SECTION SEC
SECURITY CONTROL SYSTEM

CONTENTS

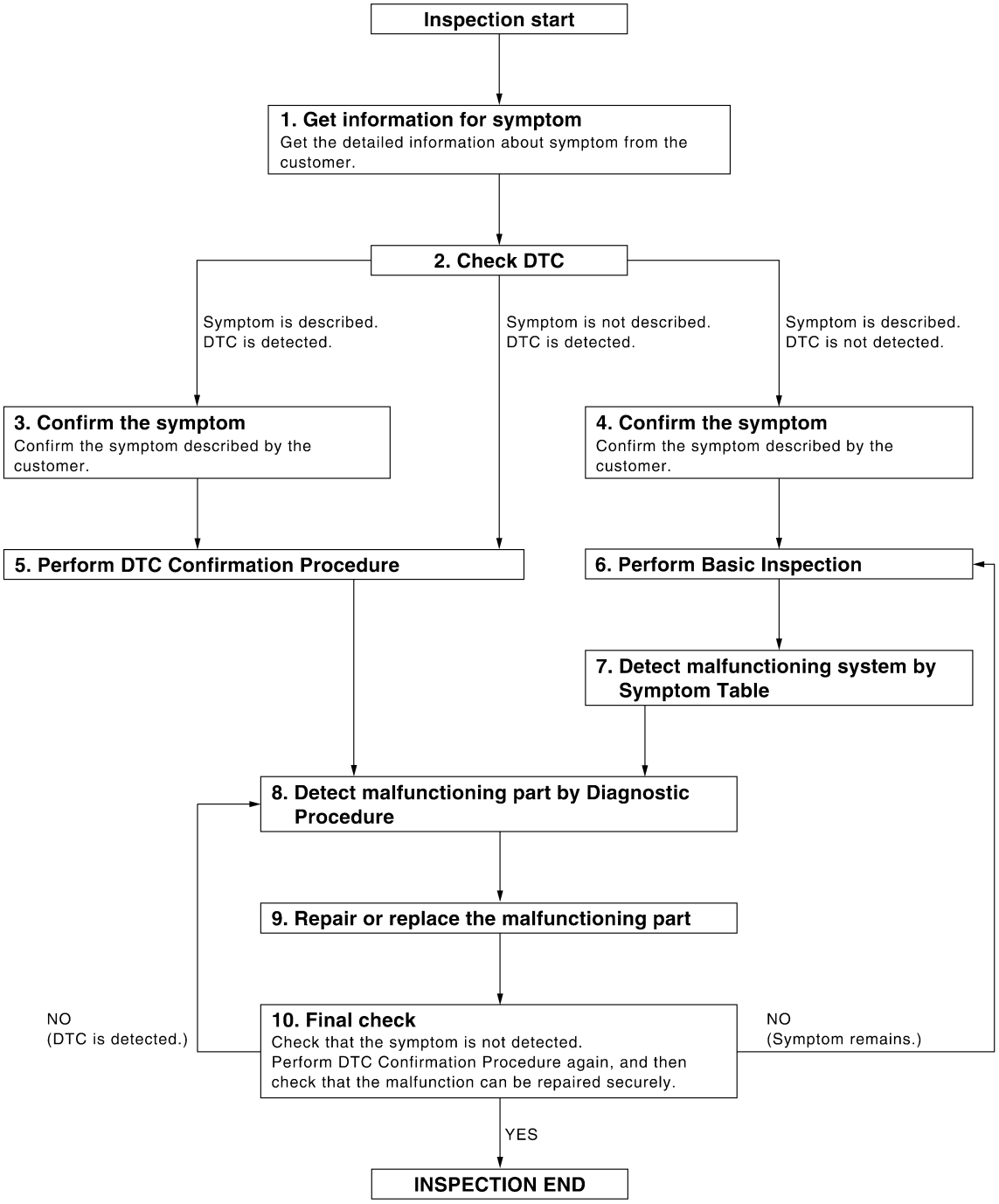
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000004255333

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 relationship 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 relationship 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-170, "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-39, "Intermittent Incident".

6.PERFORM BASIC INSPECTION

Perform SEC-187, "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/engine start function: SEC-184, "Symptom Table".
- Vehicle security system: SEC-185, "Symptom Table".

- Nissan vehicle immobilizer system-NATS: SEC-186, "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 has been fully repaired.

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

Is the inspection result normal?

NO (DTC is detected)>> GO TO 8.
NO (Symptom remains)>> GO TO 6.
YES >> Inspection End.

INSPECTION AND ADJUSTMENT
ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION : Description

INFOID:0000000004255334

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.**
- **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:0000000004255335

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?

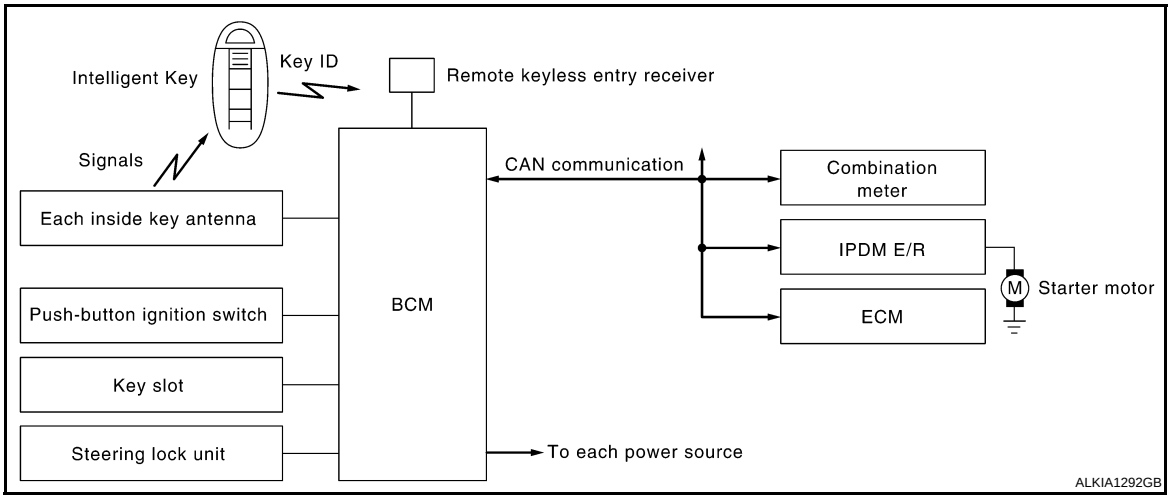
YES >> Procedure is completed.
NO >> Initialize control unit. Refer to CONSULT-III Operation Manual.

FUNCTION DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram

INFOID:0000000004255336



System Description

INFOID:0000000004255337

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 • Starter relay (IPDM E/R) • Starter control relay (IPDM E/R) • Starter motor • KEY warning lamp
CVT device	P range		
TCM	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 initiating the engine 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 system can register up to 4 keys (Including the standard Intelligent Key) on request from the owner.
  NOTE:

- Refer to DLK-20, "INTELLIGENT KEY : System Description" for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

- **In the Intelligent Key system of model A35, the transponder [the chip for NVIS (NATS) ID verification] is integrated into the Intelligent Key. (For the conventional models, it is integrated into the mechanical key.) Therefore, the mechanical key cannot perform the ID verification, and thus it cannot start the engine. Instead, the NVIS (NATS) ID verification can be performed by inserting the Intelligent Key into the key slot, and then it can start the engine.**

OPERATION WHEN INTELLIGENT KEY IS CARRIED

1. When the push-button ignition switch is pressed and brake pedal is depressed, the BCM signals the inside key antenna and transmits the request signal to the Intelligent Key.
2. The Intelligent Key sends the request signal and transmits the Intelligent Key ID signal to the BCM via the remote keyless entry receiver.
3. The BCM 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.
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 starter request signal via CAN communication to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition is satisfied.
13. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
14. Battery power is supplied through the starter relay and the starter control relay to operate the starter motor and to start the cranking.
    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.
15. When BCM received feedback signal from ECM acknowledging the engine has been initiated, the BCM transmits a stop signal to IPDM E/R and stops the cranking by turning OFF the starter motor relay. (If the engine initiating has failed, the cranking will stop automatically within 5 seconds.)
    CAUTION:
    When the Intelligent Key is carried outside of the vehicle (inside key antenna detection area) with the power supply in ACC or ON position, even if the engine start condition* is satisfied, the engine cannot be started.

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

OPERATION RANGE

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

OPERATION WHEN 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 engine can be started.
For details relating to starting the engine using key slot, refer to SEC-9, "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
- CVT selector lever is in the P position

• No Intelligent Key failures (Intelligent Key warning indicator is not ON)

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 in P position and the ignition switch is left in 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 and ignition switch will change to ACC position from OFF position.

STEERING LOCK OPERATION

Steering is locked by steering lock unit when ignition switch is in the OFF position, CVT selector lever is in the P position and any of the following conditions are met:

• Opening door
• Closing door
• Door is locked with request switch
• Door is locked with Intelligent Key

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 or when it is inserted to the key slot, it is equivalent to the operations below.
• When starting the engine, the BCM monitors under the engine start conditions.
- Brake pedal operating condition
- CVT selector lever position
- Vehicle speed
- Steering lock condition
- Engine status
• Unless each start condition is fulfilled, the engine will not respond regardless of how many times the engine switch is pressed. At that time, illumination repeats the position in the order of LOCK→ACC→ON→OFF.

Power supply position	Engine start/stop condition		Push-button ignition switch operation frequency
	Brake pedal	CVT 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 Vehicle speed < 4 km/h (2 MPH)	1
Engine is running → ACC (Engine stop)	—	Any position other than P (*2)	1
Engine stall return operation while driving	—	P position	1

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

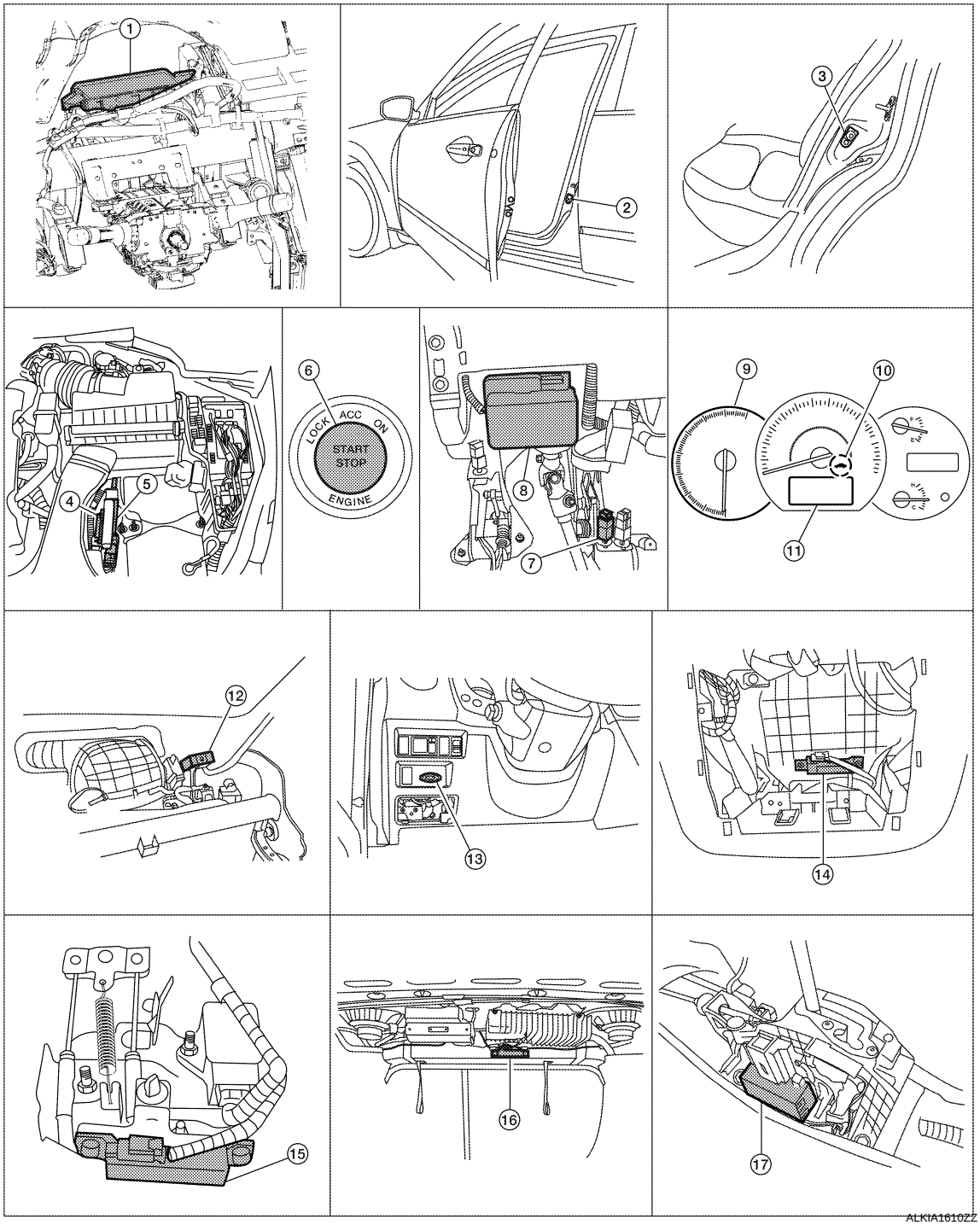
• At vehicle speed of 4 km/h (2 MPH) or less, the engine can start only when the brake pedal is depressed.
• At vehicle speed of 4 km/h (2 MPH) or more, the engine can start even if the brake pedal is not depressed. (It is the same as “Engine stall return operation while driving”.)

*2: When the CVT selector lever position is in any position other than P position and when the vehicle speed is 5 km/h (3 MPH) 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:0000000004255338



1. BCM M16, M17, M18, M19, M21 (view with instrument panel removed)
2. Front door switch LH B8 RH B108
3. Rear door switch LH B18 RH B116
4. TCM F15
5. ECM E10
6. Push button ignition switch M38
7. Stop lamp switch E38 (view with lower driver instrument panel removed)
8. Electronic steering column lock M32 (steering column)
9. Combination meter M24

10. Security indicator lamp
11. Information display
12. Remote keyless entry receiver M27 (view with instrument panel removed)
13. Key slot M40
14. Instrument panel antenna M49 (view with instrument panel removed)
15. Front console antenna M41 (view with center console removed)
16. Rear parcel shelf antenna B29
17. CVT device M78

Component Description

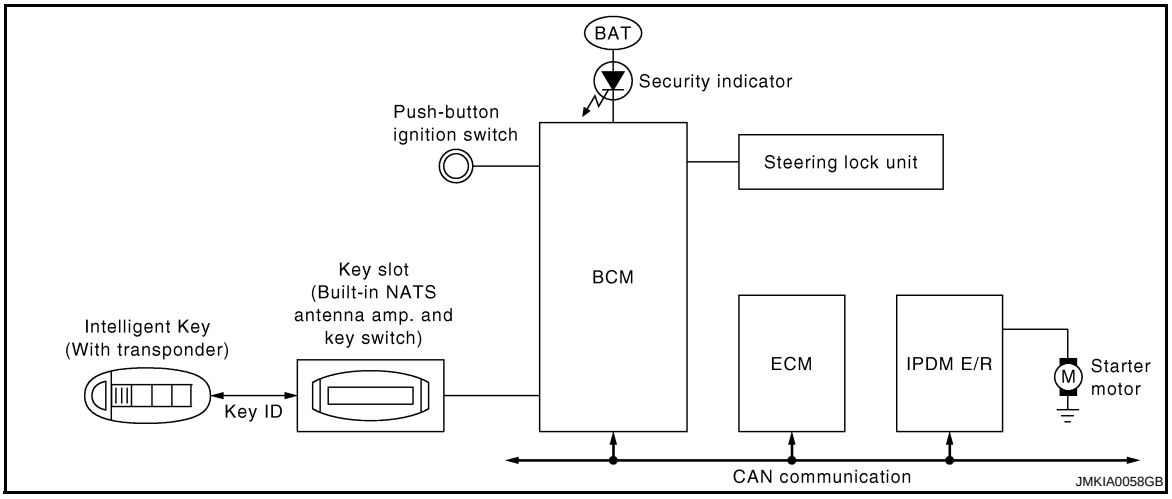
INFOID:0000000004255339

Component	Reference
BCM	SEC-78
Steering lock unit	SEC-67
Push-button ignition switch	SEC-42
Door switch	DLK-68
CVT device	SEC-46
Inside key antenna	DLK-57
Remote keyless entry receiver	DLK-109
Stop lamp switch	SEC-40
Steering lock relay	SEC-82
Starter relay	SEC-89
Starter control relay	SEC-87
Security indicator	SEC-108
Key warning lamp	SEC-107

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram

INFOID:0000000004255340



System Description

INFOID:0000000004255341

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 • Starter relay (IPDM E/R) • Starter control relay (IPDM E/R) • Starter motor • KEY warning lamp • Security indicator lamp
CVT device	P range		
TCM	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 into the vehicle, it prevents the engine being started by an unregistered Intelligent Key. It has a higher protection against auto thefts than duplicate mechanical keys.
- It performs the ID verification when starting the engine 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 A35 is not the same as the conventional models. The mechanical key integrated in the Intelligent Key cannot start the engine. 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 engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator and apply the anti-theft system equipment sticker, forewarning that the NVIS (NATS) is onboard with the model.
- The security indicator always blinks when the Intelligent Key is removed from the key slot and when the power supply position is in LOCK position.
- Intelligent Key can be registered up to 4 keys (Including the standard ignition key) on request from the owner.
- The specified registration is required when replacing ECM, BCM or Intelligent Key. For registration procedure for NVIS (NATS) and registration procedure for Intelligent Key when installing the BCM, refer to CONSULT-III Operation Manual.
- Possible symptom of NVIS (NATS) malfunction is “Engine cannot start”. In A35, the engine can be started with the Intelligent Key system and NVIS (NATS). Identify the possible causes according to “Work Flow”. Refer to SEC-5, "Work Flow".

- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-8, "ECM RE-COMMUNICATING FUNCTION : 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, perform 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 engine cannot be started by inserting the key into the key slot. When performing the NVIS (NATS) registration only, the engine cannot be started by the operation when carrying the key. The registrations of both systems should be performed.

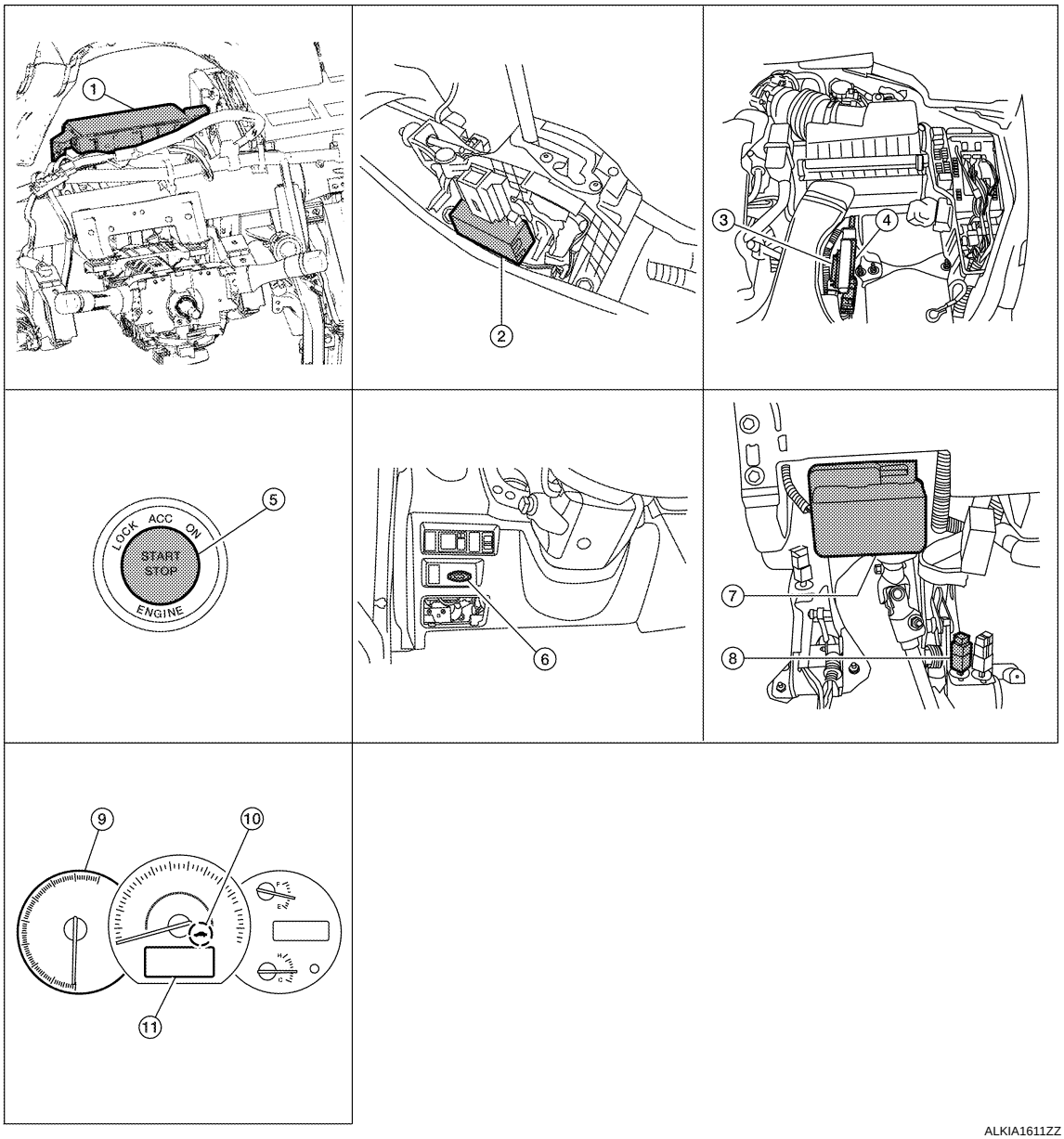
SECURITY INDICATOR

- 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:0000000004255342



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1. BCM M16, M17, M18, M19, M21 (view with instrument panel removed)
2. CVT device M78
3. TCM F15
4. ECM E10
5. Push button ignition switch M38
6. Key slot M40
7. Electronic steering column lock M32 (steering column)
8. Stop lamp switch E38 (view with lower LH instrument panel removed)
9. Combination meter M24
10. Security indicator lamp
11. Information display

Component Description

INFOID:0000000004255343

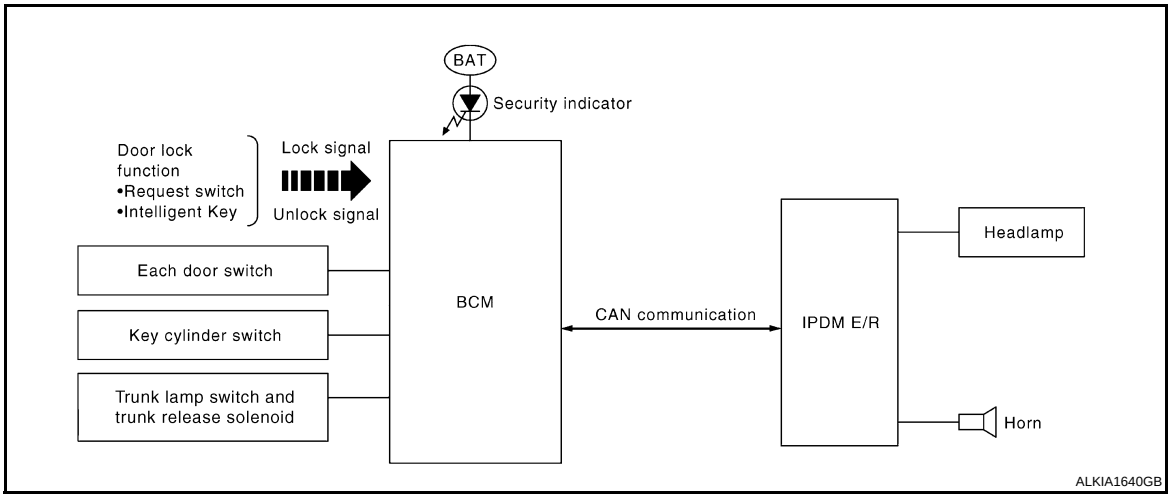
Component	Reference
BCM	SEC-78
Electronic steering column lock	SEC-67
Push-button ignition switch	SEC-79

Component	Reference
Door switch	DLK-68
CVT device	SEC-46
Inside key antenna	DLK-57
Remote keyless entry receiver	DLK-109
Stop lamp switch	SEC-40
Park/neutral position switch	SEC-54
Steering lock relay	SEC-81
Starter relay	SEC-61
Starter control relay	SEC-45
Security indicator	SEC-108
Key warning lamp	SEC-107

VEHICLE SECURITY SYSTEM

System Diagram

INFOID:0000000004255344



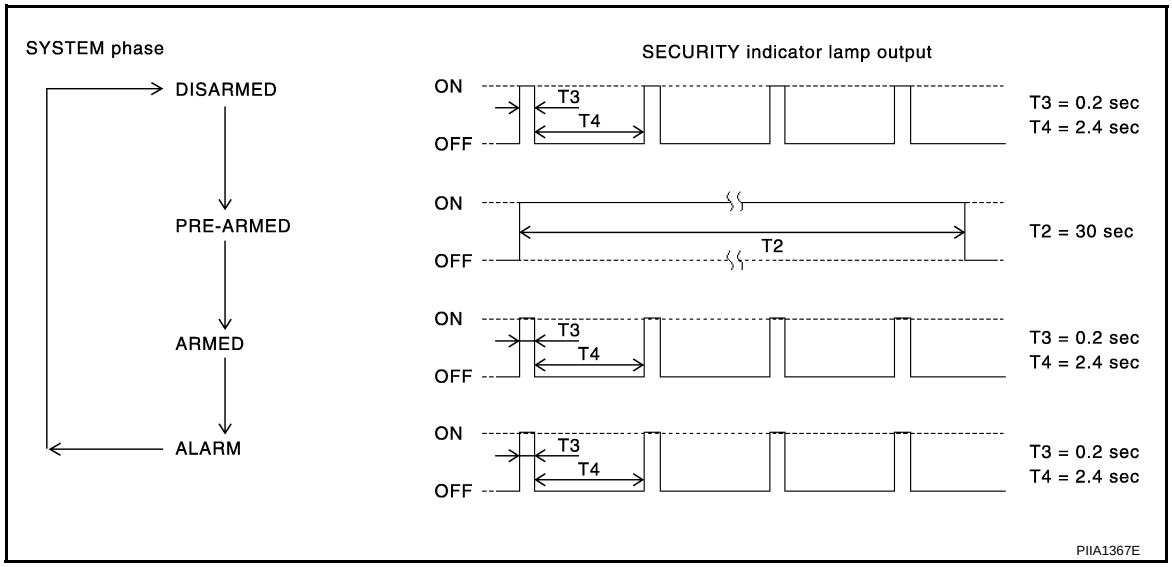
System Description

INFOID:0000000004255345

INPUT/OUTPUT SIGNAL CHART

Switch	Input signal to BCM	BCM system	Actuator
All door switches	Open or close	Vehicle security system	• IPDM E/R • Head lamp • Horn • Security indicator lamp
Trunk lamp switch and trunk release solenoid			
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 to “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.

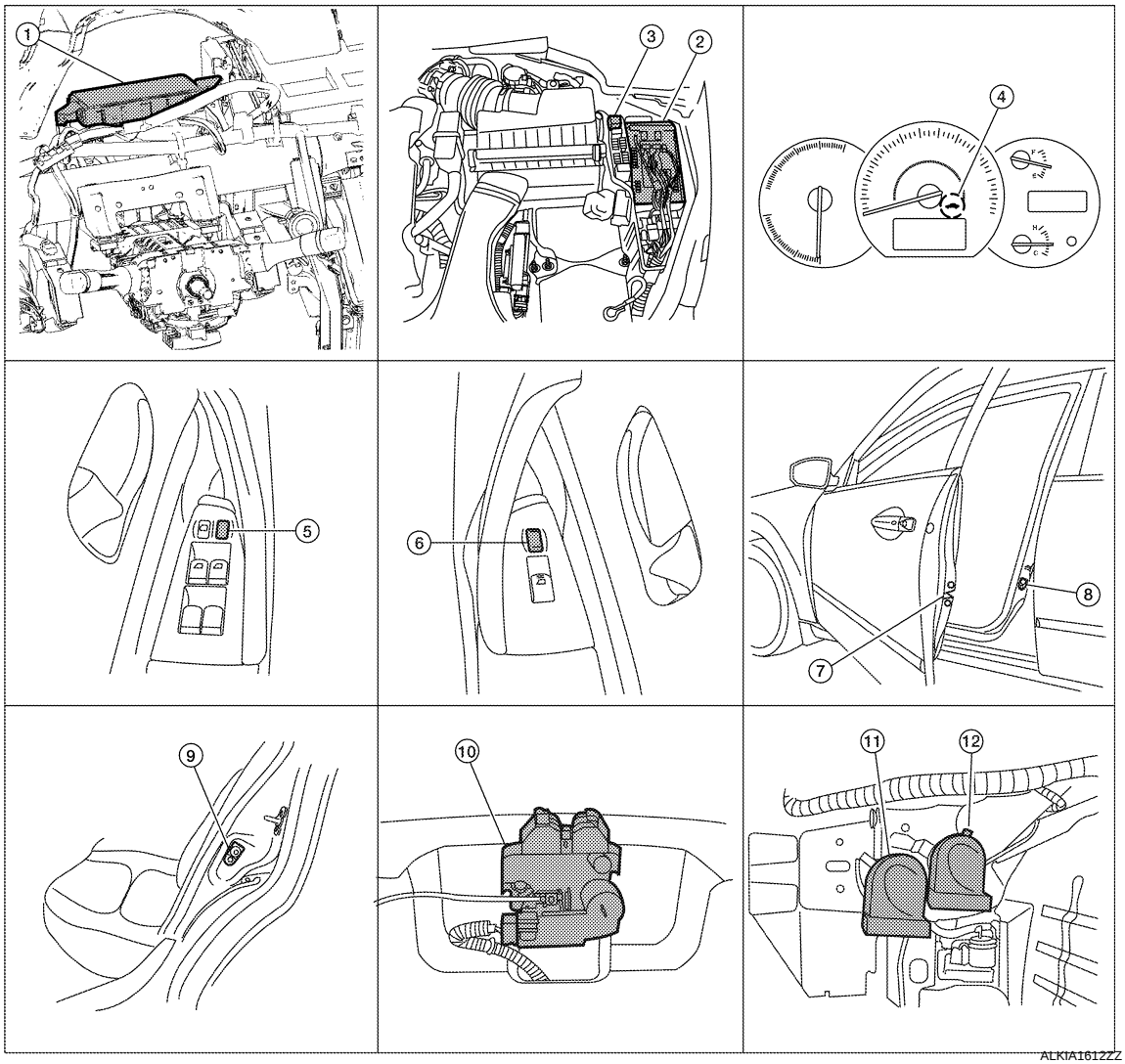
1. Trunk or any door is opened during armed phase.
2. Disconnecting and connecting the battery connector before canceling armed phase.

PANIC ALARM OPERATION

Intelligent Key system will not operate horn and headlamps if the ignition switch is in the ACC or ON position.
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:0000000004255346



1. BCM M16, M17, M18, M19, M21 (view with instrument panel removed)
2. IPDM E/R E17, E18
3. Horn relay H-1
4. Security indicator lamp
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 T7
11. Horn (low) E215 (view with front fender protector LH removed)
12. Horn (high) E216

Component Description

INFOID:0000000004255347

Component	Reference
BCM	SEC-18
Horn relay	SEC-104
Security indicator	SEC-108
Door switch	DLK-68
Door lock actuator	DLK-98

Component	Reference
Trunk lid lock assembly	DLK-102
Door key cylinder switch	DLK-78
Door lock and unlock switch	DLK-71

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

INFOID:0000000004291550

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	HEADLAMP	×	×	×
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:0000000004291551

ECU IDENTIFICATION
Displays the BCM part No.

SELF-DIAG RESULT
Refer to BCS-82, "DTC Index".

INTELLIGENT KEY

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

INFOID:0000000004291552

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
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode.
AUTO LOCK SET	Auto door lock time can be changed in this mode. • MODE 1: 1 minute • MODE 2: 5 minutes • MODE 3: 30 seconds • MODE 4: 2 minutes
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) with 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
PW DOWN SET	Unlock button pressing time on Intelligent Key button to lower front windows 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: No delay
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.
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode.
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.
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.

SELF-DIAG RESULT

Refer to BCS-82, "DTC Index".

DATA MONITOR

Monitor Item	Condition
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 RLY1-F/B	Indicates [ON/OFF] condition of accessory relay.
CLUTCH SW	**NOTE:** This item is displayed, but cannot be monitored.
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 from IPDM E/R via CAN.
IGN RLY1-F/B	Indicates [ON/OFF] condition of ignition relay 1 from IPDM E/R via CAN.
DETE SW -IPDM	Indicates [ON/OFF] condition of P position from TCM via CAN.
SFT PN -IPDM	Indicates [ON/OFF] condition of P or N position from TCM via CAN.
SFT P -MET	Indicates [ON/OFF] condition of P position from TCM via CAN.
SFT N -MET	Indicates [ON/OFF] condition of N position from IPDM E/R via CAN.
ENGINE STATE	Indicates [STOP/START/CRANK/RUN] condition of engine states from ECM via CAN.
S/L LOCK-IPDM	Indicates [ON/OFF] condition of steering lock (LOCK) request from IPDM E/R via CAN.
S/L UNLOCK-IPDM	Indicates [ON/OFF] condition of steering lock (UNLOCK) request from IPDM E/R via CAN.
S/L RELAY-REQ	Indicates [ON/OFF] condition of steering lock relay from IPDM E/R via CAN.
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 VDC or CVT by numerical value [Km/h].
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver side door status.
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] condition of passenger side door status.
ID OK FLAG	Indicates [SET/RESET] condition of key ID.
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.
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.

