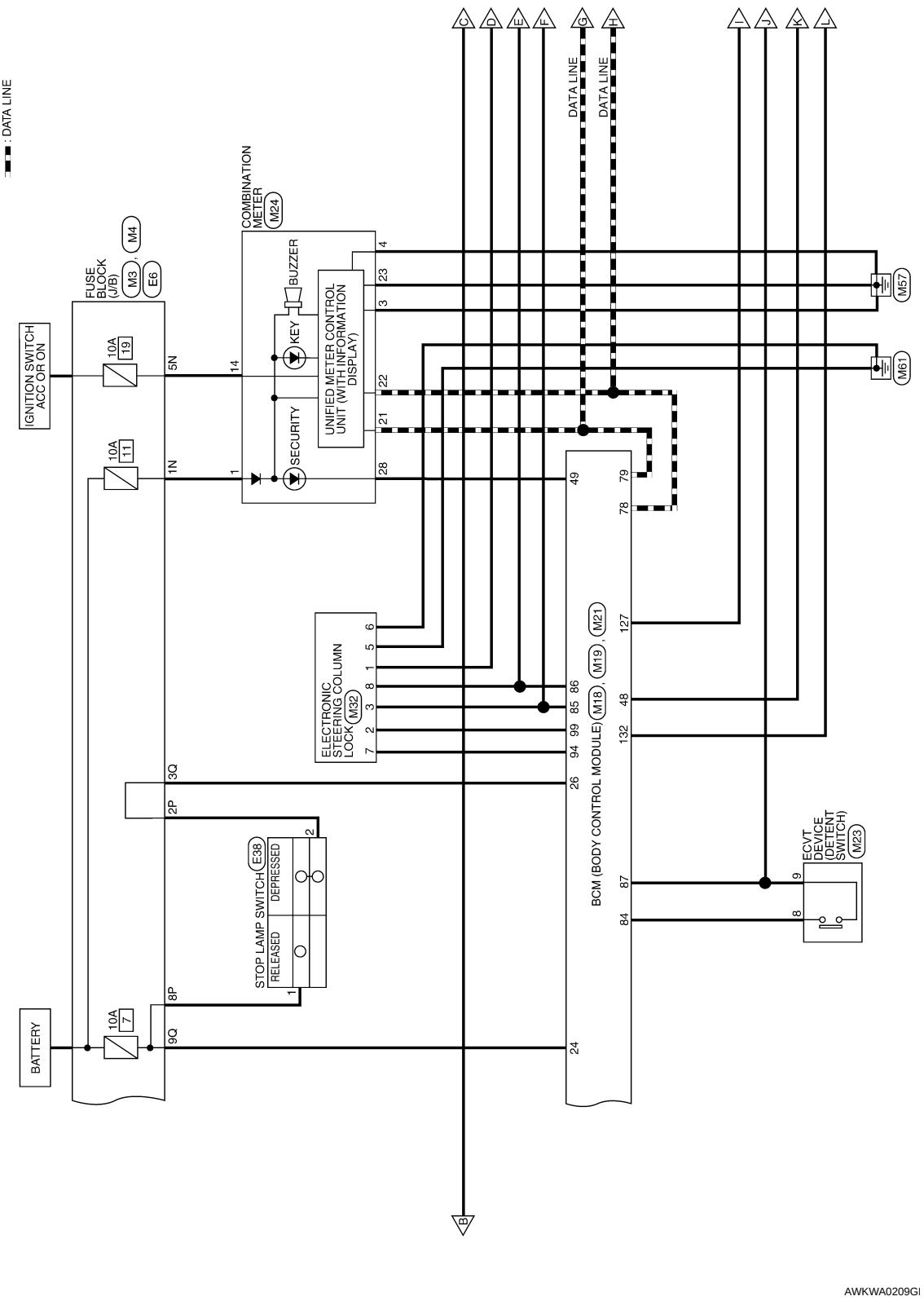
INFOID:0000000003071423

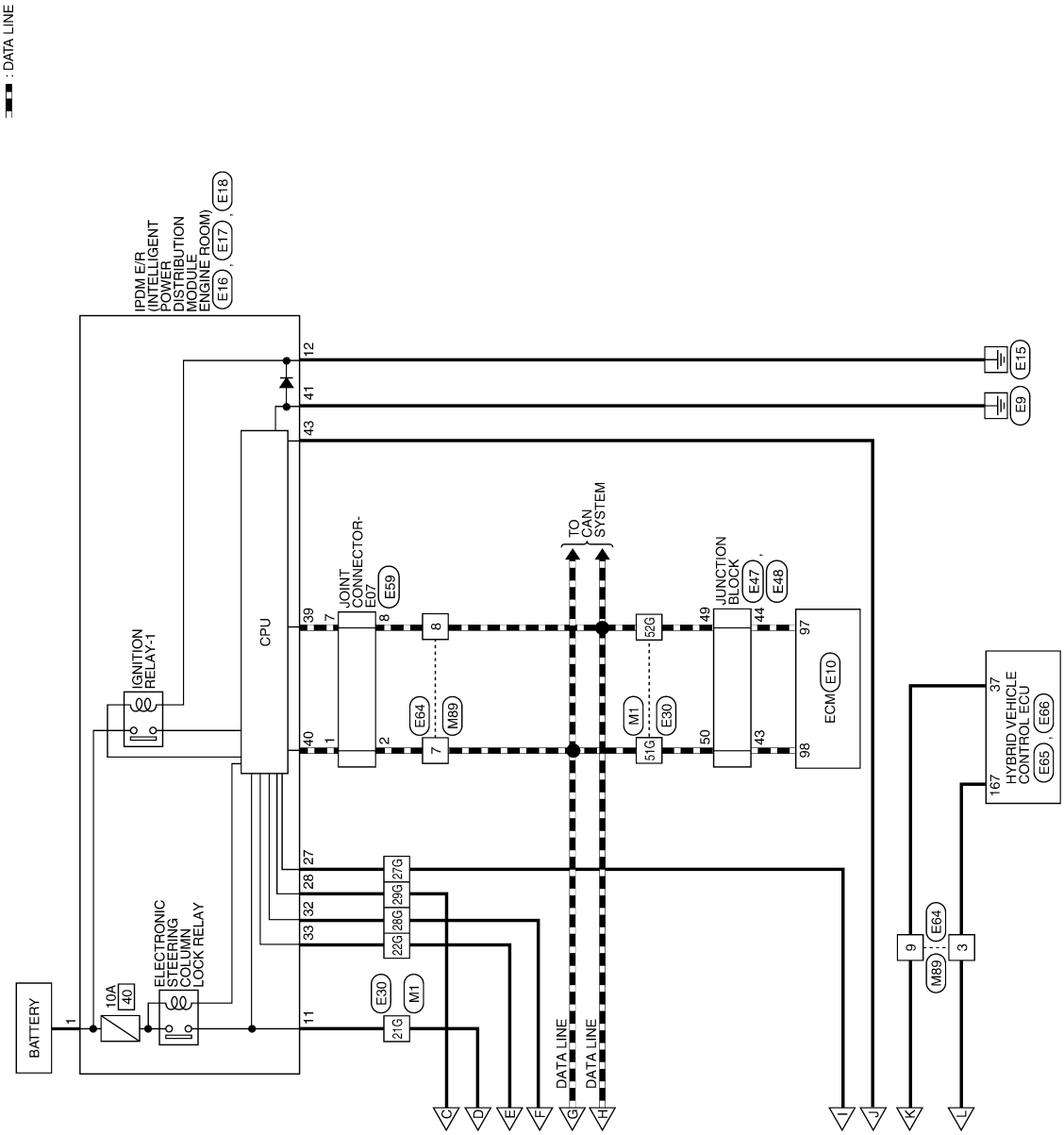
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION





ALKWA0029GE

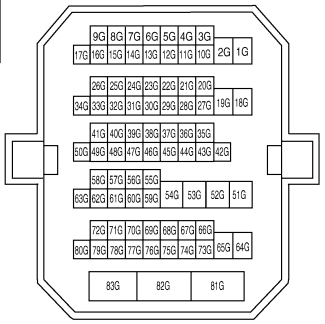

: DATA LINE
IGNITION SWITCH ACC OR ON
BATTERY
FUSE BLOCK (J/B)
M4, M3, E6
10A 19
10A 11
10A 7
5N
1N
9Q
8P
3Q
2P
COMBINATION METER M24
BUZZER
KEY
SECURITY
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
STOP LAMP SWITCH E38
DEPRESSED
RELEASED
ELECTRONIC STEERING COLUMN LOCK M32
BCM (BODY CONTROL MODULE) M18, M19, M21
ECVT DEVICE (DETENT SWITCH) M23
DATA LINE
DATA LINE
M57
M61
AWKWA0209GI


: DATA LINE
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E16, E17, E18
CPU
IGNITION RELAY-1
ELECTRONIC STEERING COLUMN LOCK RELAY
BATTERY
10A 40
JOINT CONNECTOR-E07 E59
JUNCTION BLOCK E47, E48
TO CAN SYSTEM
ECM E10
HYBRID VEHICLE CONTROL ECU E65, E66
E15
E9
E64
M89
M1
E30
DATA LINE
DATA LINE
AWKWA0254GI

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

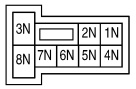
H.S.



Terminal No.	Color of wire	Signal Name
21G	P/L	–
22G	G/R	–
27G	BR/W	–
28G	L/O	–
29G	BR	–
51G	L	–
52G	P	–
82G	W/B	–

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

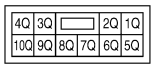
H.S.



Terminal No.	Color of wire	Signal Name
1N	W/L	–
4N	G/Y	–
5N	V/Y	–
7N	Y/R	–

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

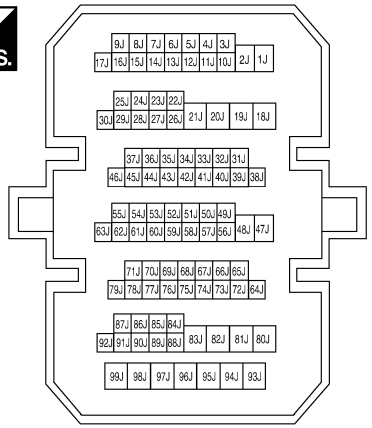
H.S.



Terminal No.	Color of wire	Signal Name
3Q	O/L	–
9Q	R/W	–

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

H.S.



Terminal No.	Color of wire	Signal Name
4J	B	–
10J	SHIELD	–
11J	W	–
17J	SB	–
22J	R/B	–

ALKIA0364GB

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	R/B	–
11	R/W	–

Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

1	3
2	

Terminal No.	Color of Wire	Signal Name
1	W/B	BAT_POWER_F/L

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

4	5	6	7		8	9	10
11	12	13	14	15	16	17	18	19

Terminal No.	Color of Wire	Signal Name
11	Y/R	BAT_BCM_FUSE
13	B	GND1
15	Y/L	ACC_LED

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

H.S.

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40

Terminal No.	Color of Wire	Signal Name
24	R/W	STOP_LAMP_LOW_SW
26	O/L	STOP_LAMP_HIGH_SW
29	Y	FOB_IN_SW
32	R/B	AS_DOOR_SW
42	R	S/L_LOCK_LED
45	P	GND_RF2_A/L
48	R/G	SHIFT_N/P
49	L/O	IMMO_LED
58	SB	DR_DOOR_SW

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

H.S.