Monitor Item	Condition
RKE OPE COUN2	**NOTE:** This item is displayed, but cannot be monitored.
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 by combination meter operation. • Take out 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 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.
P RANGE	This test is able to check CVT device power supply CVT device power is supplied when “ON” on CONSULT-III screen is touched.
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 INDICATOR	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.

Test item	Description
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.

IMMU

IMMU : CONSULT-III Function (BCM - IMMU)

INFOID:0000000004291555

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 operation [ON/OFF].

THEFT ALM

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

INFOID:0000000004291553

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.

DATA MONITOR

Monitored Item	Description
REQ SW -DR	Indicates [ON/OFF] condition of front door request switch (driver side).
REQ SW -AS	Indicates [ON/OFF] condition of front door request switch (passenger side).
REQ SW -RR	Indicates [ON/OFF] condition of rear door request switch (passenger side.
REQ SW -RL	Indicates [ON/OFF] condition of rear door request switch (driver side).
REQ SW -BD/TR	Indicates [ON/OFF] condition of trunk request switch.
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch

Monitored Item	Description
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	**NOTE:** 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	**NOTE:** This is displayed even when it is not equipped.
TR/BD OPEN SW	Indicates [ON/OFF] condition of trunk opener switch.
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.

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.

COMPONENT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000004255353

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
CAN Communication Signal Chart, refer to LAN-24, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000004255354

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000004255355

1.PERFORM SELF DIAGNOSTIC

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

Is “CAN COMM CIRCUIT” displayed?

YES >> Refer to LAN-7, "CAN Communication Control Circuit".
NO >> Refer to GI-39, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000004255356

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:0000000004255357

1. REPLACE BCM

When DTC U1010 is detected, replace BCM.

>> Replace BCM. Refer to BCS-87, "Removal and Installation".

B2013 ID DISCORD, IMMU-STRG

Description

INFOID:0000000004255358

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:0000000004255359

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-30, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255360

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 >> Replace steering wheel lock unit.

B2014 CHAIN OF STRG-IMMU

Description

INFOID:0000000004255361

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:0000000004255362

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?

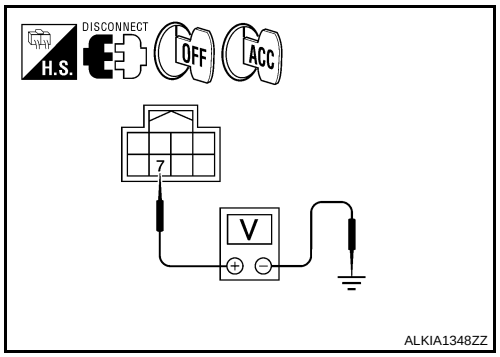
YES >> Refer to SEC-31, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255363

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 while turning ignition switch from OFF to ACC.



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

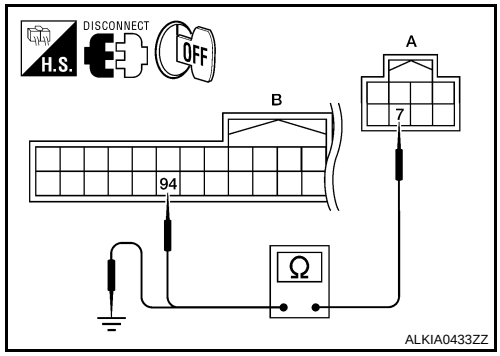
Is the inspection result normal?

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.

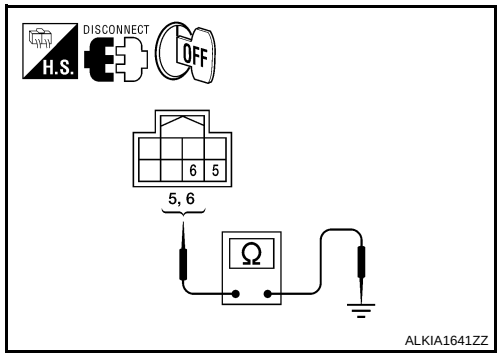
Steering lock unit		Ground	Continuity
Connector	Terminal		
A: M32	7	Ground	No

Is the inspection result 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.



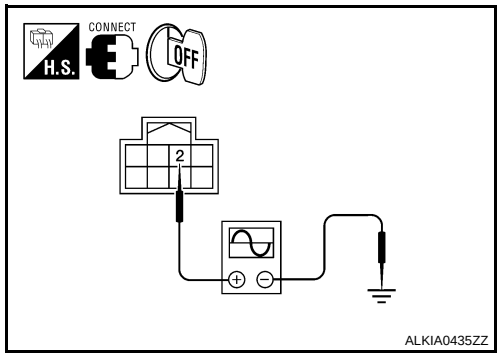
Steering lock unit		Ground	Continuity
Connector	Terminal		
M32	5	Ground	Yes
	6		

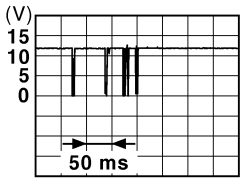
Is the inspection result normal?

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

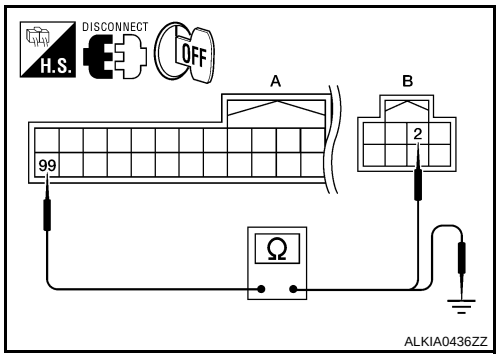
Steering is locked : Opening the door when ignition switch is ON to OFF.
Steering is unlocked : Ignition switch is OFF to ACC.

Is the inspection result 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.



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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-39, "Intermittent Incident".

>> Inspection End.

B2190, P1610 NATS ANTENNA AMP

Description

INFOID:0000000004255364

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:0000000004255365

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190 P1610	NATS ANTENNA AMP	Inactive communication between key slot and BCM.	• Harness or connectors (The key slot circuit is open or shorted) • Key slot • BCM

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-34, "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-34, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255366

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.

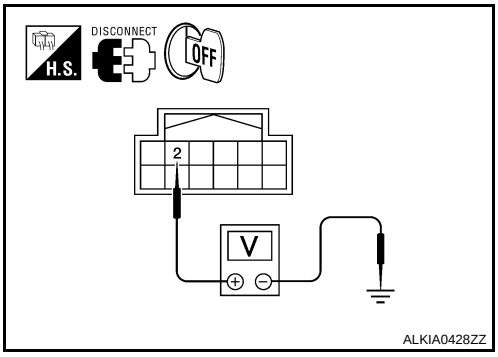
In which case is DTC detected?

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



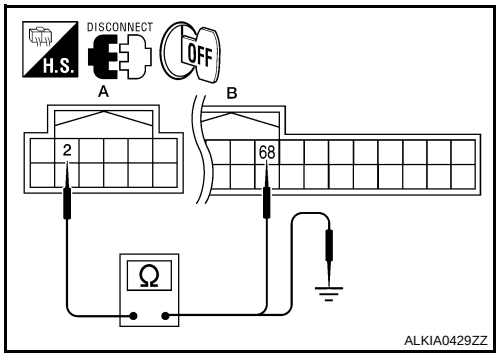
Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-189, "Removal and Installation".
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.

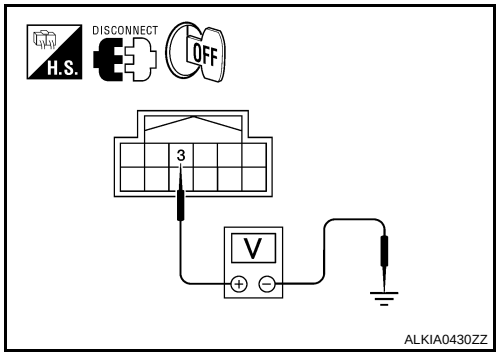
Does ignition switch turn to ON?

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



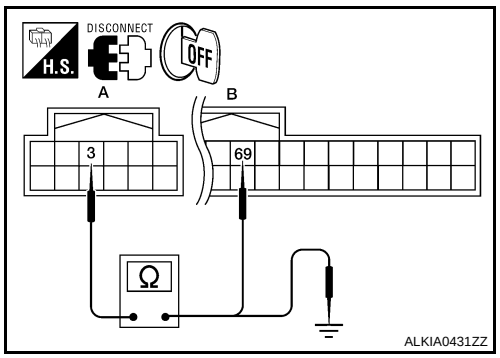
Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-189, "Removal and Installation".
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.

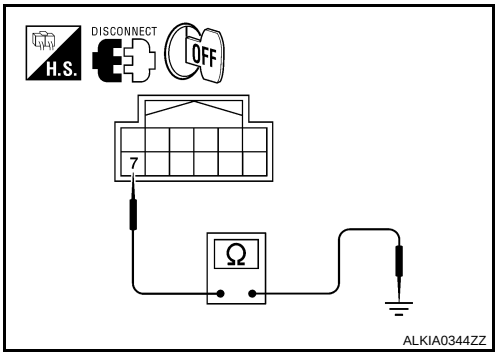
Key slot		Ground	Continuity
Connector	Terminal		
A: M40	3	Ground	No

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-39, "Intermittent Incident".

>> Inspection End.

B2191, P1615 DIFFERENCE OF KEY

Description

INFOID:0000000004255367

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:0000000004255368

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-37, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255369

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 the engine be started with re-registered Intelligent Key?

YES >> Intelligent Key was unregistered.
NO >> BCM is malfunctioning.
- Replace BCM. Refer to BCS-87, "Removal and Installation".
- Perform initialization again.

B2192, P1611 ID DISCORD, IMMU-ECM

Description

INFOID:0000000004255370

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

DTC Logic

INFOID:0000000004255371

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions:
- 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-38, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255372

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 the engine be started with re-registered Intelligent Key?

YES >> ID was unregistered.
NO >> BCM is malfunctioning.
- Replace BCM. Refer to BCS-87, "Removal and Installation".
- Perform initialization again.
- Replace ECM.

B2193, P1612 CHAIN OF ECM-IMMU

Description

INFOID:0000000004255373

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

DTC Logic

INFOID:0000000004255374

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions:
- CVT 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-39, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255375

1. REPLACE BCM

1. Replace BCM. Refer to BCS-87, "Removal and Installation".
2. Perform initialization with CONSULT-III.
   For initialization, refer to “CONSULT-III Operation Manual.

Does the engine start?

YES >> BCM is malfunctioning.
- Replace BCM. Refer to BCS-87, "Removal and Installation".
- Perform initialization again.

NO >> ECM is malfunctioning.
- Replace ECM.
- Perform ECM re-communicating function.

B2555 STOP LAMP

Description

INFOID:0000000004255376

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:0000000004255377

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.

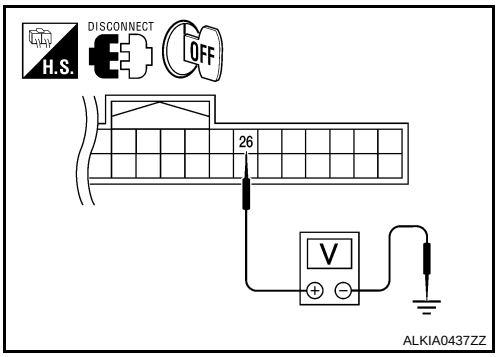
Diagnosis Procedure

INFOID:0000000004255378

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



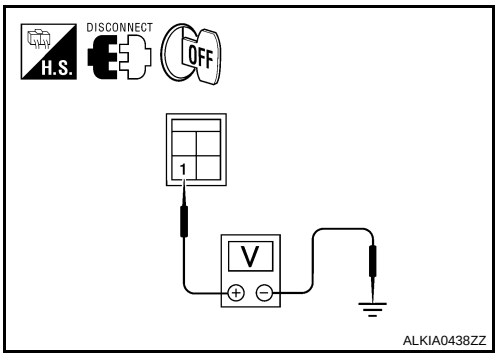
Is the inspection result normal?

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

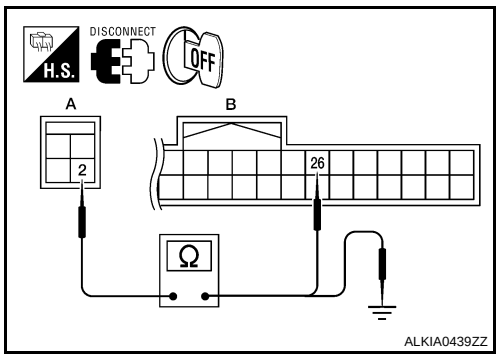


Is the inspection result normal?

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-41, "Component Inspection".

Is the inspection result normal?

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

5.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

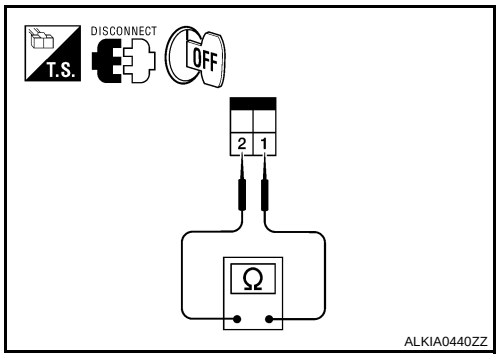
>> Inspection End.

Component Inspection

INFOID:0000000004255379

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:0000000004255380

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:0000000004255381

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-42, "Diagnosis Procedure".
NO >> Inspection End.

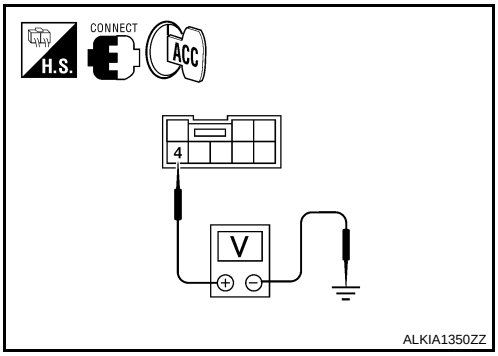
Diagnosis Procedure

INFOID:0000000004255382

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 result normal?

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

2.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-43, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 3
NO >> Replace push-button ignition switch. Refer to SEC-190, "Removal and Installation".

3.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

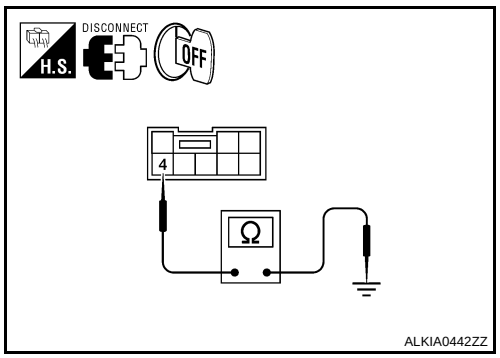
>> Inspection End.

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 result normal?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".

NO >> Repair harness or connector.

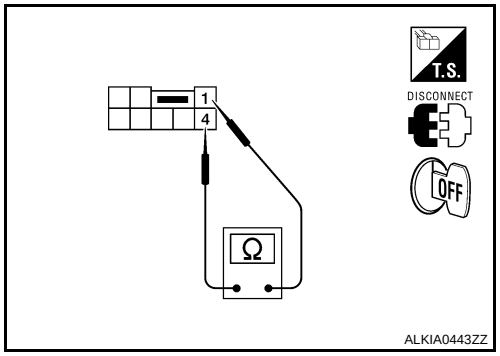
Component Inspection

INFOID:0000000004255383

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-190, "Removal and Installation".

B2557 VEHICLE SPEED

Description

INFOID:0000000004255384

BCM receives the 2 vehicle speed signals via CAN communication. One signal is transmitted by the “unified 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:0000000004255385

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "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 10 km/h or more and the other is 4 km/h or less.	• Wheel sensor • Unified 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-44, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255386

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

Check “Self Diagnostic Result” with CONSULT-III. Refer to BRC-88, "DTC No. Index".

Is the inspection result normal?

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

2.CHECK UNIFIED METER.

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

>> Inspection End.

B2560 STARTER CONTROL RELAY

Description

INFOID:0000000004255387

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in N or P position and the steering is locked or unlocked. It is installed in parallel with the starter relay.

DTC Logic

INFOID:0000000004255388

DTC DETECTION LOGIC

NOTE:

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC	Self-diagnosis name	DTC detecting condition	Possible causes
B2560	STARTER CONTROL RELAY	BCM detects a mismatch between the OFF request of starter control relay to IPDM E/R and the feedback. (The feedback is ON instead of OFF.)	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions and wait for at least 2 seconds:
- CVT 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-45, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255389

1.CHECK DTC WITH IPDM E/R

Check “Self Diagnostic Result” with CONSULT-III. Refer to PCS-37, "DTC Index".

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2601 SHIFT POSITION

Description

INFOID:0000000004255390

BCM confirms the shift position with the following 2 signals.
- CVT selector lever
- P position signal from IPDM E/R (CAN)

DTC Logic

INFOID:0000000004255391

DTC DETECTION LOGIC

NOTE:
- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".
- If DTC B2601 is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to SEC-56, "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 IPDM E/R via CAN communication continues for 2 seconds or more	• Harness or connectors (CVT device circuit is open or shorted.) • CVT device

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

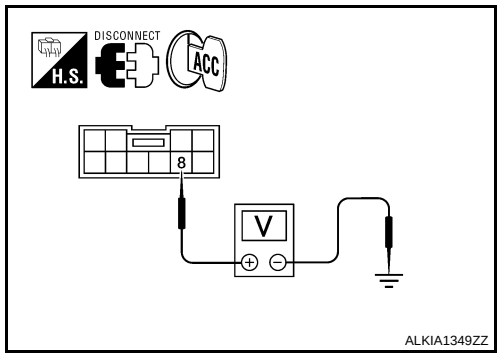
YES >> Refer to SEC-46, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255392

1.CHECK CVT DEVICE POWER SUPPLY

1. Turn ignition switch to ACC.
2. Disconnect CVT device harness connector.
3. Check voltage between CVT device harness connector and ground.



CVT device (park position switch)		Ground	Voltage [V]
Connector	Terminal		
M78	8	Ground	Battery voltage

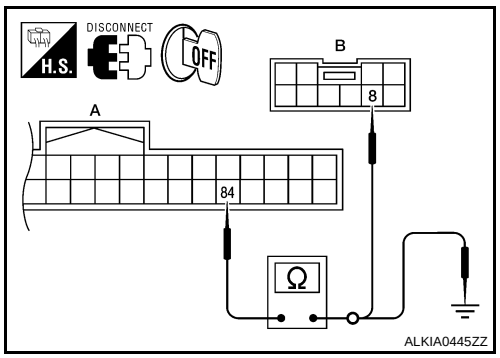
Is the inspection result normal?

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

2.CHECK CVT DEVICE POWER SUPPLY CIRCUIT

1. Disconnect BCM harness connector.

2. Check continuity between BCM harness connector M19 (A) terminal 84 and CVT device harness connector M78 (B) terminal 8.



BCM		CVT device (park position switch)		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	84	B: M78	8	Yes

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

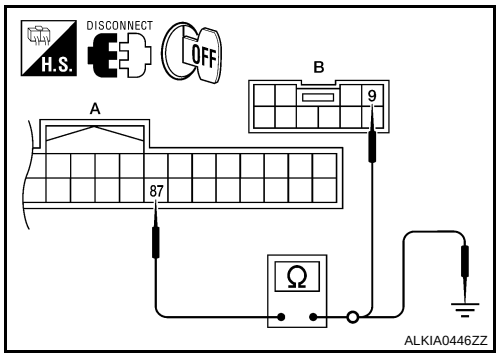
BCM		Ground	Continuity
Connector	Terminal		
A: M19	84	Ground	No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".
NO >> Repair harness or connector.

3.CHECK CVT 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 CVT device harness connector M78 (B) terminal 9.



BCM		CVT device (park position switch)		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	87	B: M78	9	Yes

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

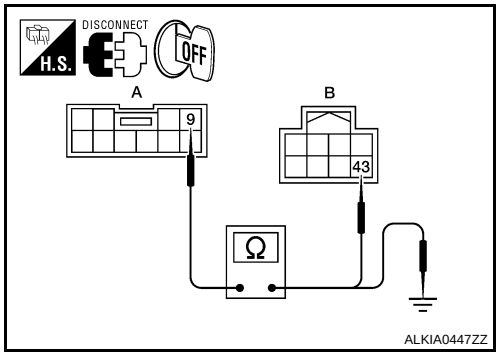
BCM		Ground	Continuity
Connector	Terminal		
A: M19	87	Ground	No

Is the inspection result normal?

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

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

1. Disconnect BCM harness connector.
2. Check continuity between CVT device harness connector M78 (A) terminal 9 and IPDM E/R harness connector E17 (B) terminal 43.



CVT device (park position switch)		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M78	9	B: E17	43	Yes

3. Check continuity between CVT device harness connector M78 (A) terminal 9 and ground.

CVT device (park position switch)		Ground	Continuity
Connector	Terminal		
A: M78	9	Ground	No

Is the inspection result normal?

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

5.CHECK CVT DEVICE

Refer to SEC-48, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CVT device. Refer to TM-168, "Removal and Installation".

6.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

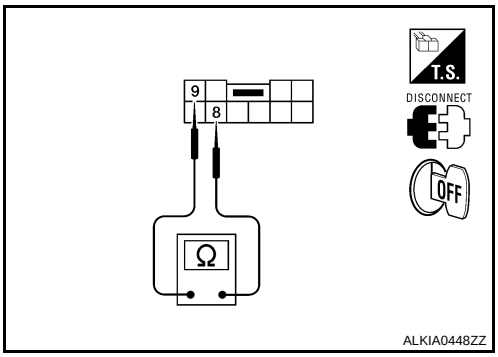
Component Inspection

INFOID:0000000004255393

1.CHECK CVT DEVICE

1. Turn ignition switch OFF.
2. Disconnect CVT device harness connector.
3. Check continuity between CVT device terminals as follows.

CVT device (park position switch)		Condition		Continuity
Terminal				
8	9	CVT selector lever	P position	No
			Other than above	Yes



Is the inspection result normal?

YES >> Inspection End.
NO >> Replace CVT device. Refer to TM-168, "Removal and Installation".

B2602 SHIFT POSITION

Description

INFOID:0000000004255394

BCM confirms the shift position with the following 2 signals.
- CVT selector lever
- Speed signal from meter

DTC Logic

INFOID:0000000004255395

DTC DETECTION LOGIC

NOTE:
- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT POSITION	BCM detects the following status for 10 seconds. • Shift position is in P position • Vehicle speed is 4km/h (2 MPH) or more • Ignition switch is in the ON position	• Harness or connectors (CVT drive circuit is open or shorted) • CVT device • Combination meter

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine under the following conditions and wait for at least 10 seconds.
- CVT selector lever is in the P or N position
- Depress the brake pedal.
2. Drive the vehicle for at least 10 seconds at a speed greater than 4 km/h (2 MPH).
3. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-49, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255396

1.CHECK DTC WITH “COMBINATION METER”

Check “Self diagnostic result” with CONSULT-III. Refer to PCS-37, "DTC Index".

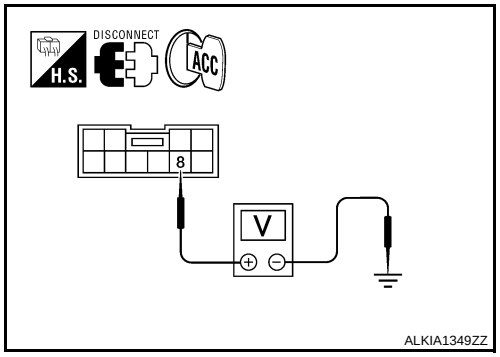
Is the inspection result normal?

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

2.CHECK CVT DEVICE POWER SUPPLY

1. Turn ignition switch to ACC.
2. Disconnect CVT device harness connector.
3. Check voltage between CVT device harness connector and ground.

CVT device		Ground	Voltage [V]
Connector	Terminal		
M78	8	Ground	Battery voltage

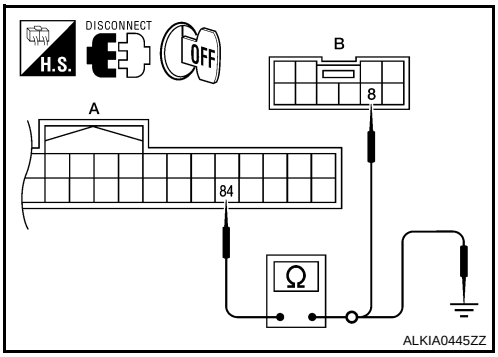


Is the inspection result normal?

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

3.CHECK CVT DEVICE POWER SUPPLY CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 84 and CVT device harness connector M78 (B) terminal 8.



BCM		CVT device		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	84	B: M78	8	Yes

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

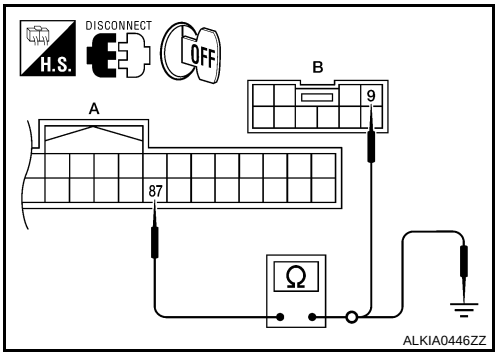
BCM		Ground	Continuity
Connector	Terminal		
A: M19	84	Ground	No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".
NO >> Repair harness or connector.

4.CHECK CVT DEVICE CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between CVT device harness connector and BCM harness connector.



BCM		CVT device		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	87	B: M78	9	Yes

3. Check continuity between CVT device 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 CVT DEVICE

Refer to SEC-48, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CVT device. Refer to TM-168, "Removal and Installation".

6.CHECK INTERMITTETNT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2603 SHIFT POSITION STATUS

Description

INFOID:0000000004255397

BCM confirms the shift position with the following 2 signals.
- CVT selector lever
- P/N position switch

DTC Logic

INFOID:0000000004255398

DTC DETECTION LOGIC

NOTE:
- If DTC B2603 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2603 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "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 • CVT device: approx 0V	• Harness or connector (CVT device circuit is open or shorted.) • Harness or connectors [Park/neutral position (PNP) switch circuit is open or shorted.] • CVT device • 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.
- CVT selector lever is in the P position.
- Do not depress the brake pedal.
2. Shift to N and wait for at least 1 second.
3. Shift to any gear other than P or N and wait for at least 1 second.
4. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-51, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255399

1.CHECK DTC WITH IPDM E/R

Check “Self diagnostic result” with CONSULT-III. Refer to PCS-37, "DTC Index".

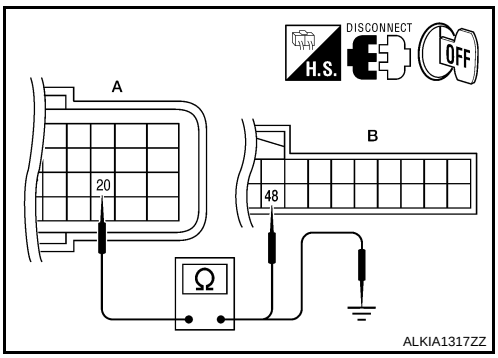
Is the inspection result normal?

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

2.CHECK PNP SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TCM harness connector and BCM harness connector.

3. Check continuity between TCM harness connector F16 (A) terminal 20 and BCM harness connector M18 (B) terminal 48.



TCM		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: F16	20	B: M18	48	Yes

4. Check continuity between TCM harness connector F16 (A) terminal 20 and ground.

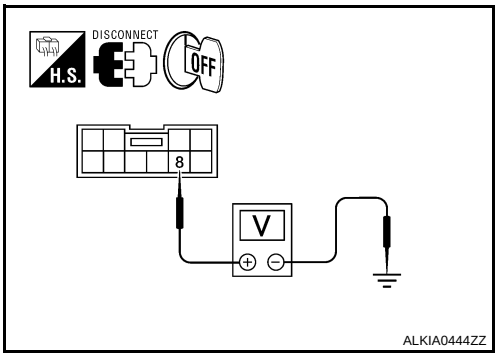
TCM		Ground	Continuity
Connector	Terminal		
A: F16	20	Ground	No

Is the inspection result normal?

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

3.CHECK CVT DEVICE POWER SUPPLY

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



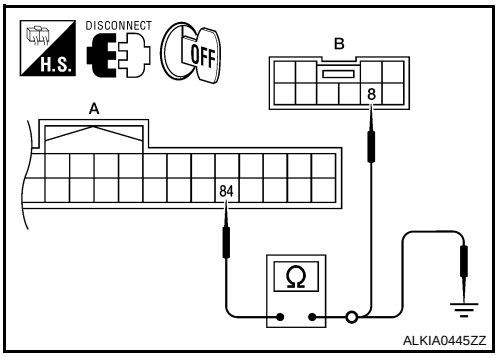
CVT device		Ground	Voltage [V]
Connector	Terminal		
M78	8	Ground	Battery voltage

Is the inspection result normal?

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

4.CHECK CVT DEVICE POWER SUPPLY CIRCUIT

1. Disconnect BCM harness connector.
2. Check continuity between BCM harness connector M19 (A) terminal 84 and CVT device harness connector M78 (B) terminal 8.



BCM		CVT device		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	84	B: M78	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

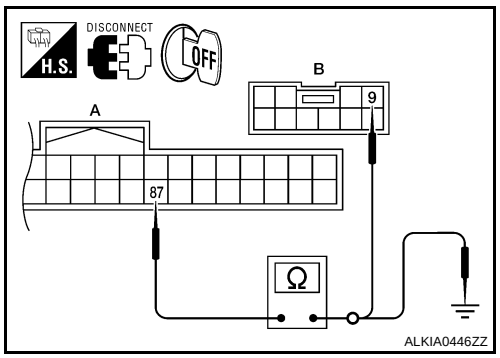
Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".
NO >> Repair harness or connector.

5.CHECK CVT DEVICE CIRCUIT

1. Disconnect BCM harness connector.

2. Check continuity between BCM harness connector M19 (A) terminal 87 and CVT device harness connector M78 (B) terminal 9.



BCM		CVT device		Continuity
Connector	Terminal	Connector	Terminal	
A: M19	87	B: M78	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 CVT DEVICE

Refer to SEC-48, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace CVT device. Refer to TM-168, "Removal and Installation".

7. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2604 PNP SWITCH

Description

INFOID:0000000004255400

BCM confirms the shift position with the following 4 signals.
- CVT selector lever
- P/N position switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

INFOID:0000000004255401

DTC DETECTION LOGIC

NOTE:
- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2604	PNP SWITCH	BCM detects the following status for 500 ms or more when the ignition switch is in the ON position. • P/N switch indicates vehicle is in P or N shift position. Signal from TCM indicates vehicle is in forward or reverse gear. • P/N switch indicates vehicle is in forward or reverse gear. Signal from TCM indicates vehicle is in P or N.	• Harness or connectors [The park/neutral position (PNP) switch circuit is open or shorted.] • Park/ neutral position (PNP) switch • TCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P position
- Do not depress the brake pedal
2. Use CVT selector lever to select each gear one at a time. Wait at each gear for at least 1 second.
3. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-54, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255402

1.CHECK DTC WITH TCM

Check “Self diagnostic result” with CONSULT-III. Refer to PCS-37, "DTC Index".

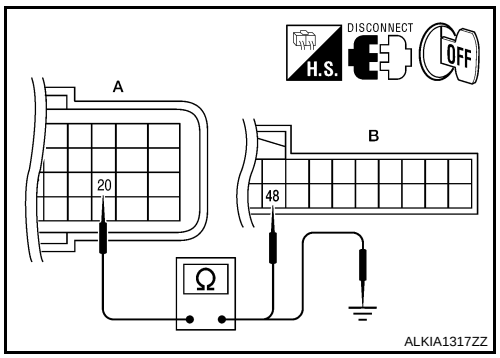
Is the inspection result normal?

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

2.CHECK PNP SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TCM harness connector and BCM harness connector.

3. Check continuity between TCM harness connector and BCM harness connector.



TCM		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: F16	20	B: M18	48	Yes

4. Check continuity between TCM harness connector and ground.

TCM		Ground	Continuity
Connector	Terminal		
A: F16	20	Ground	No

Is the inspection result normal?

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

3. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2605 PNP SWITCH

Description

INFOID:0000000004255403

BCM confirms the shift position with the following 4 signals.
- CVT selector lever
- P/N position switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

INFOID:0000000004255404

DTC DETECTION LOGIC

NOTE:
- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2605	PNP SWITCH	BCM detects the following status for 500 ms or more when the ignition switch is in ON position • N position input signal exists. Shift position signal from IPDM E/R does not exist. • N position input signal does not exist. Shift position signal from IPDM E/R exists.	• Harness or connectors [The park/neutral position (PNP) switch circuit is open or shorted.] • Park/neutral position (PNP) switch • IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON 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-56, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255405

1.CHECK DTC WITH IPDM E/R

Check “Self diagnostic result” with CONSULT-III. Refer to PCS-37, "DTC Index".