79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60
99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80

Terminal No.	Color of Wire	Signal Name
60	B/R	ROOM_ANT_2_B
61	W/R	ROOM_ANT_2_A
66	R	ROOM_ANT_1_B
67	G	ROOM_ANT_1_A

Terminal No.	Color of Wire	Signal Name
71	L/O	RF1_TUNER_SIGNAL
77	BR	ENG_START_SW
78	P	CAN-L
79	L	CAN-H
81	LG	IGN_ON_LED
84	Y/R	AT_DEVICE_OUT
85	L/O	S/L_CONDITION_1
86	G/R	S/L_CONDITION_2
87	G/B	SHIFT_P
91	L/R	RF1_POWER_SUPPLY
94	G/Y	S/L_POWER SUPPLY_12V
99	L/Y	S/L_K-LINE

AWKIA0537GB

Connector No.	M24
Connector Name	COMBINATION METER
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	W/L	BAT
3	B	GND
4	B	GND
14	V/Y	ACC
21	L	CAN-H
22	P	CAN-L
23	B	GND
28	L/O	SECURITY

Connector No.	M23
Connector Name	ECVT DEVICE
Connector Color	WHITE

H.S.

1	3		7	9
2	4	5	6	8	10

Terminal No.	Color of Wire	Signal Name
8	Y/R	DETENT_KEY_SW
9	G/B	DETENT_KEY_SW

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY

H.S.

101	102	103	104	105	106	107	108	109	110	111	112
151	150	149	148	147	146	145	144	143	142	141	140	139	138	137	136	135	134	133	132

Terminal No.	Color of Wire	Signal Name
114	B	TRUNK_ANT_1_B
115	W	TRUNK_ANT_1_A
127	BR/W	IGN_USM_CONT1
132	R	ST_CONT
148	R/W	RR_DOOR_SW
149	R/B	RL_DOOR_SW

Connector No.	M38
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Color	BROWN

H.S.

1		2	3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	B	GND
4	BR	START_SW
5	R	LOCK
6	Y/L	ACC
7	LG	ON
8	G/Y	B+

Connector No.	M32
Connector Name	ELECTRONIC STEERING COLUMN LOCK
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
1	P/L	S/L_12V_MECHANICAL (V1)
2	L/Y	S/L_COM
3	L/O	S/L_CONDITION_1
5	B	GND
6	B	GND
7	G/Y	S/L_12V_CPU (V2)
8	G/R	S/L_CONDITION_2

Connector No.	M27
Connector Name	REMOTE KEYLESS ENTRY RECIEVER
Connector Color	BLACK

H.S.

1	2	3	4

Terminal No.	Color of wire	Signal Name
1	P	GND
2	L/O	SIGNAL
4	L/R	12V

AWKIA0538GB

Connector No.	M40
Connector Name	KEY SLOT
Connector Color	WHITE

H.S.

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

Terminal No.	Color of wire	Signal Name
1	G/Y	B+
7	B	GND
11	Y	CARD_SW_1

Connector No.	M49
Connector Name	INSTRUMENT PANEL ANTENNA
Connector Color	GRAY

H.S.

1	2

Terminal No.	Color of wire	Signal Name
1	G	ANT+
2	R	ANT-

Connector No.	M63
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

H.S.

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

Terminal No.	Color of wire	Signal Name
8	B	–
10	GR	–
11	GR	–
12	GR	–

Connector No.	M64
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

6	5	4	3	2	1

Terminal No.	Color of wire	Signal Name
2	B	–
5	B	–

Connector No.	M71
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
1	B/R	–
2	SHIELD	–
6	W/R	–

Connector No.	M85
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2

Terminal No.	Color of wire	Signal Name
1	B	–

ALKIA0367GB

Connector No.	M89
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

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

Terminal No.	Color of wire	Signal Name
3	R	–
7	L	–
8	P	–
9	R/L	–

Connector No.	M200
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
1	B/R	–
2	SHIELD	–
6	W/R	–

Connector No.	M203
Connector Name	FRONT CONSOLE ANTENNA
Connector Color	GRAY

H.S.

1	2

Terminal No.	Color of wire	Signal Name
1	W/R	ANT+
2	B/R	ANT-

Connector No.	M350
Connector Name	WIRE TO WIRE
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
1	B	–

Connector No.	E6
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
2P	R/G	–
8P	Y/R	–

Connector No.	E10
Connector Name	ECM
Connector Color	BLACK

H.S.

81	85	89	93	97	101	105	109
82	86	90	94	98	102	106	110
83	87	91	95	99	103	107	111
84	88	92	96	100	104	108	112

Terminal No.	Color of wire	Signal Name
97	P	CAN-L
98	L	CAN-H

Connector No.	E16
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

1	2

Terminal No.	Color of wire	Signal Name
1	R	F/L_MAIN

ALKIA0368GB

Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
39	P	CAN-L
40	L	CAN-H
41	B	S-GND
43	G/B	DETENT_SW

Connector No.	E18
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
11	P/L	ESCL
12	B	P_GND
27	BR/W	IGN_SIGNAL
28	BR	PUSH_START_SW
32	LG	SL_CONDITION_1
33	W	SL_CONDITION_2

Connector No.	E38
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
1	Y/R	B+
2	R/G	HIGH_SW

Terminal No.	Color of wire	Signal Name
21G	P/L	–
22G	W	–
27G	BR/W	–
28G	LG	–
29G	BR	–
51G	L	–
52G	P	–
82G	W/B	–

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

ALKIA0369GB

Connector No.	E47
Connector Name	JUNCTION BLOCK
Connector Color	WHITE

H.S.

42		41
46	45	44	43

Terminal No.	Color of wire	Signal Name
43	L	CAN-H
44	P	CAN-L

Connector No.	E48
Connector Name	JUNCTION BLOCK
Connector Color	WHITE

H.S.

50	49	48	47

Terminal No.	Color of wire	Signal Name
49	P	–
50	L	–

Connector No.	E59
Connector Name	JOINT CONNECTOR-E07
Connector Color	BLUE

H.S.

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

Terminal No.	Color of wire	Signal Name
1	L	–
2	L	–
7	P	–
8	P	–

Connector No.	E64
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
3	R	–
7	L	–
8	P	–
9	R/L	–

Connector No.	E65
Connector Name	HYBRID VEHICLE CONTROL ECU
Connector Color	BLACK

H.S.

53	54	55	56	57	58	59	60		3		2		1
45	46	47	48	49	50	51	52						
37	38	39	40	41	42	43	44		6		5		4
29	30	31	32	33	34	35	36		9		8		7
21	22	23	24	25	26	27	28						
13	14	15	16	17	18	19	20		12		11		10

Terminal No.	Color of wire	Signal Name
37	R	SHNP

AWKIA0679GB

Connector No.	E66
Connector Name	HYBRID VEHICLE CONTROL ECU
Connector Color	BLACK

H.S.

168	167	166	165	164	163	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61
						94	93	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78
174	173	172	171	170	169	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95
180	179	178	177	176	175	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112
						145	144	143	142	141	140	139	138	137	136	135	134	133	132	131	130	129
186	185	184	183	182	181	162	161	160	159	158	157	156	155	154	153	152	151	150	149	148	147	146

Terminal No.	Color of wire	Signal Name
167	R/B	ST2

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
4J	B	–
10J	SHIELD	–
11J	W	–
17J	SB	–
22J	R/B	–

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

H.S.

Terminal No.	Color of wire	Signal Name
2	SB	DOOR SW (DR)

AWKIA0680GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	R/B	DOOR SW (RL)

Connector No.	B20
Connector Name	JOINT CONNECTOR-B05
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
5	GR	–
6	B	–

Connector No.	B29
Connector Name	REAR PARCEL SHELF ANTENNA
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	ANT+
2	B	ANT-

Connector No.	B104
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
10	R/G	–
11	R/W	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	RG	DOOR SW (AS)

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	R/W	DOOR SW (RR)