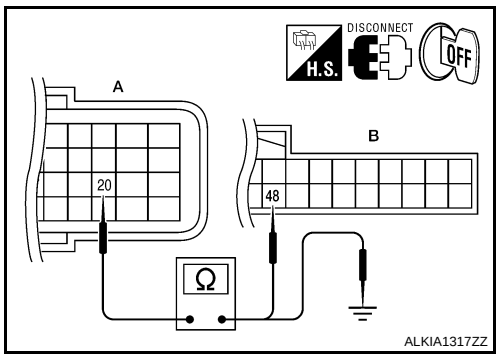
Is the inspection result normal?

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

2.CHECK PNP SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect TCM harness connector and BCM harness connector.

3. Check continuity between TCM connector and BCM harness connector.



TCM		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: F16	20	B: M18	48	Yes

4. Check continuity between TCM harness connector and ground.

TCM		Ground	Continuity
Connector	Terminal		
A: F16	20	Ground	No

Is the inspection result normal?

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

3.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2606 STEERING LOCK RELAY

Description

INFOID:0000000004255406

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:0000000004255407

DTC DETECTION LOGIC

NOTE:

- If DTC B2606 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2606 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2606	STEERING LOCK RELAY	BCM detects that there is a mismatch between the following statuses. • Steering lock unit ON signal transmitted by IPDM E/R • The steering lock unit status feedback	• 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.
- CVT selector lever is in the P or N position.
- Do not depress the brake pedal.
2. Steering is locked.
3. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-58, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255408

1.CHECK DTC WITH IPDM E/R

Check “Self diagnostic result” with CONSULT-III. Refer to PCS-37, "DTC Index".

Is the inspection result normal?

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

2.INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2607 STEERING LOCK RELAY

Description

INFOID:0000000004255409

BCM requests to IPDM E/R to supply power to electronic steering column lock. IPDM E/R sends status of electronic steering column lock back to BCM.

DTC Logic

INFOID:0000000004255410

DTC DETECTION LOGIC

NOTE:

- If DTC B2607 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2607 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2607	STEERING LOCK RELAY	BCM detects that there is a difference between the following statuses. • BCM request for electronic steering column lock power supply (ON/OFF) • IPDM E/R status of electronic steering column lock power supply (ON/OFF)	• Harness or connectors (electronic steering column lock 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.
- CVT selector lever is in the P 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-59, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255411

1.CHECK DTC WITH IPDM E/R

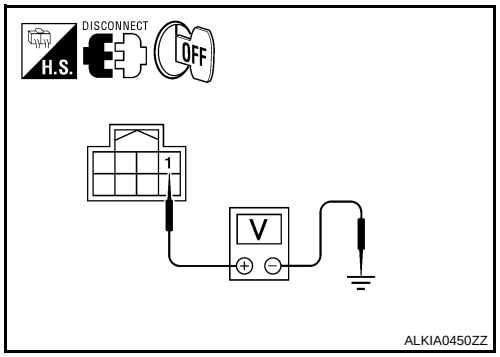
Check “Self diagnostic result” with CONSULT-III. Refer to PCS-37, "DTC Index".

Is the inspection result normal?

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

2.CHECK ELECTRONIC STEERING COLUMN LOCK POWER SUPPLY CIRCUIT

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



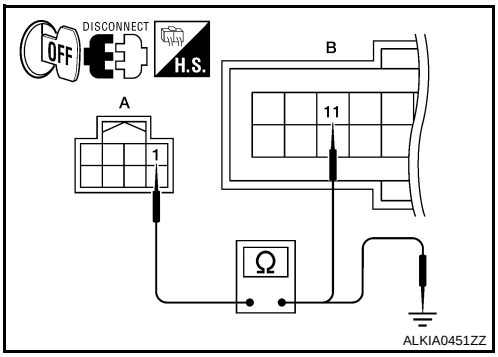
Electronic steering column lock		Ground	Condition	Voltage (V)
Connector	Terminal			
M32	1	Ground	Press push-button ignition switch when steering lock is in lock condition.	Battery voltage

Is the inspection result normal?

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

3. CHECK ELECTRONIC STEERING COLUMN LOCK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector.
3. Check continuity between electronic steering column lock and IPDM E/R harness connector.



Electronic steering column lock		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	1	B: E18	11	Yes

4. Check continuity between electronic steering column lock and ground.

Electronic steering column lock		Ground	Continuity
Connector	Terminal		
A: M32	1	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".
NO >> Repair harness or connector.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2608 STARTER RELAY

Description

INFOID:0000000004255412

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:0000000004255413

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2608	STARTER RELAY	BCM receives starter relay ON signal (CAN) from IPDM E/R even if BCM turns the starter relay OFF	• Harness or connectors (starter relay circuit is open or shorted.) • IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

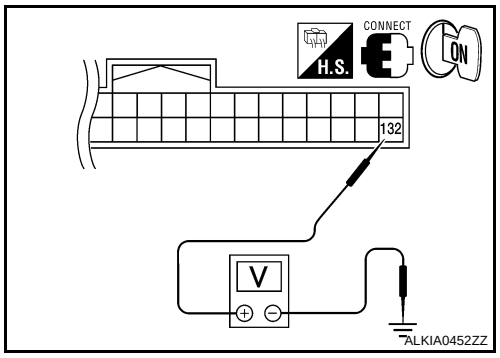
YES >> Refer to SEC-61, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255414

1.CHECK STARTER RELAY

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



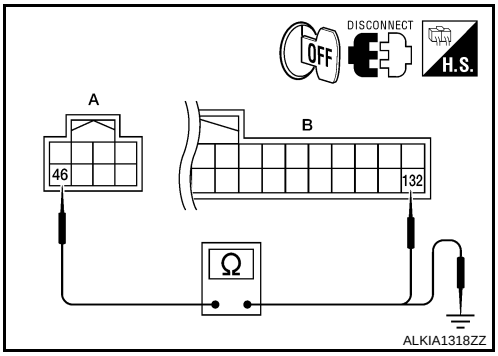
BCM		Ground	Condition		Voltage (V)
Connector	Terminal				
M21	132	Ground	CVT selector lever	N or P position	Battery voltage
				Other than above	0
			Clutch pedal	Not depressed	0
				Depressed	Battery voltage

Is the measurement value within the specification?

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

2.CHECK STARTER RELAY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM harness connector M21 and IPDM E/R harness connector E17.
3. Check continuity between IPDM E/R harness connector and BCM harness connector.



IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: E17	46	B: M21	132	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
A: E17	46	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".
NO >> Repair harness or connector.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2609 STEERING STATUS

Description

INFOID:0000000004255415

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

DTC Logic

INFOID:0000000004255416

DTC DETECTION LOGIC

NOTE:

- If DTC B2609 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2609 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2609	STEERING STATUS	BCM detects the malfunction of electronic steering column lock switches for 1 second.	• Harness or connectors [electronic steering column lock circuit (BCM side) is open or shorted] • Harness or connectors [electronic steering column lock circuit (IPDM E/R side) is open or shorted.] • Electronic steering column lock • 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.
- CVT selector lever is in the P position.
- Do not depress brake pedal
- Steering is locked
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

YES >> Refer to SEC-63, "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-63, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255417

1.INSPECTION START

Check the case in which DTC is detected.

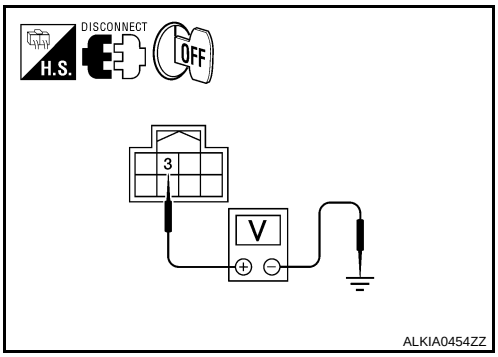
- Case1: It is detected after ignition switch is changed from ON to OFF and door switch is pressed
- Case2: It is detected after ignition switch is changed from ON to OFF

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 electronic steering column lock harness connector and IPDM E/R harness connector.
3. Check voltage between electronic steering column lock harness connector and ground.



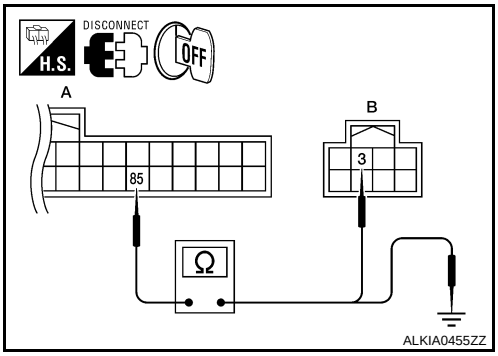
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

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

3.CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-I

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



BCM		Electronic steering column lock		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.

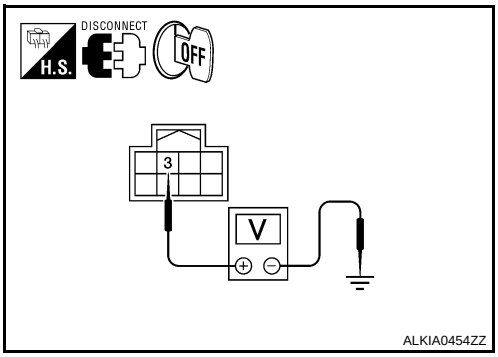
BCM		Ground	Continuity
Connector	Terminal		
A: M19	85	Ground	No

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 electronic steering column lock harness connector and ground.



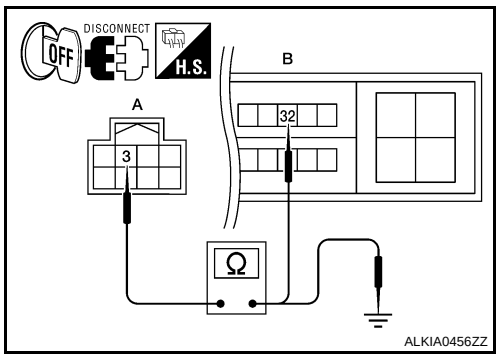
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace electronic steering column lock.
NO >> GO TO 5

5.CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-II

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



Electronic steering column lock		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	3	B: E18	32	Yes

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

Electronic steering column lock		Ground	Continuity
Connector	Terminal		
A: M32	3	Ground	No

Is the inspection result normal?

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

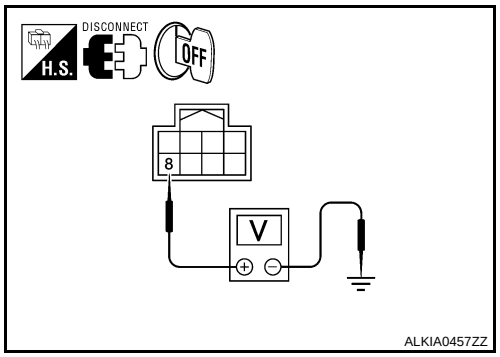
6. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

7. CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect electronic steering column lock harness connector and IPDM E/R harness connector E5.
3. Check voltage between electronic steering column lock harness connector and ground.



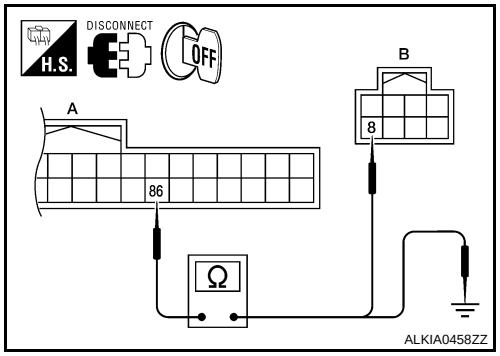
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

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

8. CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-I

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



BCM		Electronic steering column lock		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.

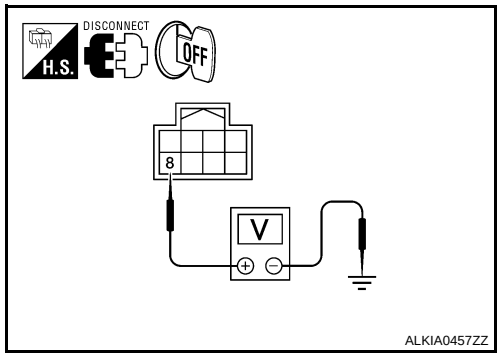
BCM		Ground	Continuity
Connector	Terminal		
A: M19	86	Ground	No

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 M19.
3. Check voltage between electronic steering column lock harness connector and ground.



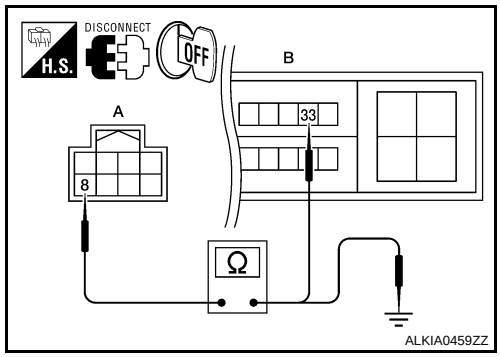
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace electronic steering column lock.
NO >> GO TO 10

10. CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-II

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



Electronic steering column lock		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	8	B: E18	33	Yes

2. Check continuity between electronic steering column lock harness connector and ground.

Electronic steering column lock		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-39, "Intermittent Incident".

>> Inspection End.

B260B STEERING LOCK UNIT

Description

INFOID:0000000004255418

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

DTC Logic

INFOID:0000000004255419

DTC DETECTION LOGIC

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

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-67, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255420

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-67, "DTC Logic".

Is the DTC B260B displayed again?

YES >> Replace electronic steering column lock.
NO >> Inspection End.

B260C STEERING LOCK UNIT

Description

INFOID:0000000004255421

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

DTC Logic

INFOID:0000000004255422

DTC DETECTION LOGIC

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

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-68, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255423

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-68, "DTC Logic".

Is the DTC B260C displayed again?

YES >> Replace electronic steering column lock.
NO >> Inspection End.

B260D STEERING LOCK UNIT

Description

INFOID:0000000004255424

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

DTC Logic

INFOID:0000000004255425

DTC DETECTION LOGIC

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

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-69, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255426

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 B260D displayed again?

YES >> Replace electronic steering column lock.
NO >> Inspection End.

B260F ENGINE STATUS

Description

INFOID:0000000004255427

BCM receives the engine status signal from ECM via CAN communication.

DTC Logic

INFOID:0000000004255428

DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260F	INTERRUPTION OF ENGINE STATUS SIGNAL	BCM has not yet received the engine status signal from ECM when ignition switch is in ON position	• ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-70, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255429

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 B260F displayed again?

YES >> GO TO 2.
NO >> Inspection End.

2.REPLACE ECM

1. Replace ECM.
2. Go to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".

>> Inspection End.

B26E1 NO RECEPTION OF ENGINE STATUS SIGNAL

Description

INFOID:0000000004255430

BCM receives the engine status signal from ECM via CAN communication.

DTC Logic

INFOID:0000000004255431

DTC DETECTION LOGIC

NOTE:

- If DTC B26E1 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B26E1 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26E1	NO RECEPTION OF ENGINE STATUS SIGNAL	BCM does not receive the engine status signal from ECM when ignition switch is in the ON position	• ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions.
- 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-71, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255432

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 B26E1 displayed again?

YES >> GO TO 2.
NO >> Inspection End.

2.REPLACE ECM

1. Replace ECM.
2. Go to EC-16, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description".

>> Inspection End.

B2612 STEERING STATUS

Description

INFOID:0000000004255433

There are 2 switches in the electronic steering column lock. 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:0000000004255434

DTC DETECTION LOGIC

NOTE:

- If DTC B2612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "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 [electronic steering column lock circuit (BCM side) is open or shorted] • Harness or connectors [electronic steering column lock circuit (IPDM E/R side) is open or shorted.] • Electronic steering column lock • 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.
- CVT 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-72, "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-72, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255435

1.INSPECTION START

Check the case in which DTC is detected.

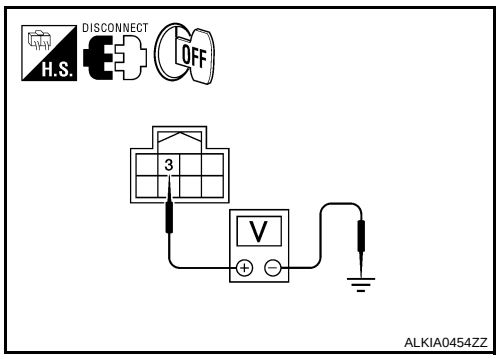
- Case1: It is detected after ignition switch is changed from ON to OFF and door switch is pressed.
- Case2: It is detected after ignition switch is changed from ON to OFF

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 electronic steering column lock harness connector and IPDM E/R harness connector.
3. Check voltage between electronic steering column lock harness connector and ground.