AWKIA0539GB

Wiring Diagram - VEHICLE SECURITY SYSTEM -

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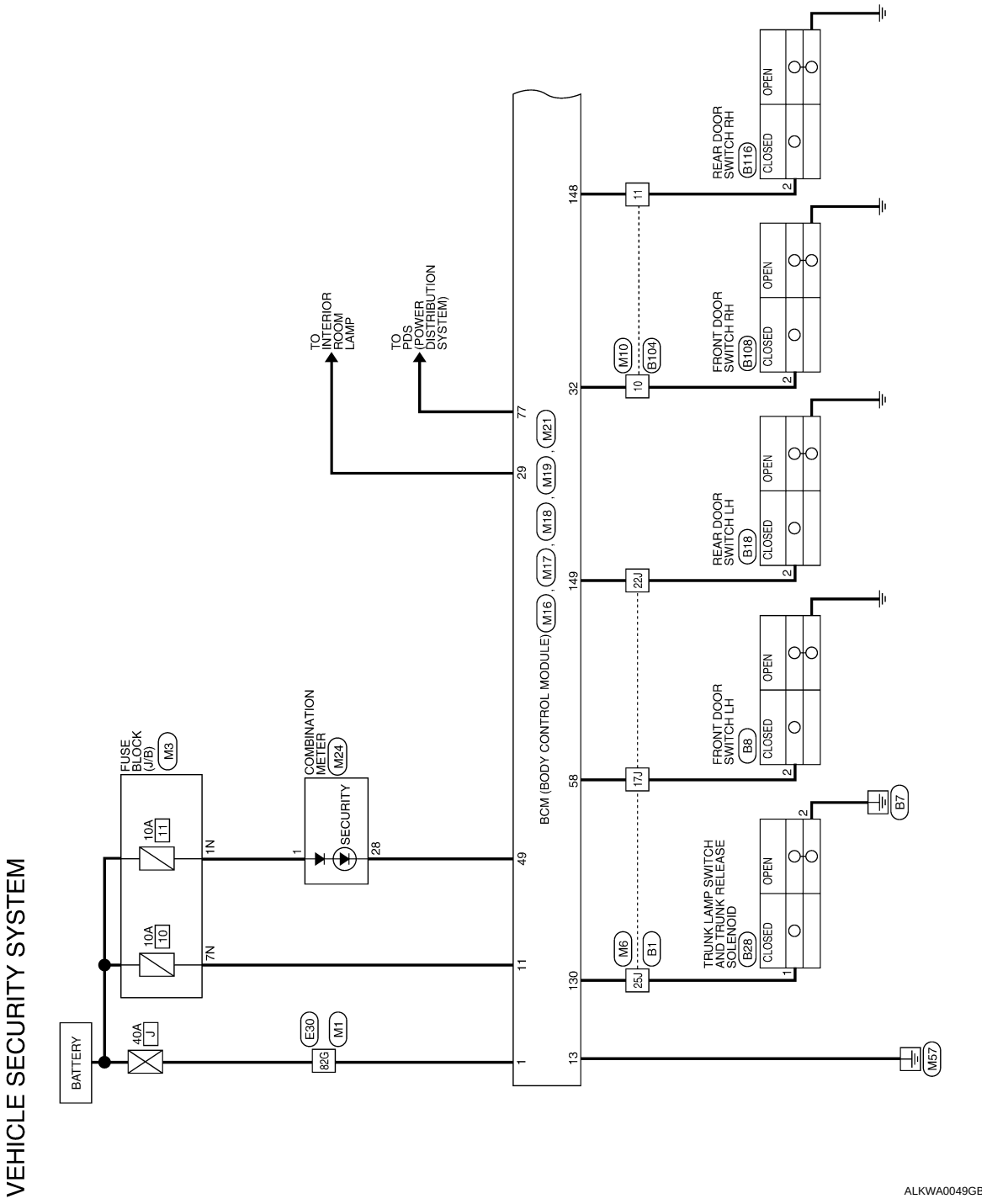
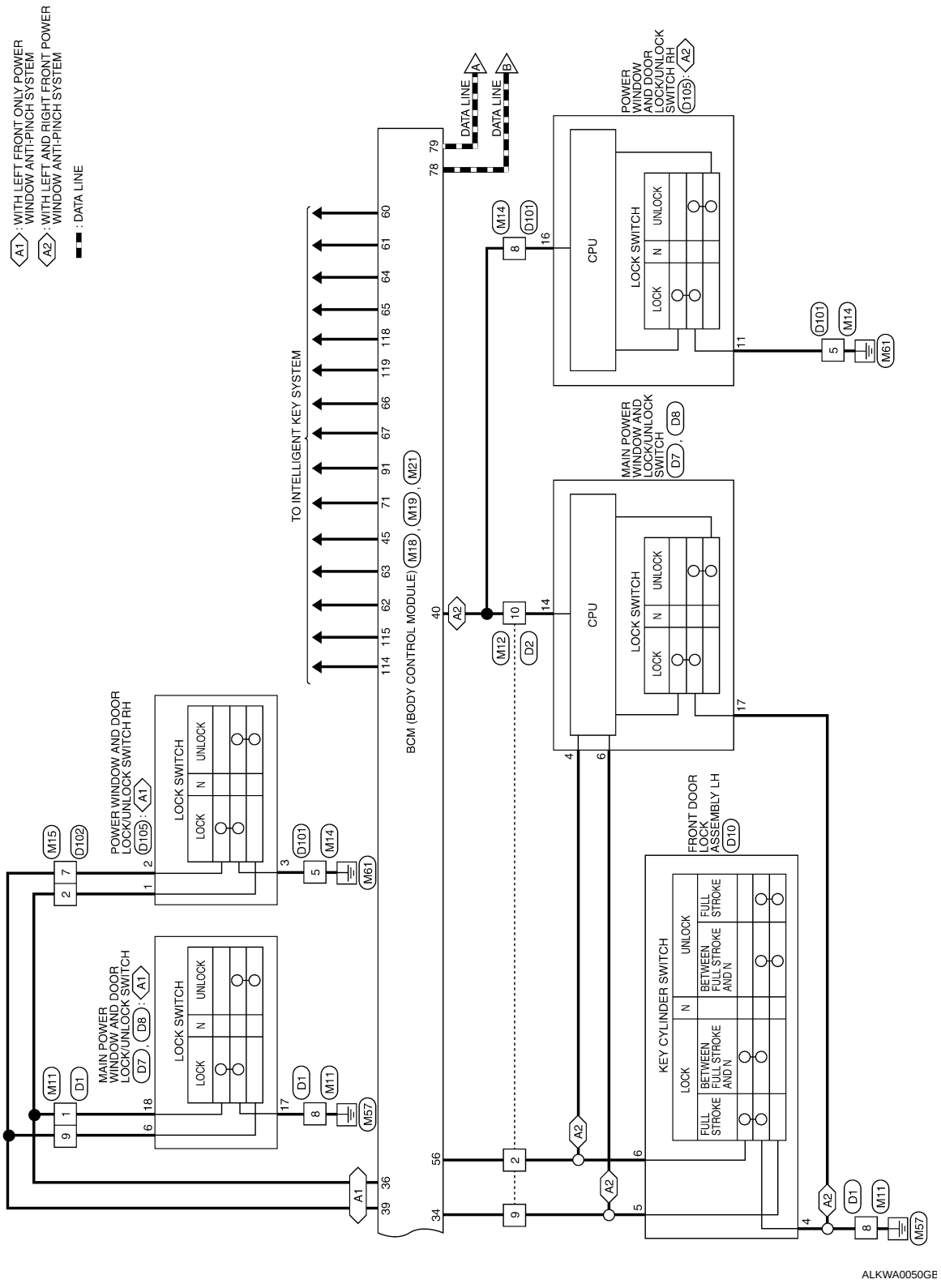
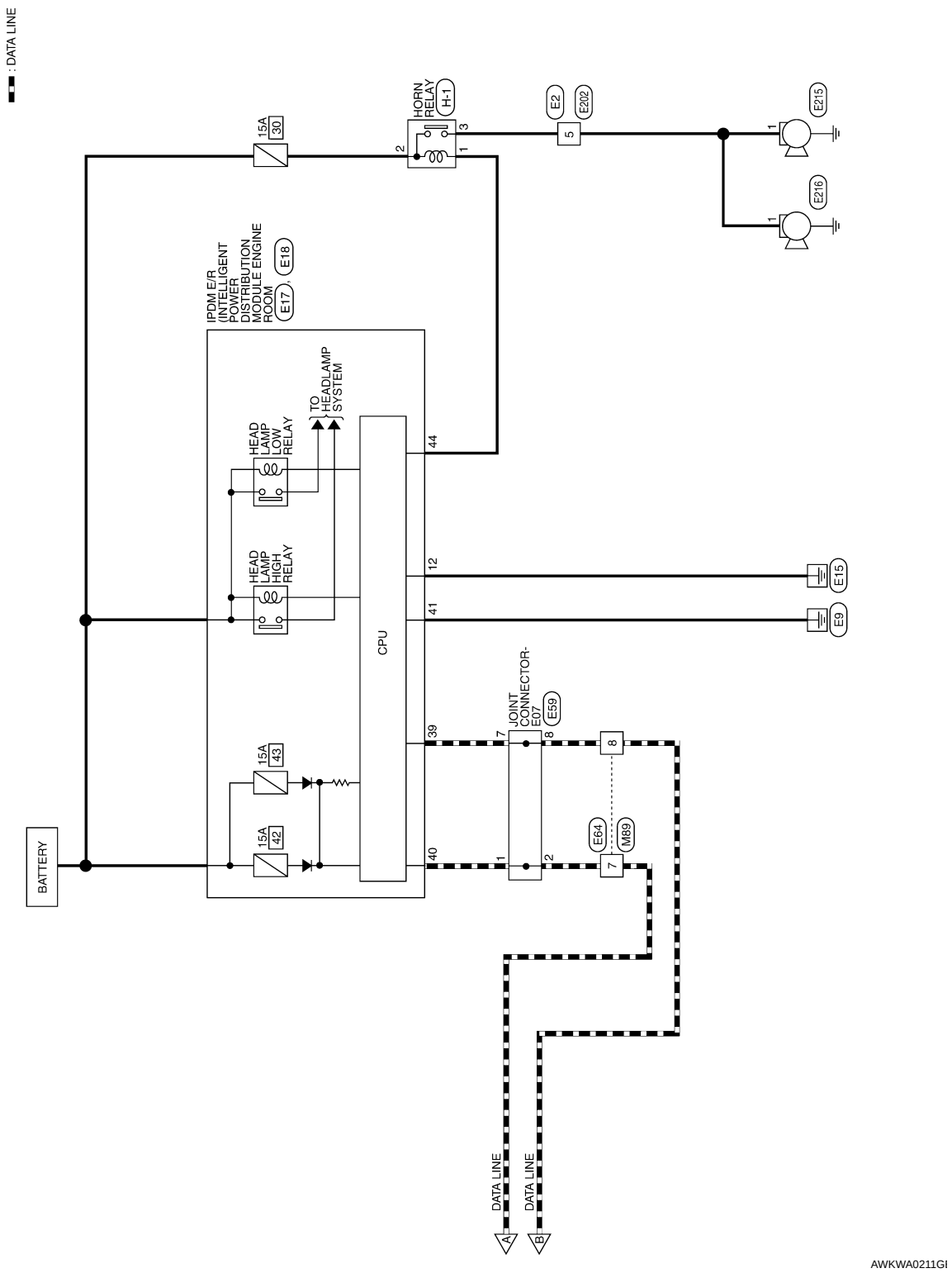



A1 : WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM
A2 : WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM
: DATA LINE
TO INTELLIGENT KEY SYSTEM
BCM (BODY CONTROL MODULE) M18 , M19 , M21
DATA LINE A
DATA LINE B
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH D105 : A2
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH D7 , D8
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH D105 : A1
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH D7 , D8 : A1
FRONT DOOR LOCK ASSEMBLY LH D10
CPU
LOCK SWITCH
LOCK
N
UNLOCK
KEY CYLINDER SWITCH
FULL STROKE
BETWEEN FULL STROKE AND N
ALKWA0050GB


: DATA LINE
HORN RELAY H-1
15A 30
E2
E202
5
E215
E216
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM E17 E18
TO HEADLAMP SYSTEM
HEAD LAMP LOW RELAY
HEAD LAMP HIGH RELAY
CPU
44
12
41
E15
E9
JOINT CONNECTOR-E07 E59
39
40
15A 43
15A 42
BATTERY
E64
M89
DATA LINE
DATA LINE
A
B
AWKWA0211GI

VEHICLE SECURITY SYSTEM CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
82G	W/B	–

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

H.S.

Terminal No.	Color of wire	Signal Name
1N	W/L	–
7N	Y/R	–

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

H.S.

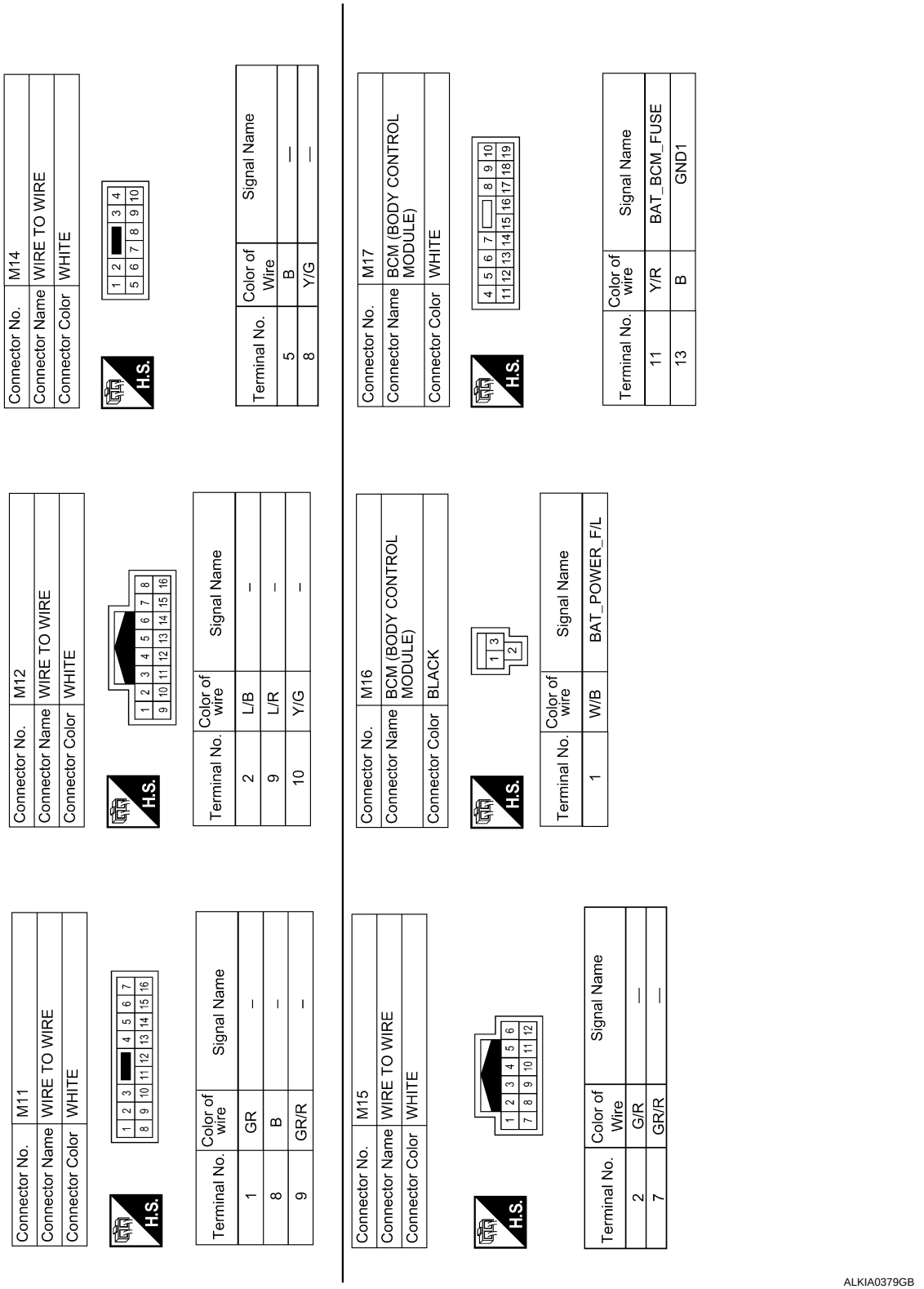
Terminal No.	Color of wire	Signal Name
17J	SB	–
22J	R/B	–
25J	Y/G	–

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of wire	Signal Name
10	R/B	–
11	R/W	–

ALKIA0378GB


Connector No. M14
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1 2 3 4
5 6 7 8 9 10
Terminal No. Color of Wire Signal Name
5 B —
8 Y/G —
Connector No. M12
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/B —
9 L/R —
10 Y/G —
Connector No. M11
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
1 GR —
8 B —
9 GR/R —
Connector No. M17
Connector Name BCM (BODY CONTROL MODULE)
Connector Color WHITE
H.S.
4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19
Terminal No. Color of wire Signal Name
11 Y/R BAT_BCM_FUSE
13 B GND1
Connector No. M16
Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK
H.S.
1 3
2
Terminal No. Color of wire Signal Name
1 W/B BAT_POWER_F/L
Connector No. M15
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
2 G/R —
7 GR/R —
ALKIA0379GB

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY

H.S.

131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112
151	150	149	148	147	146	145	144	143	142	141	140	139	138	137	136	135	134	133	132

Terminal No.	Color of Wire	Signal Name
114	B	TRUNK_ANT_1_B
115	W	TRUNK_ANT_1_A
118	L/O	BACK_DOOR_ANT_B
119	BR/W	BACK_DOOR_ANT_A
130	Y/G	TRUNK_SW
148	R/W	RR_DOOR_SW
149	R/B	RL_DOOR_SW

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

H.S.

79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60
99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80

Terminal No.	Color of Wire	Signal Name
60	B/R	ROOM_ANT_2_B
61	W/R	ROOM_ANT_2_A
62	B/Y	AS_DOOR_ANT_B
63	LG	AS_DOOR_ANT_A
64	V	DR_DOOR_ANT_B
65	P	DR_DOOR_ANT_A
66	R	ROOM_ANT_1_B
67	G	ROOM_ANT_1_A
71	L/O	RF1_TUNER_SIGNAL
77	BR	ENG_START_SW
78	P	CAN-L
79	L	CAN-H
91	L/R	RF1_POWER_SUPPLY

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

H.S.

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40

Terminal No.	Color of wire	Signal Name
29	Y	FOB_IN_SW_1
32	R/B	AS_DOOR_SW
34	L/R	DOOR_KEY/C_UNLOCK_SW
36	GR	CENTRAL_LOCK_SW
39	GR/R	CENTRAL_UNLOCK_SW
40	Y/G	PW_K-LINE
45	P	GND_RF2_A/L
49	L/O	IMMO_LED
56	L/B	DOOR_KEY/C_LOCK_SW
58	SB	DR_DOOR_SW

Connector No.	E2
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
5	G	–

Connector No.	M89
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
7	L	–
8	P	–

Connector No.	M24
Connector Name	COMBINATION METER
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	W/L	BAT
28	L/O	SECURITY

ALKIA0380GB

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
82G	W/B	–

Connector No.	E18
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
12	B	P-GND

Connector No.	E202
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
5	G	–

Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
39	P	CAN-L
40	L	CAN-H
41	B	S-GND
44	G/W	HORN_RLY

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
7	L	–
8	P	–

Connector No.	E59
Connector Name	JOINT CONNECTOR-E07
Connector Color	BLUE

H.S.

Terminal No.	Color of wire	Signal Name
1	L	–
2	L	–
7	P	–
8	P	–

ALKIA0381GB

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
17J	SB	–
22J	R/B	–
25J	Y/G	–

Connector No.	E216
Connector Name	HORN
Connector Color	BLACK

H.S.

Terminal No.	Color of wire	Signal Name
1	G	–

Connector No.	E215
Connector Name	HORN
Connector Color	BLACK

H.S.

Terminal No.	Color of wire	Signal Name
1	G	–

Connector No.	B28
Connector Name	TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
1	Y/G	TRUNK_REQUEST_SW
2	B	GND

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

H.S.

Terminal No.	Color of wire	Signal Name
2	R/B	DOOR SW (RL)

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

H.S.

Terminal No.	Color of wire	Signal Name
2	SB	DOOR SW (DR)

ALKIA0485GB

Connector No.	B104
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of wire	Signal Name
10	R/G	–
11	R/W	–

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

H.S.

1
2
3

Terminal No.	Color of wire	Signal Name
2	R/G	DOOR SW (AS)

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

H.S.

1
2
3

Terminal No.	Color of wire	Signal Name
2	R/W	DOOR SW (RR)

Connector No.	D1
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
1	GR	–
8	B	–
9	GR/R	–

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

H.S.

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

Terminal No.	Color of wire	Signal Name
2	L/B	–
9	L/R	–
10	Y/G	–

Connector No.	D7 (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)
Connector Name	MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH
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
6	L/R	UNLOCK

ALKIA0383GB

Connector No.	D7 (WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM)
Connector Name	MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4	—	—
6	L/R	UNLOCK
14	—	—

Connector No.	D8 (WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM)
Connector Name	MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
17	B	GND

Connector No.	D8 (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)
Connector Name	MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
17	B	GND
18	GR	LOCK

Connector No.	D10
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	GRAY

H.S.

Terminal No.	Color of wire	Signal Name
4	B	GND
5	L/R	DOOR_KEY/C_UNLOCK_SW
6	L/B	DOOR_KEYD/C_LOCK_SW

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

H.S.

Terminal No.	Color of Wire	Signal Name
5	B	—
8	Y/G	—

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	GR	—
7	GR/R	—

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Connector No.	H1
Connector Name	FUSE AND FUSIBLE LINK BOX
Connector Color	–

Terminal No.	Color of wire	Signal Name
1	G/W	–
2	G/B	–
3	G	–

Connector No.	D105 (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	LOCK
2	GR/R	UNLOCK
3	B	GND

Connector No.	D105 (WITH LEFT AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM)
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE

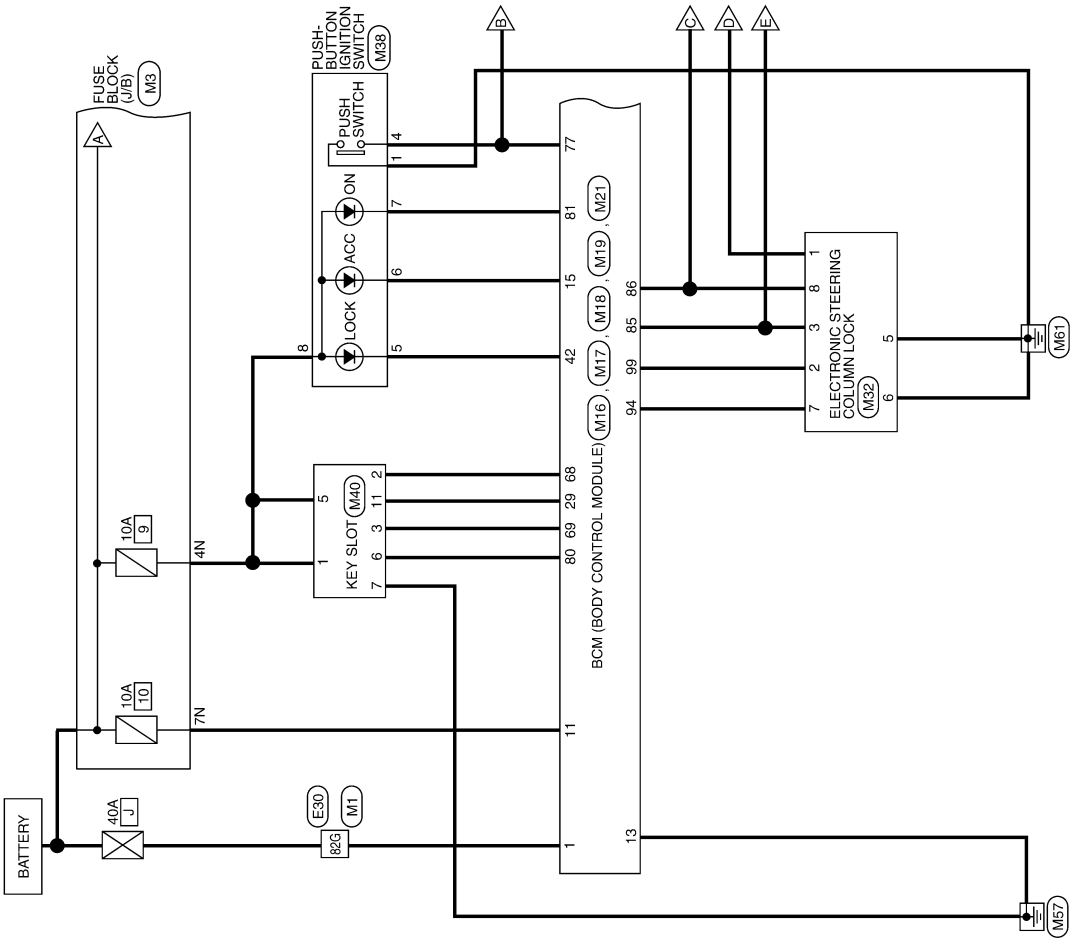
H.S.