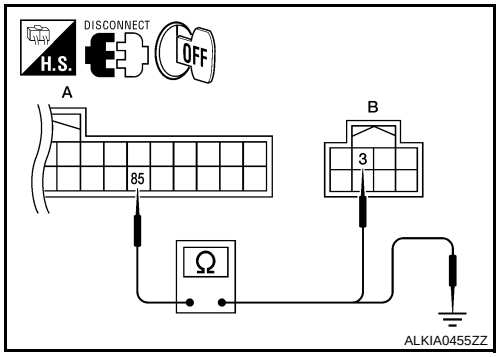
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

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

3. CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-I

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



BCM		Electronic steering column lock		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.

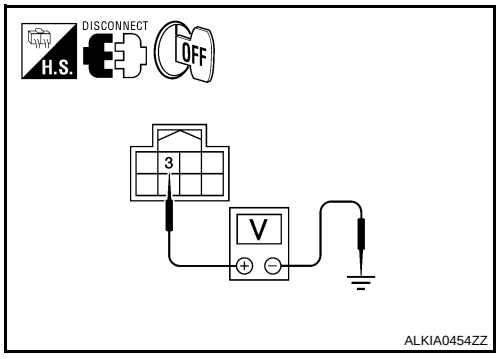
BCM		Ground	Continuity
Connector	Terminal		
A: M19	85	Ground	No

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 electronic steering column lock harness connector and ground.



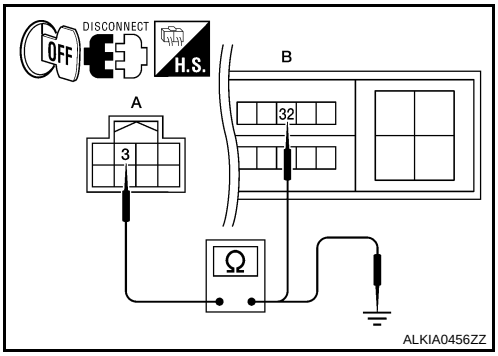
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace electronic steering column lock.
NO >> GO TO 5

5. CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-II

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



Electronic steering column lock		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	3	B: E18	32	Yes

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

Electronic steering column lock		Ground	Continuity
Connector	Terminal		
A: M32	3	Ground	No

Is the inspection result normal?

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

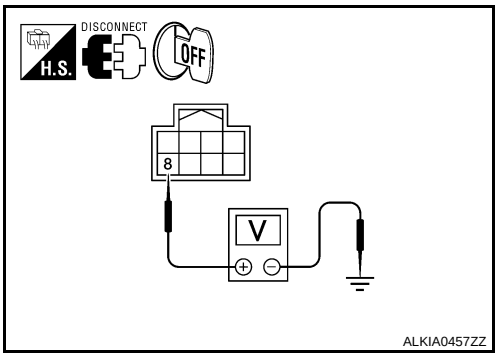
6.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

7.CHECK BCM OUTPUT SIGNAL

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



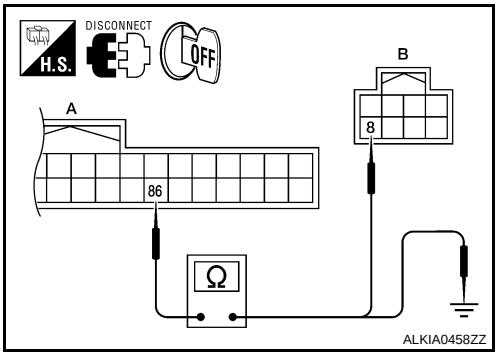
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

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

8.CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-I

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



BCM		Electronic steering column lock		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.

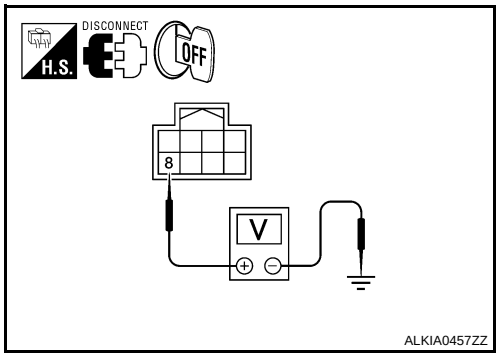
BCM		Ground	Continuity
Connector	Terminal		
A: M19	86	Ground	No

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 electronic steering column lock harness connector and ground.



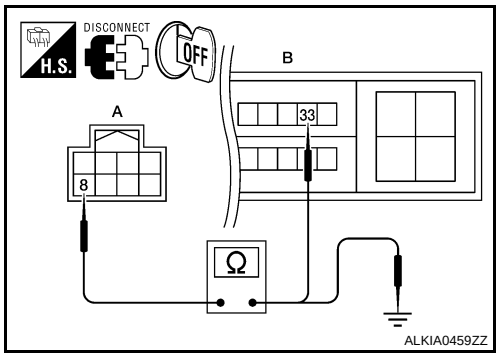
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace electronic steering column lock.
NO >> GO TO 10

10. CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-II

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



Electronic steering column lock		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	8	B: E18	33	Yes

2. Check continuity between electronic steering column lock harness connector and ground.

Electronic steering column lock		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-39, "Intermittent Incident".

>> Inspection End.

B2617 STARTER RELAY CIRCUIT

Description

INFOID:0000000004255436

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:0000000004255437

DTC DETECTION LOGIC

NOTE:

- If DTC B2617 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2617 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".
- If DTC B2617 is displayed with DTC B210E, first perform the trouble diagnosis for DTC B210E. Refer to SEC-76, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2617	STARTER RELAY CIRCUIT	• An immediate operation of starter relay is requested by BCM, but there is no response for more than 1 second • BCM is not commanding starter relay activation, but BCM detects starter relay output is active	• Harness or connectors (Starter relay circuit is open or shorted.) • IPDM E/R

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

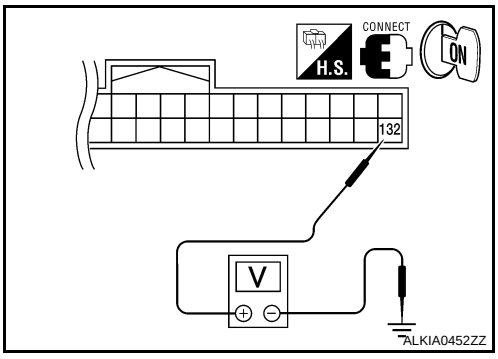
YES >> Refer to SEC-76, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255438

1. CHECK STARTER RELAY

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



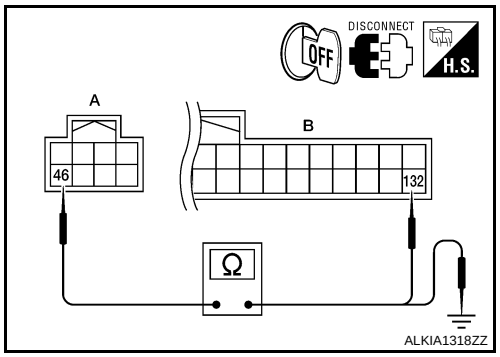
BCM		Ground	Transmission select lever position	Condition	Voltage (V)
Connector	Terminal				
M21	132	Ground	Park	Ignition switch cranking or request to start	Battery voltage
				Other than above	0

Is the measurement value within the specification.

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

2.CHECK STARTER RELAY CIRCUIT

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



IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: E17	46	B: M21	132	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
A: E17	46	Ground	No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".
NO >> Repair harness or connector.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2619 BCM

Description

INFOID:0000000004255439

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:0000000004255440

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.
- CVT selector lever is in the P position
- Do not depress 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:0000000004255441

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-78, "DTC Logic".

Is the DTC B2619 displayed again?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".
NO >> Inspection End.

B261A PUSH-BUTTON IGNITION SWITCH

Description

INFOID:0000000004255442

IPDM E/R transmits the push-button ignition switch status via CAN communication to BCM. BCM receives push-button ignition switch status by hardwire input. BCM compares the 2 signals for mismatch.

DTC Logic

INFOID:0000000004255443

DTC DETECTION LOGIC

NOTE:

- If DTC B261A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B261A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261A	PUSH-BUTTON IGNITION SWITCH	BCM detects the mismatch between the following for 1 second or more • Push-button ignition switch status • Push-button ignition switch status 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.
- CVT selector lever is in the P position
- Do not depress brake pedal.
2. Check “Self diagnostic result” with CONSULT-III.

Is DTC detected?

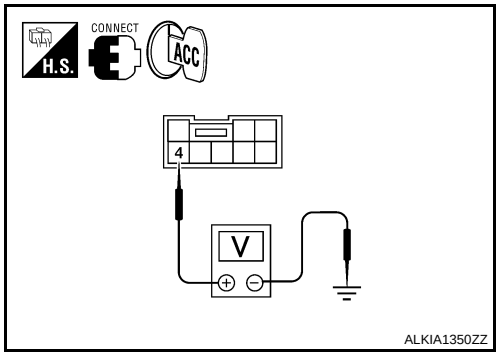
YES >> Refer to SEC-79, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255444

1.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

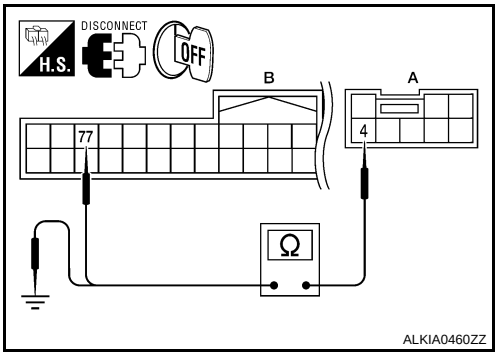
Is the inspection result normal?

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

2.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.

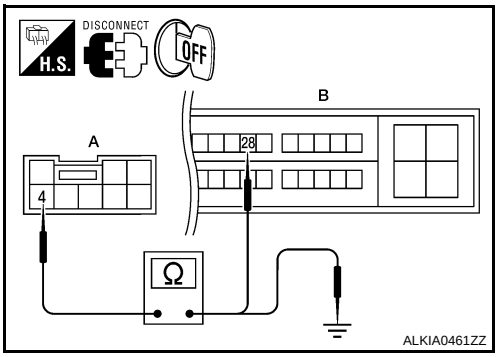
Push-button ignition switch		Ground	Continuity
Connector	Terminal		
A: M38	4	Ground	No

Is the inspection result normal?

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

3. 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 4
NO >> Repair harness or connector.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2108 STEERING LOCK RELAY

Description

INFOID:0000000004255448

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:0000000004255449

DTC DETECTION LOGIC

NOTE:

- If DTC B2108 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2108 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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.
- CVT selector lever is in the P position
- Do not depress the 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:0000000004255450

1.CHECK FUSE

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

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "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:0000000004255451

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:0000000004255452

DTC DETECTION LOGIC

NOTE:

- If DTC B2109 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2109 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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-82, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255453

1.CHECK POWER SUPPLY CIRCUIT

Check IPDM E/R power supply circuit. Refer to PCS-21, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2
NO >> Repair the malfunctioning parts

2.CHECK FUSE

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

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "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:0000000004255454

There are 2 switches in the electronic steering column lock. 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:0000000004255455

DTC DETECTION LOGIC

NOTE:

- If DTC B210A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B210A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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 [electronic steering column lock circuit (BCM side) is open or shorted] • Harness or connectors [electronic steering column lock circuit (IPDM E/R side) is open or shorted.] • Electronic steering column lock • 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.
- 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-83, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255456

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

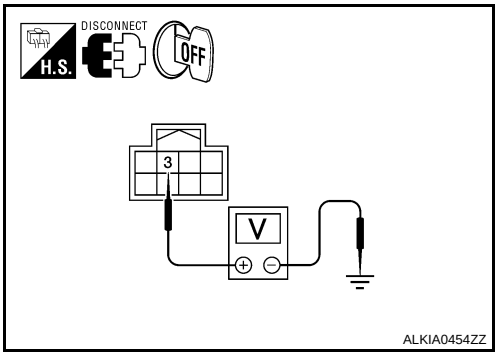
In which case is DTC detected?

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

2.CHECK BCM OUTPUT SIGNAL

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

3. Check voltage between electronic steering column lock harness connector and ground.



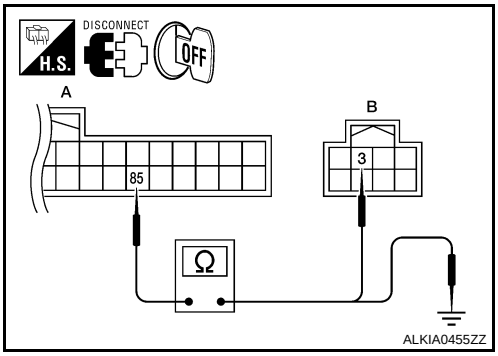
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

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

3.CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-I

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



BCM		Electronic steering column lock		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.

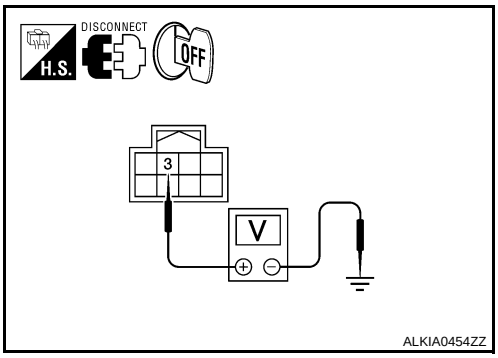
BCM		Ground	Continuity
Connector	Terminal		
A: M19	85	Ground	No

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 electronic steering column lock harness connector and ground.



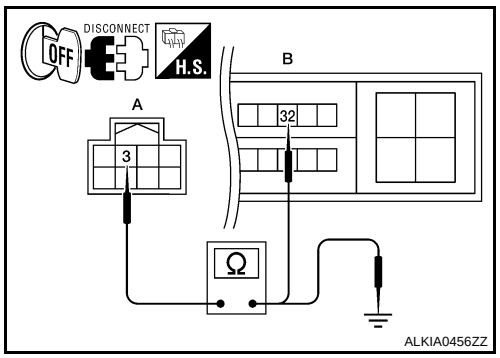
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace electronic steering column lock.
NO >> GO TO 5

5.CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-II

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



Electronic steering column lock		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	3	B: E18	32	Yes

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

Electronic steering column lock		Ground	Continuity
Connector	Terminal		
A: M32	3	Ground	No

Is the inspection result normal?

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

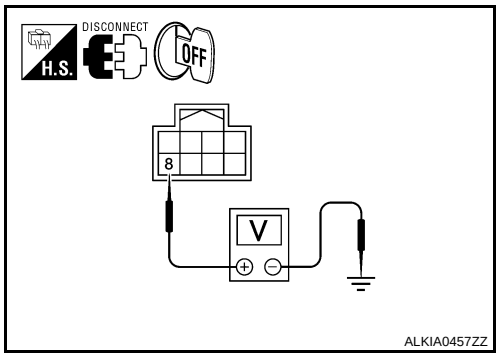
6. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

7. CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect electronic steering column lock harness connector and IPDM E/R harness connector E5.
3. Check voltage between electronic steering column lock harness connector and ground.



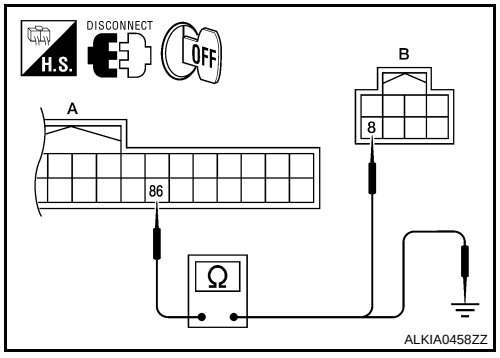
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

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

8. CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-I

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



BCM		electronic steering column lock		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.

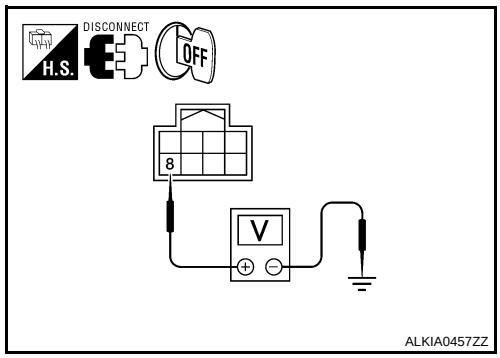
BCM		Ground	Continuity
Connector	Terminal		
A: M19	86	Ground	No

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 electronic steering column lock harness connector and ground.



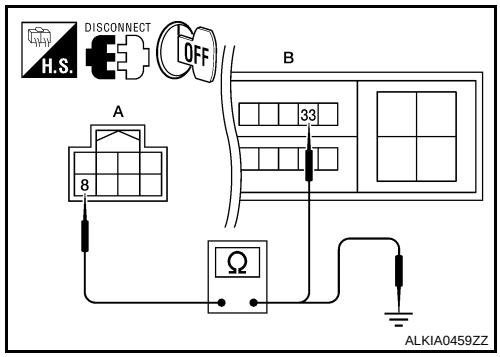
Electronic steering column lock		Ground	Voltage [V]
Connector	Terminal		
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace electronic steering column lock.
NO >> GO TO 10

10. CHECK ELECTRONIC STEERING COLUMN LOCK CIRCUIT-II

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



Electronic steering column lock		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: M32	8	B: E18	33	Yes

2. Check continuity between electronic steering column lock harness connector and ground.

Electronic steering column lock		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-39, "Intermittent Incident".