Terminal No.	Color of Wire	Signal Name
11	B	GND
16	Y/G	COM

ALKIA0385GB

Wiring Diagram - NVIS -

INFOID:0000000003071425



NVIS

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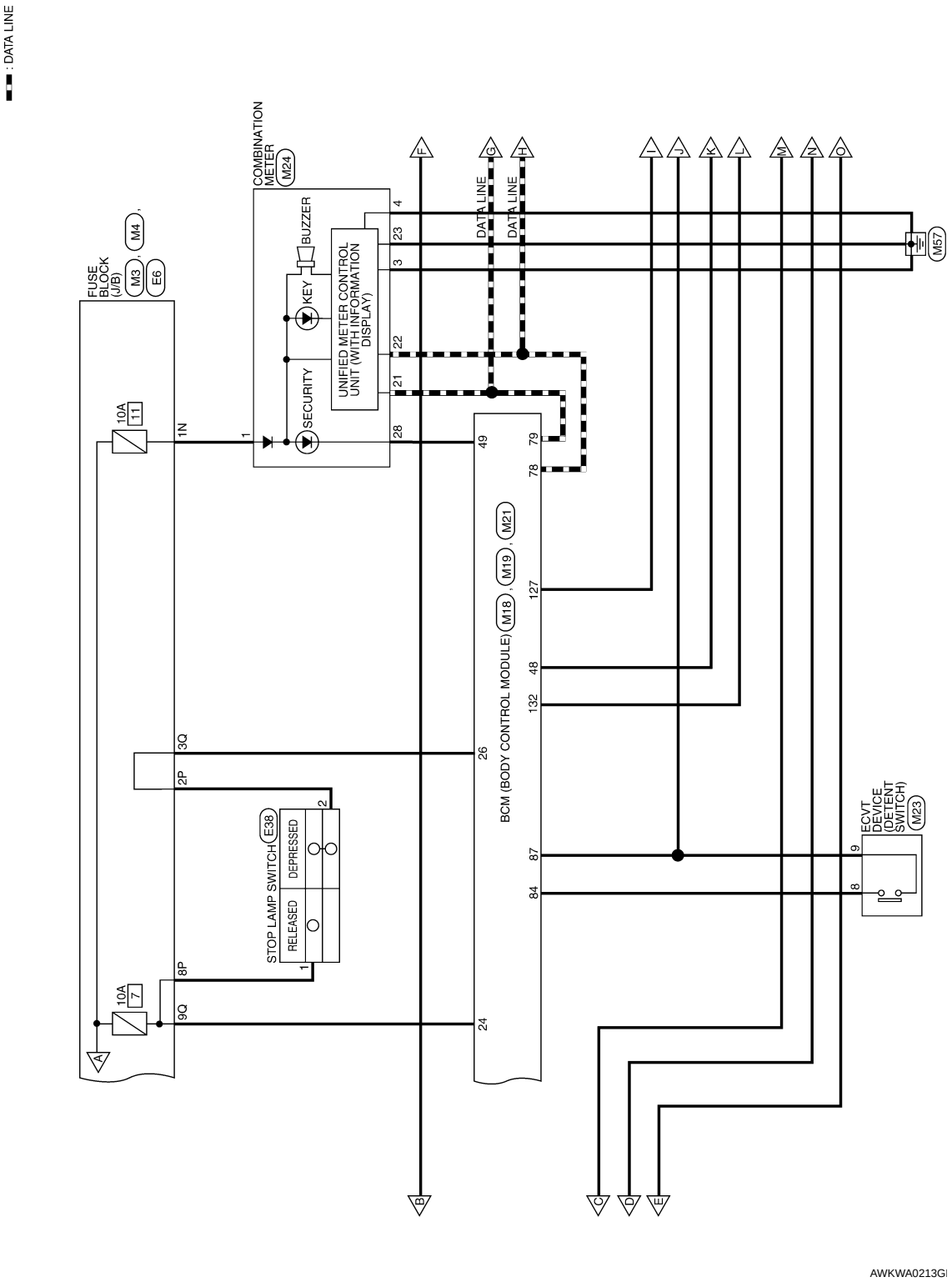
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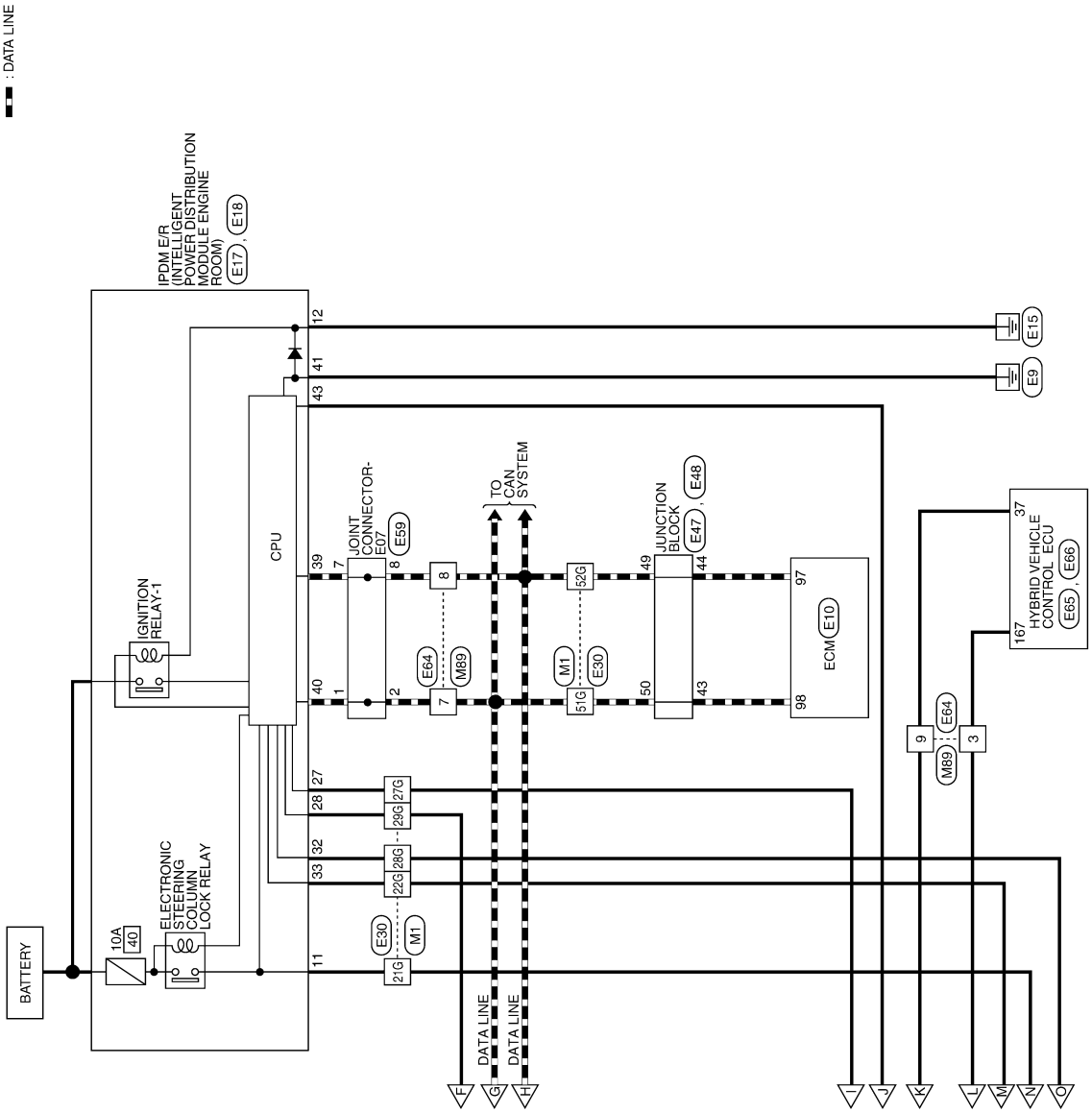
COMBINATION METER (M24)
BUZZER
KEY
SECURITY
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
DATA LINE
DATA LINE
FUSE BLOCK (J/B) (M3), (M4), E6
10A 11
10A 7
1N
3Q
2P
8P
9Q
STOP LAMP SWITCH (E38)
DEPRESSED
RELEASED
BCM (BODY CONTROL MODULE) (M18), (M19), (M21)
ECVT DEVICE (DETENT SWITCH) (M23)
(M57)
AWKWA0213GI


: DATA LINE
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E17, E18
CPU
IGNITION RELAY-1
ELECTRONIC STEERING COLUMN LOCK RELAY
BATTERY
10A 40
JOINT CONNECTOR-E07
E59
TO CAN SYSTEM
JUNCTION BLOCK
E47, E48
ECM E10
HYBRID VEHICLE CONTROL ECU
E65, E66
E15
E9
E64
M89
M1
E30
51G
52G
27G
29G
28G
22G
21G
DATA LINE
DATA LINE
AWKWA0214GI

NVIS CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
21G	P/L	–
22G	G/R	–
27G	BR/W	–
28G	L/O	–
29G	BR	–
51G	L	–
52G	P	–
82G	W/B	–

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

H.S.

Terminal No.	Color of wire	Signal Name
1N	W/L	–
4N	G/Y	–
7N	Y/R	–

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

H.S.

Terminal No.	Color of wire	Signal Name
3Q	O/L	–
9Q	R/W	–

Connector No.	M16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

Terminal No.	Color of wire	Signal Name
1	W/B	BAT_POWER_F/L

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
11	Y/R	BAT_BCM_FUSE
13	B	GND1
15	Y/L	ACC_LED

ALKIA0388GB

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

H.S.

39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40

Terminal No.	Color of Wire	Signal Name
24	R/W	STOP_LAMP_LOW_SW
26	O/L	STOP_LAMP_HIGH_SW
29	Y	FOB_IN_SW_1
42	R	S/L_LOCK_LED
48	R/G	SHIFT_N/P
49	L/O	IMMO_LED

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

H.S.

79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60
99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80

Terminal No.	Color of Wire	Signal Name
68	G/O	FOB_READER_CLOCK
69	O	FOB_READER_DATA

Terminal No.	Color of Wire	Signal Name
77	BR	ENG_START_SW
78	P	CAN-L
79	L	CAN-H
80	R/L	FOB_SLOT_ILLUMINATION
81	LG	IGN_ON_LED
84	Y/R	AT_DEVICE_OUT
85	L/O	S/L_CONDITION_1
86	G/R	S/L_CONDITION_2
87	G/B	SHIFT_P
94	G/Y	S/L_POWER SUPPLY_12V
99	L/Y	S/L_K-LINE

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY

H.S.

131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112
151	150	149	148	147	146	145	144	143	142	141	140	139	138	137	136	135	134	133	132

Terminal No.	Color of Wire	Signal Name
127	BR/W	IGN_USM_CONT1

Connector No.	M23
Connector Name	ECVT DEVICE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
8	Y/R	DETENT_KEY_SW
9	G/B	DETENT_KEY_SW

Connector No.	M24
Connector Name	COMBINATION METER
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	W/L	BAT
3	B	GND
4	B	GND
21	L	CAN-H
22	P	CAN-L
23	B	GND
28	L/O	SECURITY

AWKIA0540GB

Connector No.	M40
Connector Name	KEY SLOT
Connector Color	WHITE

H.S.

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

Terminal No.	Color of wire	Signal Name
1	G/Y	B+
2	G/O	CLOCK
3	O	DATA
5	G/Y	LIGHT_BAT+
6	R/L	LIGHT_A
7	B	GND
11	Y	CARD_SW_1

Connector No.	M38
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Color	BROWN

H.S.

1		2	3
4	5	6	7	8

Terminal No.	Color of wire	Signal Name
1	B	GND
4	BR	START_SW
5	R	LOCK
6	Y/L	ACC
7	LG	ON
8	G/Y	B+

Connector No.	E10
Connector Name	ECM
Connector Color	BLACK

H.S.

81	85	89	93	97	101	105	109
82	86	90	94	98	102	106	110
83	87	91	95	99	103	107	111
84	88	92	96	100	104	108	112

Terminal No.	Color of wire	Signal Name
97	P	CAN-L
98	L	CAN-H

Connector No.	E6
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
2P	R/G	–
8P	Y/R	–

Connector No.	M32
Connector Name	ELECTRONIC STEERING COLUMN LOCK
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of wire	Signal Name
1	P/L	S/L_12V_MECHANICAL (V1)
2	L/Y	S/L_COM
3	L/O	S/L_CONDITION_1
5	B	GND
6	B	GND
7	G/Y	S/L_12V_CPU (V2)
8	G/R	S/L_CONDITION_2

Connector No.	M89
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

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

Terminal No.	Color of wire	Signal Name
3	R	–
7	L	–
8	P	–
9	R/L	–

ALKIA0390GB

Terminal No.	Color of wire	Signal Name
11	P/L	ESCL
12	B	P_GND
27	BR/W	IGN_SIGNAL
28	BR	PUSH_START_SW
32	L/O	SL_CONDITION_1
33	G/R	SL_CONDITION_2

Connector No.	E18
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
21G	P/L	–
22G	G/R	–
27G	BR/W	–
28G	L/O	–
29G	BR	–
51G	L	–
52G	P	–
82G	W/B	–

Connector No.	E38
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
1	Y/R	B+
2	R/G	HIGH_SW

Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of wire	Signal Name
39	P	CAN-L
40	L	CAN-H
41	B	S-GND
43	G/B	DETENT_SW

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

ALKIA0392GB

Connector No.	E59
Connector Name	JOINT CONNECTOR-E07
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
7	P	–
8	P	–

Connector No.	E48
Connector Name	JUNCTION BLOCK
Connector Color	WHITE

H.S.

50	49	48	47

Terminal No.	Color of Wire	Signal Name
49	P	–
50	L	–

Connector No.	E47
Connector Name	JUNCTION BLOCK
Connector Color	WHITE

H.S.

42		41
46	45	44	43

Terminal No.	Color of Wire	Signal Name
43	L	CAN-H
44	P	CAN-L

Connector No.	E65
Connector Name	HYBRID VEHICLE CONTROL ECU
Connector Color	BLACK

H.S.

53	54	55	56	57	58	59	60	3	2	1
45	46	47	48	49	50	51	52	6	5	4
37	38	39	40	41	42	43	44			
29	30	31	32	33	34	35	36	9	8	7
21	22	23	24	25	26	27	28			
13	14	15	16	17	18	19	20	12	11	10

Terminal No.	Color of Wire	Signal Name
37	R	SHNP

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

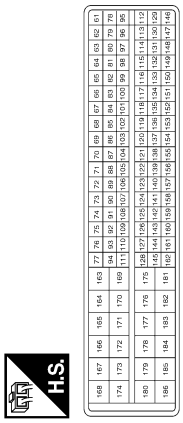
1	2	3		4	5
6	7	8	9	10	11	12

Terminal No.	Color of Wire	Signal Name
3	R	–
7	L	–
8	P	–
9	R/L	–

AWKIA0541GB

Terminal No.	Color of Wire	Signal Name
167	R/B	ST2

Connector No.	E66
Connector Name	HYBRID VEHICLE CONTROL ECU
Connector Color	BLACK



AWKIA0542GB

Fail Safe

INFOID:0000000003303402

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit hybrid system cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit hybrid system cranking	Erase DTC

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit hybrid system cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit hybrid system cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit hybrid system cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit hybrid system cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit hybrid system cranking	Erase DTC
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from brake ECU actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit hybrid system cranking	500 ms after the following CAN signal communication status has become consistent • Starter control relay signal • Starter relay status signal
B2562: LOW VOLTAGE	• Inhibit hybrid system cranking • Inhibit electronic steering column lock	100 ms after the power supply voltage increases to more than 8.8 V
B2563: HI VOLTAGE	• Inhibit hybrid system cranking • Inhibit electronic steering column lock	500 ms after the power supply voltage decreases to less than 18 V
B2601: SHIFT POSITION	Inhibit electronic steering column lock	500 ms after the following signal reception status becomes consistent • Selector lever P position switch signal • P range signal (CAN)
B2602: SHIFT POSITION	Inhibit electronic steering column lock	5 seconds after the following BCM recognition conditions are fulfilled • Ignition switch is in the ON position • Selector lever P position switch signal: Except P position (battery voltage) • Vehicle speed: 4 /h or more
B2603: SHIFT POSI STATUS	Inhibit electronic steering column lock	500 ms after the following BCM recognition conditions are fulfilled • Ignition switch is in the ON position • Selector lever P position switch signal: Except P position (battery voltage) • Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW	Inhibit electronic steering column lock	500 ms after any of the following BCM recognition conditions is fulfilled • Status 1 - Ignition switch is in the ON position - Selector lever P/N position signal: P and N position (battery voltage) - P range signal or N range signal (CAN): ON • Status 2 - Ignition switch is in the ON position - Selector lever P/N position signal: Except P and N positions (0 V) - P range signal and N range signal (CAN): OFF

Display contents of CONSULT	Fail-safe	Cancellation
B2605: PNP SW	Inhibit electronic steering column lock	500 ms after any of the following BCM recognition conditions is fulfilled • Ignition switch is in the ON position - Power position: IGN - Selector lever P/N position signal: Except P and N positions (0 V) - Interlock/PNP switch signal (CAN): OFF • Status 2 - Ignition switch is in the ON position - Selector lever P/N position signal: P or N position (battery voltage) - PNP switch signal (CAN): ON
B2606: S/L RELAY	Inhibit hybrid system cranking	500 ms after the following CAN signal communication status has become consistent • Electronic steering column lock relay signal (Request signal) • Electronic steering column lock relay signal (Condition signal)
B2607: S/L RELAY	Inhibit hybrid system cranking	500 ms after the following CAN signal communication status has become consistent • Electronic steering column lock relay signal (Request signal) • Electronic steering column lock relay signal (Condition signal)
B2608: STARTER RELAY	Inhibit hybrid system cranking	500 ms after the following signal communication status becomes consistent • Starter motor relay control signal • Starter relay status signal (CAN)
B2609: S/L STATUS	• Inhibit hybrid system cranking • Inhibit electronic steering column lock	When the following electronic steering column lock conditions agree • BCM electronic steering column lock control status • Electronic steering column lock condition No. 1 signal status • Electronic steering column lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit hybrid system cranking	500 ms after the following conditions are fulfilled • IGN relay (IPDM E/R) control signal: OFF (Battery voltage) • Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) • Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled • Power position changes to ACC • Receives hybrid system status signal (CAN)
B2612: S/L STATUS	• Inhibit hybrid system cranking • Inhibit electronic steering column lock	When any of the following conditions is fulfilled • Electronic steering column lock unit status signal (CAN) is received normally • The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)
B2617: STARTER RELAY CIRC	Inhibit hybrid system cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit hybrid system cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B2619: BCM	Inhibit hybrid system cranking	1 second after the electronic steering column lock unit power supply output control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit hybrid system cranking	BCM initialization
B26E1: ENG STATE NO RECIV	Inhibit hybrid system cranking	When any of the following conditions is fulfilled • Power position changes to ACC • Receives hybrid system status signal (CAN)

DTC Inspection Priority Chart

INFOID:0000000003303403

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

Priority	DTC
1	• B2562: LOW VOLTAGE • B2563: HI VOLTAGE • B261E: VEHICLE TYPE
2	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM
4	• B2013: ID DISCORD BCM-S/L • B2014: CHAIN OF S/L-BCM • B2553: IGNITION RELAY • B2555: STOP LAMP • B2556: PUSH-BTN IGN SW • B2557: VEHICLE SPEED • B2560: STARTER CONT RELAY • B2601: SHIFT POSITION • B2602: SHIFT POSITION • B2603: SHIFT POSI STATUS • B2604: PNP SW • B2605: PNP SW • B2606: S/L RELAY • B2607: S/L RELAY • B2608: STARTER RELAY • B2609: S/L STATUS • B260A: IGNITION RELAY • B260B: STEERING LOCK UNIT • B260C: STEERING LOCK UNIT • B260D: STEERING LOCK UNIT • B260F: ENG STATE SIG LOST • B2611: ACC RELAY • B2612: S/L STATUS • B2614: ACC RELAY CIRC • B2615: BLOWER RELAY CIRC • B2616: IGN RELAY CIRC • B2617: STARTER RELAY CIRC • B2618: BCM • B2619: BCM • B261A: PUSH-BTN IGN SW • B26E1: ENG STATE NO RECIV • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED SIG

Priority	DTC
5	• C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL • C1734: CONTROL UNIT
6	• B2621: INSIDE ANTENNA • B2622: INSIDE ANTENNA • B2623: INSIDE ANTENNA

DTC Index

INFOID:0000000003303404

NOTE:

Details of time display

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

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	PCS-45
U1010: CONTROL UNIT (CAN)	—	—	—	PCS-46
U0415: VEHICLE SPEED SIG	—	—	—	BCS-38
B2013: ID DISCORD BCM-S/L	×	—	—	SEC-35
B2014: CHAIN OF S/L-BCM	×	—	—	SEC-36
B2190: NATS ANTENNA AMP	×	—	—	SEC-28
B2191: DIFFERENCE OF KEY	×	—	—	SEC-32
B2192: ID DISCORD BCM-ECM	×	—	—	SEC-33
B2193: CHAIN OF BCM-ECM	×	—	—	SEC-34
B2553: IGNITION RELAY	—	—	—	PCS-47
B2555: STOP LAMP	—	—	—	SEC-40