>> Inspection End.

B210B STARTER CONTROL RELAY

Description

INFOID:0000000004255457

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in N or P position and the steering is locked or unlocked. It is installed in parallel with the starter relay.

DTC Logic

INFOID:0000000004255458

DTC DETECTION LOGIC

NOTE:

- If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B210B is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210B	START CONT RLY ON	IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second. • Starter control relay ON/OFF signal from BCM • Clutch interlock or shift park neutral position (PNP) switch input signal	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the power supply position to start under the following conditions and wait for at least 1 second.
- CVT 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-87, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255459

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 PCS-37, "DTC Index".

Is the DTC B210B displayed again?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".
NO >> Inspection End.

B210C STARTER CONTROL RELAY

Description

INFOID:0000000004255460

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in N or P position and the steering is locked or unlocked. It is installed in parallel with the starter relay.

DTC Logic

INFOID:0000000004255461

DTC DETECTION LOGIC

NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B210C is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210C	START CONT RLY OFF	IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second. • Starter control relay ON/OFF signal from BCM • Clutch interlock or shift park neutral position (PNP) switch input signal	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the power supply position to start under the following conditions and wait for at least 1 second.
- CVT 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-88, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255462

1. INSPECTION START

1. Turn ignition switch ON.
2. Check “Self diagnostic result” with CONSULT-III.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   Refer to PCS-37, "DTC Index".

Is the DTC B210C displayed again?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".
NO >> Inspection End.

B210D STARTER RELAY

Description

INFOID:0000000004255463

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:0000000004255464

DTC DETECTION LOGIC

NOTE:

- If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B210D is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".
- If DTC B210D is displayed with DTC B2617, first perform the trouble diagnosis for DTC B2617. Refer to SEC-76, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210D	STARTER RELAY ON	IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second. • Starter control relay ON/OFF signal from BCM • Clutch interlock or shift park neutral position (PNP) switch input	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Ignition switch ON 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?

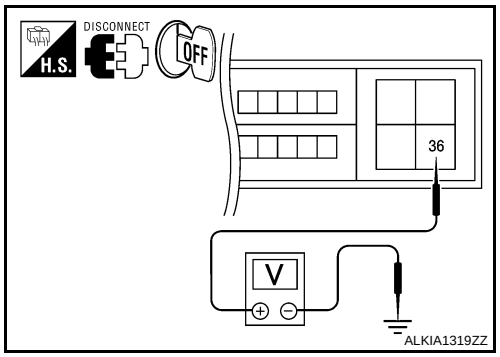
YES >> Refer to SEC-89, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255465

1. CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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



IPDM E/R		Ground	Voltage (V)
Connector	Terminal		
E18	36	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".
NO >> Check harness for open or short between IPDM E/R and battery.

B210E STARTER RELAY

Description

INFOID:0000000004255466

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:0000000004255467

DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B210E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210E	STARTER RELAY OFF	IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second. • Starter control relay ON/OFF signal from BCM • Clutch interlock or shift park neutral position (PNP) switch input	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON 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?

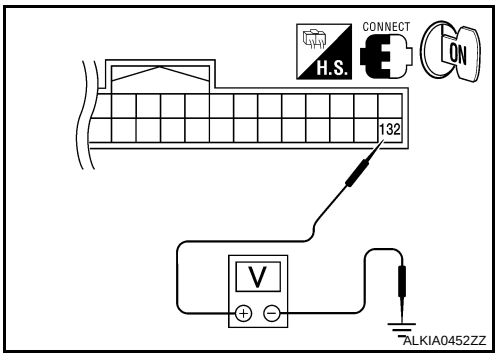
YES >> Refer to SEC-90, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255468

1.CHECK STARTER RELAY OUTPUT SIGNAL/CVT MODELS

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



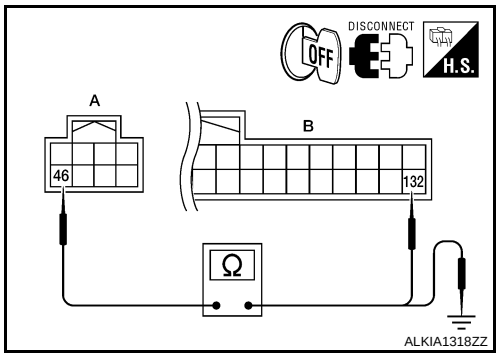
BCM connector		Ground	Condition			Voltage (V)
Connector	Terminal		Ignition switch	Brake pedal	CVT selector lever	
M21	132	Ground	ON	Depressed	P or N	Battery voltage
					Other than above	0

Is the inspection result normal?

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

2. CHECK STARTER RELAY OUTPUT SIGNAL CIRCUIT

1. Disconnect IPDM E/R harness connector.
2. Check continuity between IPDM E/R harness connector and BCM harness connector.



IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
A: E17	46	B: M21	132	Yes

3. Check continuity between BCM harness connector and ground.

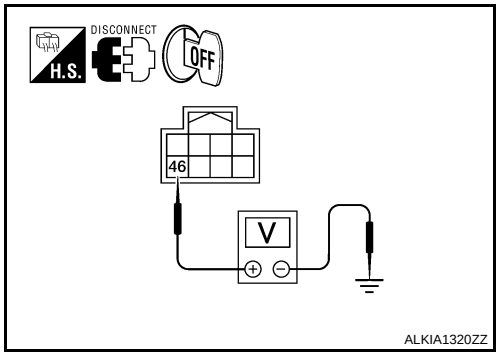
IPDM E/R		Ground	Continuity
Connector	Terminal		
A: E17	46	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".
NO >> Repair harness connector.

3. CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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



IPDM E/R		Ground	Voltage (V)
Connector	Terminal		
E17	46	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".
NO >> Check harness for open or short between IPDM E/R and battery.

B210F PNP/CLUTCH INTERLOCK SWITCH

Description

INFOID:0000000004255469

IPDM E/R confirms the shift position with the following signals.
- Park/neutral position (PNP) switch
- Shift position signal from BCM (CAN)

DTC Logic

INFOID:0000000004255470

DTC DETECTION LOGIC

NOTE:
- If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic"
- If DTC B210F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-28, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTER LOCK/PNP SW ON	IPDM E/R detects a mismatch between the signals below for 1 second or more. • Shift PNP switch input signal • Shift position signal from BCM (CAN)	• Harness or connectors [Park/neutral position (PNP) switch circuit is open or shorted • Park/neutral position (PNP) switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON 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-92, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255471

1.CHECK DTC WITH BCM

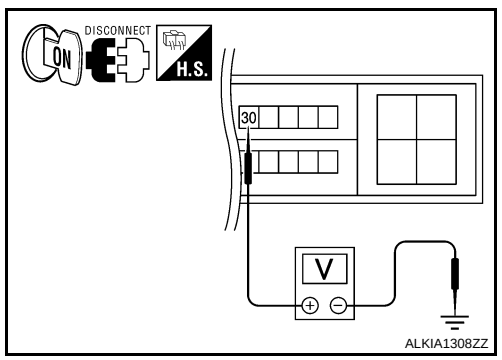
Refer to BCS-82, "DTC Index".

Is the inspection result normal?

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

2.CHECK PNP SWITCH INPUT SIGNAL

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



IPDM E/R		Ground	Condition		Voltage (V)
Connector	Terminal				
E18	30	Ground	CVT selector lever	P or N	0
				Other than above	Battery voltage

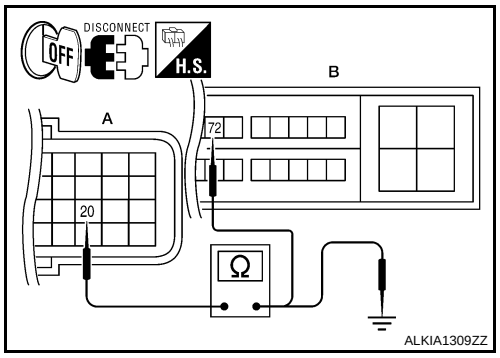
Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> GO TO 3.

3. CHECK PNP SWITCH CIRCUIT

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



TCM		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: F16	20	B: E18	72	Yes

4. Check continuity between TCM harness connector and ground.

TCM		Ground	Continuity
Connector	Terminal		
A: F16	20	Ground	No

Is the inspection result normal?

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

4. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

B2110 PNP/CLUTCH INTERLOCK SWITCH

Description

INFOID:0000000004255473

IPDM E/R confirms the shift position with the following signals.
- Park/neutral position (PNP) switch
- Shift position signal from BCM (CAN)

DTC Logic

INFOID:0000000004255474

DTC DETECTION LOGIC

NOTE:
- If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2110 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2110	INTER LOCK/PNP SW	IPDM E/R detects mismatch between the signal below for 1 second or more. • Shift PNP switch input signal	• Harness or connectors [Park/neutral position (PNP) switch circuit is open or shorted • Park/neutral position (PNP) switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch ON 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-94, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000004255475

1.CHECK DTC WITH BCM

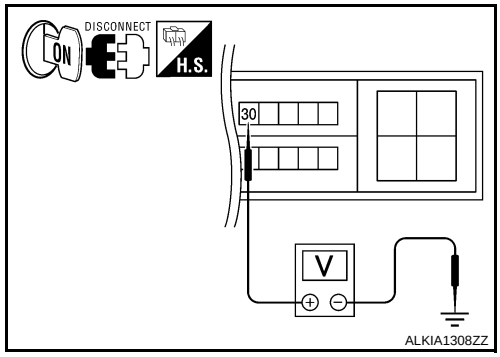
Refer to BCS-82, "DTC Index".

Is the inspection result normal?

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

2.CHECK PNP SWITCH INPUT SIGNAL

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



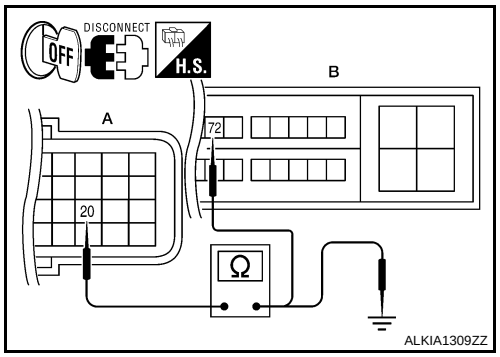
IPDM E/R		Ground	Condition		Voltage (V)
Connector	Terminal				
E18	30	Ground	CVT selector lever	P or N	0
				Other than above	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".
NO >> GO TO 3.

3. CHECK PNP SWITCH CIRCUIT

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



TCM		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
A: F16	20	B: E18	72	Yes

4. Check continuity between TCM harness connector and ground.

TCM		Ground	Continuity
Connector	Terminal		
A: F16	20	Ground	No

Is the inspection result normal?

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

4. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

POWER SUPPLY AND GROUND CIRCUIT
BCM

BCM : Diagnosis Procedure

INFOID:0000000004291614

1. CHECK FUSE AND FUSIBLE LINK

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

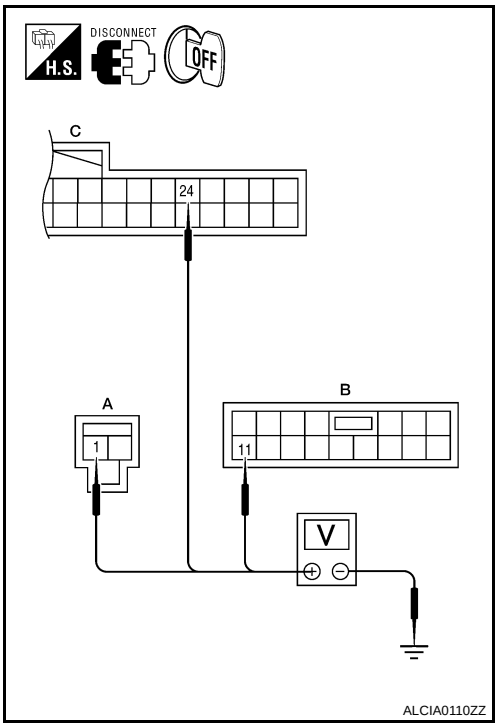
Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	H
11		10
24		7

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.



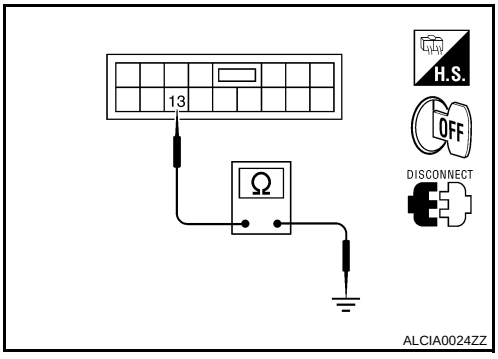
Terminals			Voltage (Approx.)
(+)		(–)	
BCM		Ground	
Connector	Terminal		
M16 (A)	1		Battery voltage
M17 (B)	11		
M18 (C)	24		

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:0000000004291615

1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to BCS-6, "CONFIGURATION (BCM) : Special Repair Requirement".

>> Work End.

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

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

INFOID:0000000004291616

1. CHECK FUSES AND FUSIBLE LINK

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

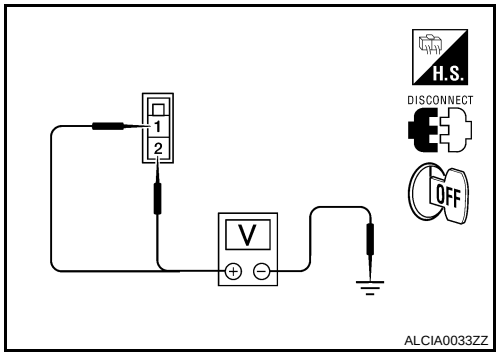
Terminal No.	Signal name	Fuses and fusible link No.
1, 2	Battery power supply	B, D
—		42
		43

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 connectors.
3. Check voltage between IPDM E/R harness connector and ground.



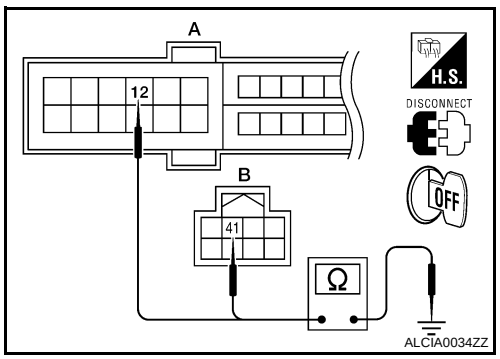
Terminals			Voltage (V) (Approx.)
(+)		(–)	
IPDM E/R			
Connector	Terminal	Ground	
E16	1		Battery voltage
	2		

Is the measurement value normal?

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

3. CHECK GROUND CIRCUIT

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



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

Does continuity exist?

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

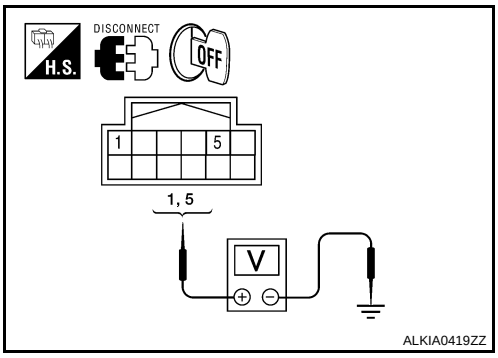
KEY SLOT

Diagnosis Procedure

INFOID:0000000004255479

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.



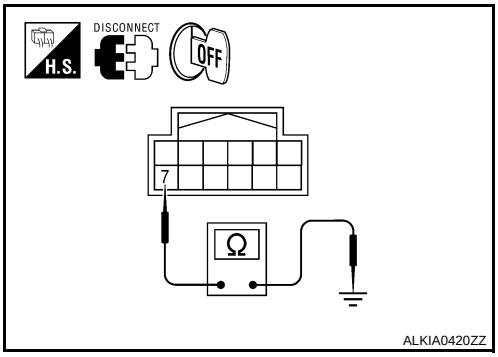
Key slot		Ground	Voltage (V) (Approx.)
Connector	Terminal		
M40	1	Ground	Battery voltage
	5		

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-39, "Intermittent Incident".

>> Inspection End.

KEY SLOT ILLUMINATION

Description

INFOID:0000000004255480

Blinks when Intelligent Key insertion is required.

Component Function Check

INFOID:0000000004255481

1.CHECK FUNCTION

With CONSULT-III

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

Is the inspection result normal?