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2556: PUSH-BTN IGN SW	—	×	—	SEC-43
B2557: VEHICLE SPEED	×	×	—	SEC-45
B2560: STARTER CONT RELAY	×	×	—	SEC-46
B2562: LOW VOLTAGE	—	—	—	BCS-39
B2563: HI VOLTAGE	×	×	—	BCS-40
B2601: SHIFT POSITION	×	×	—	SEC-47
B2602: SHIFT POSITION	×	×	—	SEC-51
B2603: SHIFT POSI STATUS	×	×	—	SEC-54
B2604: PNP SW	×	×	—	SEC-58
B2607: S/L RELAY	×	×	—	SEC-60
B2608: STARTER RELAY	×	×	—	SEC-62
B2609: S/L STATUS	×	×	—	SEC-64
B260A: IGNITION RELAY	×	×	—	PCS-49
B260B: STEERING LOCK UNIT	—	×	—	SEC-69
B260C: STEERING LOCK UNIT	—	×	—	SEC-70
B260D: STEERING LOCK UNIT	—	×	—	SEC-71
B260F: ENG STATE SIG LOST	×	×	—	SEC-72
B2611: ACC RELAY	—	—	—	PCS-50
B2612: S/L STATUS	×	×	—	SEC-73
B2614: ACC RELAY CIRC	—	×	—	PCS-52
B2615: BLOWER RELAY CIRC	—	×	—	PCS-55
B2616: IGN RELAY CIRC	—	×	—	PCS-58
B2617: STARTER RELAY CIRC	×	×	—	SEC-78
B2618: BCM	×	×	—	PCS-61
B2619: BCM	×	×	—	SEC-80
B261A: PUSH-BTN IGN SW	—	×	—	SEC-81
B261E: VEHICLE TYPE	×	× (Turn ON for 15 seconds)	—	SEC-84
B2621: INSIDE ANTENNA	—	—	—	DLK-42
B2622: INSIDE ANTENNA	—	—	—	DLK-45
B2623: INSIDE ANTENNA	—	—	—	DLK-48
C1704: LOW PRESSURE FL	—	—	×	WT-8
C1705: LOW PRESSURE FR	—	—	×	WT-8
C1706: LOW PRESSURE RR	—	—	×	WT-8
C1707: LOW PRESSURE RL	—	—	×	WT-8
C1708: [NO DATA] FL	—	—	×	WT-13
C1709: [NO DATA] FR	—	—	×	WT-13
C1710: [NO DATA] RR	—	—	×	WT-13
C1711: [NO DATA] RL	—	—	×	WT-13
C1712: [CHECKSUM ERR] FL	—	—	×	WT-14
C1713: [CHECKSUM ERR] FR	—	—	×	WT-14
C1714: [CHECKSUM ERR] RR	—	—	×	WT-14
C1715: [CHECKSUM ERR] RL	—	—	×	WT-14

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1716: [PRESSDATA ERR] FL	—	—	×	WT-15
C1717: [PRESSDATA ERR] FR	—	—	×	WT-15
C1718: [PRESSDATA ERR] RR	—	—	×	WT-15
C1719: [PRESSDATA ERR] RL	—	—	×	WT-15
C1720: [CODE ERR] FL	—	—	×	WT-14
C1721: [CODE ERR] FR	—	—	×	WT-14
C1722: [CODE ERR] RR	—	—	×	WT-14
C1723: [CODE ERR] RL	—	—	×	WT-14
C1724: [BATT VOLT LOW] FL	—	—	×	WT-14
C1725: [BATT VOLT LOW] FR	—	—	×	WT-14
C1726: [BATT VOLT LOW] RR	—	—	×	WT-14
C1727: [BATT VOLT LOW] RL	—	—	×	WT-14
C1729: VHCL SPEED SIG ERR	—	—	×	WT-16

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

Reference Value

INFOID:0000000003303410

VALUES ON THE DIAGNOSIS TOOL

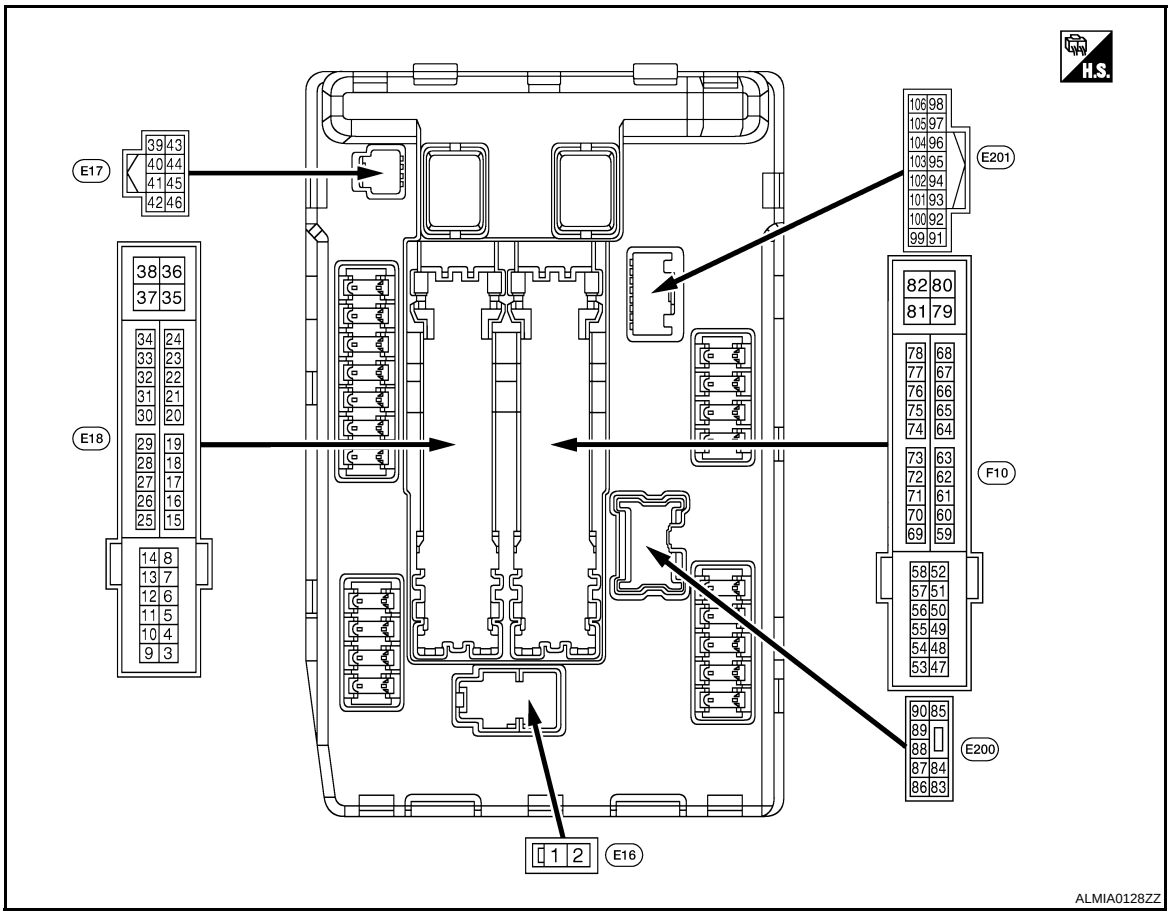
Monitor Item	Condition		Value/Status
RADFAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %
TAIL&CLR REQ	Lighting switch OFF		OFF
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		ON
HL LO REQ	Lighting switch OFF		OFF
	Lighting switch 2ND HI or AUTO (Light is illuminated)		ON
HL HI REQ	Lighting switch OFF		OFF
	Lighting switch HI		ON
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	OFF
		• Front fog lamp switch ON • Daytime light activated (Canada only)	ON
FR WIP REQ	Ignition switch ON	Front wiper switch OFF	STOP
		Front wiper switch INT	1LOW
		Front wiper switch LO	LOW
		Front wiper switch HI	HI
WIP AUTO STOP	Ignition switch ON	Front wiper stop position	STOP P
		Any position other than front wiper stop position	ACT P
WIP PROT	Ignition switch ON	Front wiper operates normally	OFF
		Front wiper stops at fail-safe operation	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		OFF
	Ignition switch ON		ON
IGN RLY	Ignition switch OFF or ACC		OFF
	Ignition switch ON		ON
PUSH SW	Release the push-button ignition switch		OFF
	Press the push-button ignition switch		ON
DETENT SW	Ignition switch ON	• Press the selector button with CVT selector lever in P position • CVT selector lever in any position other than P	OFF
	Release the CVT selector button with CVT selector lever in P position		ON
S/L RLY -REQ	None of the conditions below are present		OFF
	• Open the front door LH after the ignition switch is turned OFF (for a few seconds) • Press the push-button ignition switch when the steering lock is activated		ON

Monitor Item	Condition	Value/Status
S/L STATE	Steering lock is activated	LOCK
	Steering lock is deactivated	UNLK
	[DTC B210A] is detected	UNKWN
DTRL REQ	**NOTE:** This item is displayed, but cannot be monitored.	OFF
OIL P SW	Ignition switch OFF, ACC or engine running	OPEN
	Ignition switch ON	CLOSE
THFT HRN REQ	Not operated	OFF
	• Panic alarm is activated • Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM	ON
HORN CHIRP	Not operated	OFF
	Door locking with Intelligent Key (horn chirp mode)	ON
CRNRNG LMP REQ	**NOTE:** This item is displayed, but cannot be monitored.	OFF

Terminal Layout

INFOID:0000000003303411

TERMINAL LAYOUT



Physical Values

INFOID:0000000003303412

PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (B/Y)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
4 (L/R)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0V
					Front wiper switch LO	Battery voltage
5 (L/B)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0V
					Front wiper switch HI	Battery voltage
6 (SB)	Ground	Daytime light relay power supply (Canada models only)	Output	Ignition switch OFF		Battery voltage
7 (R/L)	Ground	Tail, license plate lamps & interior lamps	Output	Ignition switch ON	Lighting switch OFF	0V
					Lighting switch 1ST	Battery voltage
10 (R/B)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
11 (P/L)	Ground	Steering lock unit power supply	Output	Ignition switch OFF	A few seconds after opening the driver door	Battery voltage
				Ignition switch LOCK	Press the push-button ignition switch	Battery voltage
				Ignition switch ACC or ON		0V
12 (B)	Ground	Ground	—	Ignition switch ON		0V
13 (W)	Ground	Fuel pump power supply	Output	Approximately 1 second or more after turning the ignition switch ON		0V
				• Approximately 1 second after turning the ignition switch ON • Engine running		Battery voltage
15 (BR)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0V
				Ignition switch ON		Battery voltage
16 (L/Y)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position	0V
					Any position other than front wiper stop position	Battery voltage
19 (L/Y)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0V
				Ignition switch ON		Battery voltage
20 (B/Y)	Ground	Ambient sensor ground	—	Ignition switch ON		0V
21 (O/B)	Ground	Ambient sensor	—	Ignition switch ON		5V
22 (W/R)	Ground	Refrigerent pressure sensor ground	—	Ignition switch ON		0V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
23 (B/R)	Ground	Refrigerent pressure sensor	—	• Ignition switch ON (READY) • Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V
24 (BR/ W)	Ground	Refrigerent pressure sensor power supply	—	Ignition switch ON		5V
25 (G/R)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0V
				Ignition switch ON		Battery voltage
27 (BR/ W)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage
				Ignition switch ON		0V
28 (BR)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0V
				Release the push-button ignition switch		Battery voltage
31 (G/W)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0V
				Ignition switch ON		Battery voltage
32 (LG)	Ground	Electronic steering column lock unit condition-1	Input	Electronic steering column lock is activated		0V
				Electronic steering column lock is deactivated		Battery voltage
33 (W)	Ground	Electronic steering column lock unit condition-2	Input	Electronic steering column lock is activated		Battery voltage
				Electronic steering column lock is deactivated		0V
39 (P)	—	CAN-L	Input/ Output	—		—
40 (L)	—	CAN-H	Input/ Output	—		—
41 (B)	Ground	Ground	—	Ignition switch ON		0V
42 (SB)	Ground	Cooling fan relay-1 control	Input	Ignition switch OFF or ACC		0V
				Ignition switch ON		0.7V
43 (G/B)	Ground	ECVT device (Detention switch)	Input	Ignition switch ON	Press the ECVT selector button (ECVT selector lever P)	Battery voltage
					• ECVT selector lever in any position other than P • Release the ECVT selector button (ECVT selector lever P)	0V
44 (G/W)	Ground	Horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0V
45 (L/O)	Ground	Anti theft horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0V
48 (R)	Ground	Heater pump relay power supply	Output	Engine running	Heater pump OFF	0V
					Heater pump ON (Heater pump is operating)	Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
49 (B/R)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
51 (LG)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0V
				Ignition switch ON		Battery voltage
53 (R/W)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
54 (G/W)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
55 (W/L)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage
56 (R/Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0V
				Ignition switch ON		Battery voltage
57 (O)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0V
				Ignition switch ON		Battery voltage
69 (W/B)	Ground	ECM relay control	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		Battery voltage
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 - 1.5V
70 (O)	Ground	Throttle control motor relay control	Output	Ignition switch ON → OFF		0 -1.0V ↓ Battery voltage ↓ 0V
				Ignition switch ON		0 - 1.0V
75 (P/L)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0V
					Engine running	Battery voltage
77 (B/R)	Ground	Fuel pump relay control	Output	• Approximately 1 second after turning the ignition switch ON • Engine running		0 - 1.0V
				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
83 (R/Y)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0V
					Lighting switch 2ND	Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
84 (L)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0V
					Lighting switch 2ND	Battery voltage
86 (W/R)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	• Front fog lamp switch ON • Daytime light activated (Canada only)	Battery voltage
					Front fog lamp switch OFF	0V
87 (L/Y)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	• Front fog lamp switch ON • Daytime light activated (Canada only)	Battery voltage
					Front fog lamp switch OFF	0V
88 (R/W)	Ground	Washer pump power supply	Output	Ignition switch ON		Battery voltage
89 (L/W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	• Lighting switch HI • Lighting switch PASS	Battery voltage
					Lighting switch OFF	0V
90 (G)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	• Lighting switch HI • Lighting switch PASS	Battery voltage
					Lighting switch OFF	0V
91 (LG/ R)	Ground	Parking lamp (RH)	Output	Ignition switch ON	Lighting switch 1ST	Battery voltage
					Lighting switch OFF	0V
92 (LG/ B)	Ground	Parking lamp (LH)	Output	Ignition switch ON	Lighting switch 1ST	Battery voltage
					Lighting switch OFF	0V
97 (V)	Ground	Cooling fan control	Output	Engine idling		0-5V
99 (BR/ W)	Ground	Ambient sensor ground	—	Ignition switch ON		0V
100 (SB)	Ground	Ambient sensor	—	Ignition switch ON		5V
101 (W)	Ground	Refrigerent pressure sensor ground	—	Ignition switch ON		0V
102 (R)	Ground	Refrigerent pressure sensor	—	• Ignition switch ON (READY) • Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V
103 (P)	Ground	Refrigerent pressure sensor power supply	—	Ignition switch ON		5V
105 (V)	Ground	Daytime light relay control (Canada only)	Output	Ignition switch ON	Daytime light system active	Battery voltage
				Ignition switch ON	Daytime light system inactive	0V

Fail Safe

INFOID:0000000003303414

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

Control part	Fail-safe in operation
Cooling fan	• Signals cooling fans ON when the ignition switch is turned ON • Signals cooling fans OFF when the ignition switch is turned OFF
Heater pump	Heater pump relay OFF

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	• Turns ON the headlamp low relay when the ignition switch is turned ON • Turns OFF the headlamp low relay when the ignition switch is turned OFF • Headlamp high relay OFF
• Parking lamps • License plate lamps • Illuminations • Tail lamps	• Turns ON the tail lamp relay when the ignition switch is turned ON • Turns OFF the tail lamp relay when the ignition switch is turned OFF
Front wiper	• The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. • The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Front fog lamps (if equipped)	Front fog lamp relay OFF
Horn	Horn OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Electronic steering column lock unit	Electronic steering column lock relay OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

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

DTC	Ignition switch	Ignition relay	Tail lamp relay
—	ON	ON	—
—	OFF	OFF	—
B2098: IGN RELAY ON	OFF	ON	ON (10 minutes)
B2099: IGN RELAY OFF	ON	OFF	—

NOTE:

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

FRONT WIPER CONTROL

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

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

NOTE:

This operation status can be confirmed on the IPDM E/R “Data Monitor” that displays “BLOCK” for the item “WIP PROT” while the wiper is stopped.

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

INFOID:0000000003303415

CONSULT-III display	Fail-safe	TIME[NOTE]		Refer to
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-15
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-16
B2099: IGN RELAY OFF	—	CRNT	1 – 39	PCS-17
B2108: STRG LCK RELAY ON	—	CRNT	1 – 39	SEC-85
B2109: STRG LCK RELAY OFF	—	CRNT	1 – 39	SEC-86
B210A: STRG LCK STATE SW	—	CRNT	1 – 39	SEC-87

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

SYMPTOM DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SYMPTOMS

Symptom Table

INFOID:0000000003071435

Hybrid system can not be started with all Intelligent Keys.

CAUTION:

- **Follow Trouble Diagnosis Flowchart referring to "SEC-4, "Work Flow"". Determine malfunctioning condition before performing this diagnosis.**
- **Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis.**
- **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.
- Use Intelligent Key with registered Intelligent Key ID.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the passenger compartment.

Diagnosis/service procedure		Reference page
1. Check power supply and ground circuit	BCM	BCS-41
	IPDM E/R	PCS-18
2. Check push button ignition switch		PCS-67
3. Check Intermittent Incident		GI-42

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000003071436

Procedure			Diagnostic procedure	Refer to page
Symptom				
1	Vehicle security system cannot be set by ····	Door switch	Check door switch	DLK-52
		Trunk	Check trunk room lamp switch	DLK-82
		Door outside key	Check key cylinder switch (with LH and RH anti-pinch)	SEC-98
			Check key cylinder switch (with LH anti-pinch only)	SEC-98
		Intelligent Key	Check Intelligent Key.	DLK-112
		—	Check Intermittent Incident	GI-42
	Security indicator does not turn ON.		Check vehicle security indicator	SEC-107
			Check Intermittent Incident	GI-42
2	* Vehicle security system does not sound alarm when ····	Any door is opened.	Check door switch	DLK-52
			Check Intermittent Incident	GI-42
3	Vehicle security alarm does not activate.	Horn alarm	Check horn	SEC-103
			Check Intermittent Incident	GI-42
		Head lamp alarm	Check head lamp alarm	SEC-105
			Check Intermittent Incident	GI-42
4	Vehicle security system cannot be canceled by ····	Door outside key	Check key cylinder switch (with LH and RH anti-pinch)	SEC-98
			Check key cylinder switch (with LH anti-pinch only)	SEC-100
			Check Intermittent Incident	GI-42
		Intelligent Key	Check Intelligent Key	DLK-112
			Check Intermittent Incident	GI-42

*: Check the system is in the armed phase.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

INFOID:0000000003071437

Security indicator does not turn ON or flash.

CAUTION:

- **Follow Trouble Diagnosis Flowchart referring to "SEC-4, "Work Flow"". Determine malfunctioning condition before performing this diagnosis.**
- **Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis.**
- **Check systems shown in the "Action" column in this order.**

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

- Intelligent Key is not inserted into key slot.
- Engine switch is not depressed.

Action	Reference page
1. Check vehicle security indicator	SEC-107
2. Check Intermittent Incident	GI-42

ON-VEHICLE MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

INFOID:0000000003071438

The hybrid system start function, door lock function, power distribution system and NATS-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-186, "Symptom Table".

2.CHECK HYBRID SYSTEM STARTING

1. Checks that the engine starts when operating the Intelligent Key inserted into the key slot.

Does the hybrid system start?

YES >> GO TO 3.
NO >> Refer to SEC-178, "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-52, "Component Function Check".

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 PCS-67, "Component Function 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-181, "Vehicle Security Operation Check".

Vehicle Security Operation Check

INFOID:0000000003071439

1.INSPECTION START

Turn ignition switch “OFF” and pull out Intelligent Key from key slot.
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.

Does the security indicator lamp illuminate?

YES >> GO TO 3.
NO >> Perform diagnosis and repair. Refer to SEC-107, "Component Function Check".

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 trunk lid without Intelligent Key or mechanical 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-179, "Symptom Table".
- Alarm (horn, headlamp and hazard lamp) do not operate. Refer to SEC-179, "Symptom Table".

4.CHECK ALARM CANCEL OPERATION

Unlock any door or open trunk lid using Intelligent Key or mechanical key.

Does the alarm operation (horn, headlamp and hazard lamp) stop?

YES >> INSPECTION END.
NO >> Check door lock function. Refer to DLK-16, "INTELLIGENT KEY : System Description".

ON-VEHICLE REPAIR

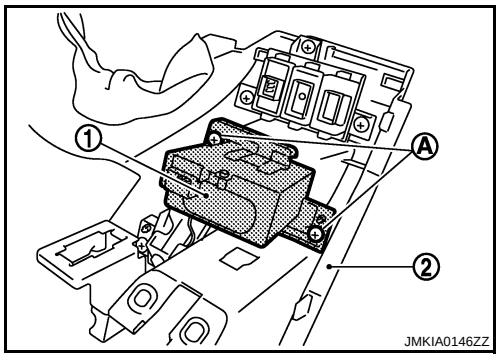
KEY SLOT

Removal and Installation

INFOID:0000000003071440

REMOVAL

1. Remove the instrument lower panel LH (2). Refer to IP-11, "Removal and Installation".
2. Disconnect key slot connector.
3. Remove the key slot mounting screw (A), and then remove key slot (1) from instrument lower panel LH (2).



INSTALLATION

Install in the reverse order of removal.

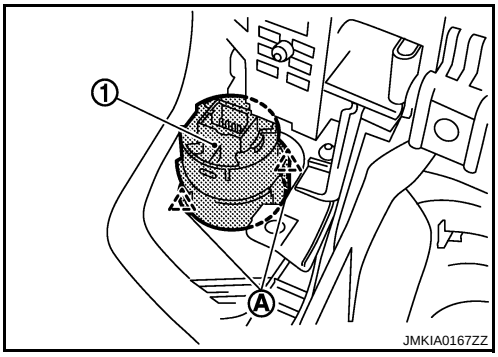
PUSH BUTTON IGNITION SWITCH

Removal and Installation

INFOID:0000000003071441

REMOVAL

1. Remove the cluster lid A assembly. Refer to IP-11, "Removal and Installation".
2. Remove the push-button ignition switch (1) from cluster lid A assembly, and then remove pawl (A). Press push-button ignition switch (1) back to disengage from cluster lid A assembly.



INSTALLATION

Install in the reverse order of removal.