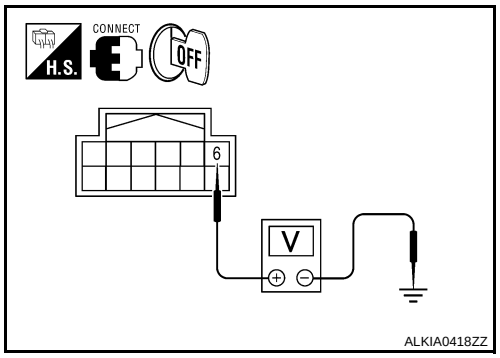
YES >> Key slot function is OK.
NO >> Refer to SEC-99, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004255482

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

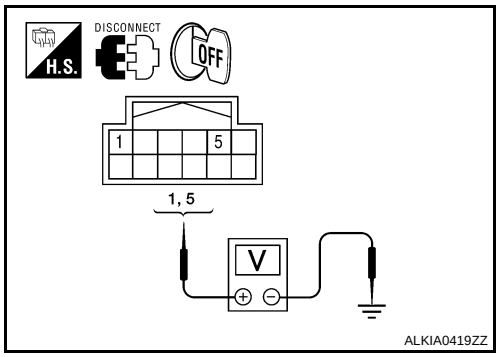
Is the inspection result normal?

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?

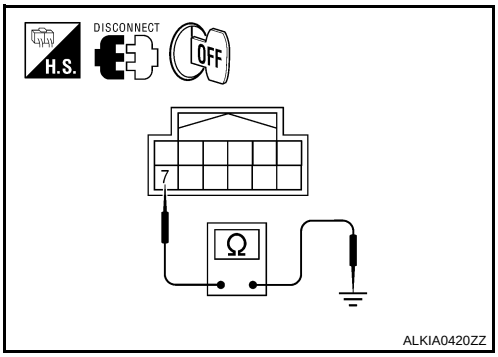
YES >> GO TO 3

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.

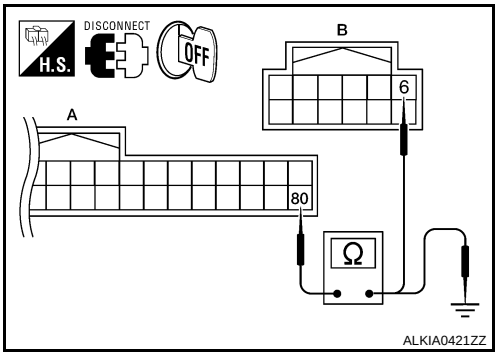
4. CHECK KEY SLOT CIRCUIT

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 SEC-99, "Description".

Is the inspection result normal?

YES >> GO TO 6
NO >> Replace key slot. Refer to SEC-189, "Removal and Installation".

6. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

KEY CYLINDER SWITCH

Description

INFOID:0000000004255483

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

Component Function Check

INFOID:0000000004255484

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-50, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)".

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

Is the inspection result normal?

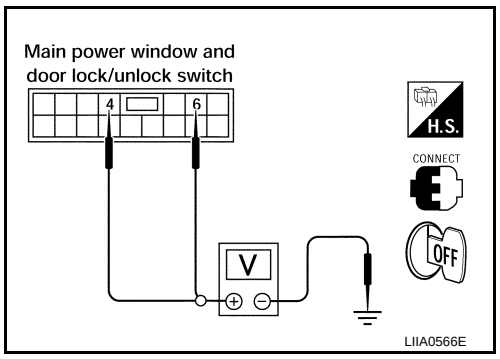
YES >> Key cylinder switch is OK.
NO >> Refer to SEC-101, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004255485

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	5
	6		Unlock	0
			Neutral / Lock	5

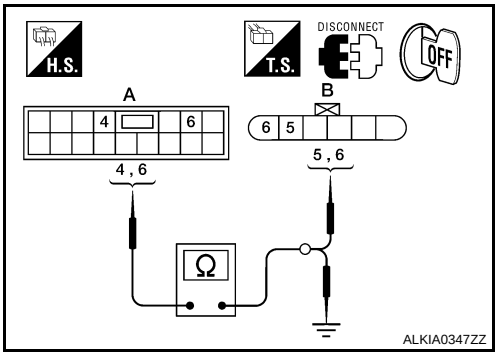
Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to PWC-113, "Removal and Installation". After that, refer to PWC-9, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : 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.

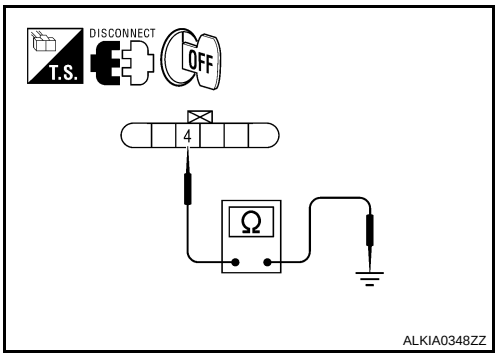
Power window main switch connector	Terminal	Ground	Continuity
A: D7	4		No
	6		

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-102, "Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
NO >> Replace front door lock assembly LH (key cylinder switch). Refer to DLK-224, "FRONT DOOR LOCK : Removal and Installation". After that, refer to PWC-9, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Component Inspection

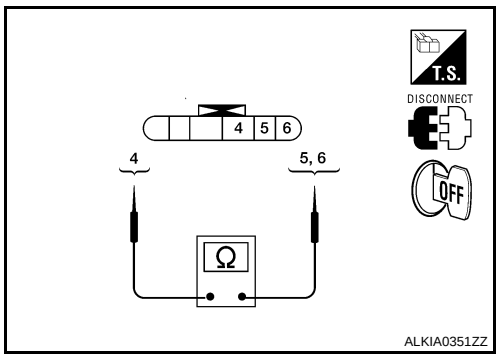
INFOID:0000000004255487

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) connector			
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-224, "FRONT DOOR LOCK : Removal and Installation".

Special Repair Requirement

INFOID:0000000004255488

1. PERFORM INITIALIZATION PROCEDURE

Perform initialization procedure.
Refer to PWC-9, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement".

Is the inspection result normal?

YES >> Inspection end.
NO >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".

HORN

Description

INFOID:0000000004255489

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

Component Function Check

INFOID:0000000004255490

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-104, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004255491

1.CHECK HORN FUNCTION

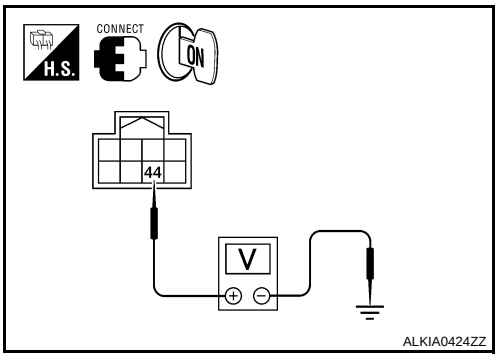
Check horn function with horn switch

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-III.
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

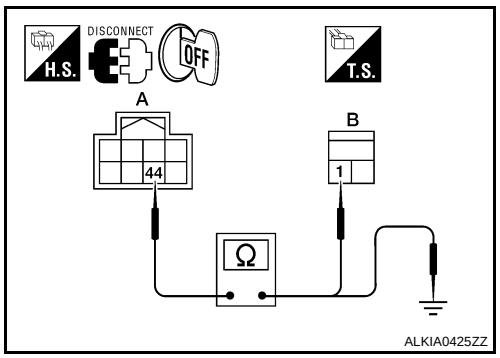
Is the inspection result normal?

YES >> Repair or replace harness between IPDM E/R and horn relay.
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-39, "Intermittent Incident".

Is the inspection result normal?

YES >> Replace IPDM E/R.Refer to PCS-40, "Removal and Installation".
NO >> Repair or replace the malfunctioning part.

HEADLAMP

Description

INFOID:0000000004255492

Headlamp lighting when theft warning system is in alarm phase.

Component Function Check

INFOID:0000000004255493

1.CHECK HEADLAMP OPERATION

Check if headlamps operate by lighting switch.

Does headlamp come on when turning switch “ON”?

YES >> Headlamp circuit is OK.
NO >> Check headlamp system. Refer to SEC-106, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004255494

1.CHECK HEADLAMP OPERATION

Refer to EXL-6, "Work Flow" (xenon type) or EXL-179, "Work Flow" (halogen type).

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

WARNING LAMP

Description

INFOID:0000000004255495

- 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:0000000004255496

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-107, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004255497

1.CHECK “COMBINATION METER.”

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

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

VEHICLE SECURITY INDICATOR

Description

INFOID:0000000004255498

- 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:0000000004255499

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-108, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004255500

1.CHECK COMBINATION METER

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

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> Inspection End.

ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000004291617

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	Driver door closed	OFF
	Driver door opened	ON
DOOR SW-AS	Passenger door closed	OFF
	Passenger door 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
	Power door lock switch LOCK	ON
CDL UNLOCK SW	Other than power door lock switch UNLOCK	OFF
	Power door lock switch UNLOCK	ON
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF
	Driver door key cylinder LOCK position	ON
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF
	Driver door 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
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 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 request switch is not pressed (driver side)	OFF
	When front door request switch is pressed (driver side)	ON
REQ SW-AS	When front door request switch is not pressed (passenger side)	OFF
	When front door request switch is pressed (passenger side)	ON
REQ SW-RL	When rear door request switch is not pressed (driver side)	OFF
	When rear door request switch is pressed (driver side)	ON
REQ SW-RR	When rear door request switch is not pressed (passenger side)	OFF
	When rear door request switch is pressed (passenger side)	ON

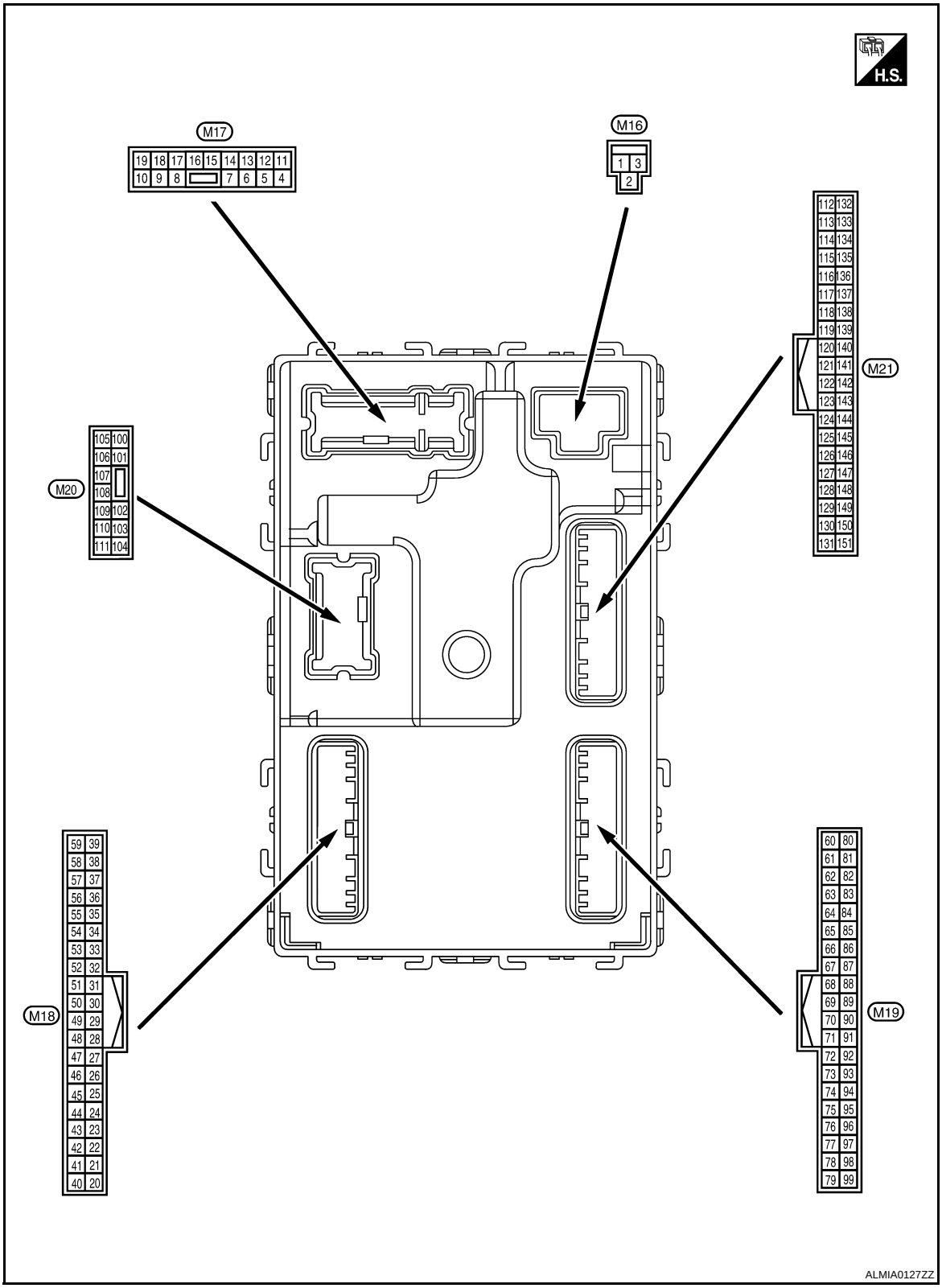
Monitor Item	Condition	Value/Status
REQ SW-BD/TR	When trunk request switch is not pressed	OFF
	When trunk request switch is pressed	ON
PUSH SW	When engine switch (push switch) is not pressed	OFF
	When engine switch (push switch) is pressed	ON
IGN RLY 2-F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
ACC RLY-F/B	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
CLUTCH SW	**NOTE:** This item is displayed, but cannot be monitored.	OFF
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	Driver door UNLOCK status	OFF
	Driver door LOCK status	ON
PUSH SW-IPDM	When engine switch (push switch) is not pressed	OFF
	When engine switch (push switch) is pressed	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	OFF
	When selector lever is in any position other than P	ON
SFT PN -IPDM	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
SFT P-MET	When selector lever is in any position other than P	OFF
	When selector lever is in P position	ON
SFT N-MET	When selector lever is in any position other than N	OFF
	When selector lever is in N position	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	OFF
	Electronic steering column lock UNLOCK status	ON
S/L UNLCK-IPDM	Electronic steering column lock UNLOCK status	OFF
	Electronic steering column lock LOCK status	ON

Monitor Item	Condition	Value/Status
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
DOOR STAT-DR	Driver door LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door UNLOCK status	UNLK
DOOR STAT-AS	Passenger door LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK
ID OK FLAG	Ignition switch ACC or ON	RESET
	Ignition switch OFF	SET
PRMT ENG STAT	When the engine start is prohibited	RESET
	When the engine 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
CONFRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	YET
	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
TP 4	The ID of fourth key is not registered to BCM	YET
	The ID of fourth key is registered to BCM	DONE
TP 3	The ID of third key is not registered to BCM	YET
	The ID of third key is registered to BCM	DONE
TP 2	The ID of second key is not registered to BCM	YET
	The ID of second key is registered to BCM	DONE

Monitor Item	Condition	Value/Status
TP 1	The ID of first key is not registered to BCM	YET
	The ID of first key is registered to BCM	DONE
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	DONE
	When ID of front LH tire transmitter is not registered	YET
ID REGST FR1	When ID of front RH tire transmitter is registered	DONE
	When ID of front RH tire transmitter is not registered	YET
ID REGST RR1	When ID of rear RH tire transmitter is registered	DONE
	When ID of rear RH tire transmitter is not registered	YET
ID REGST RL1	When ID of rear LH tire transmitter is registered	DONE
	When ID of rear LH tire transmitter is not registered	YET
WARNING LAMP	Tire pressure indicator OFF	OFF
	Tire pressure indicator ON	ON
BUZZER	Tire pressure warning alarm is not sounding	OFF
	Tire pressure warning alarm is sounding	ON

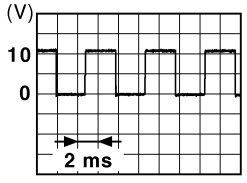
Terminal Layout

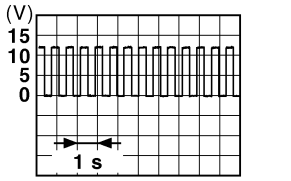
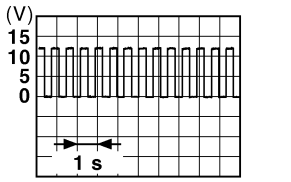
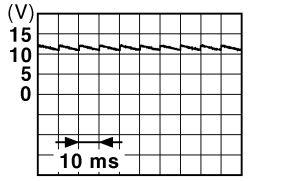
INFOID:0000000004291618

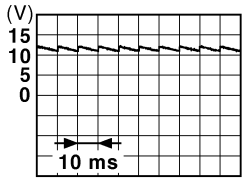
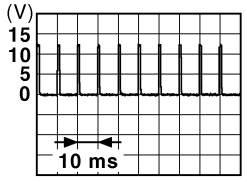
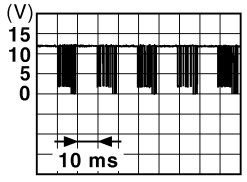


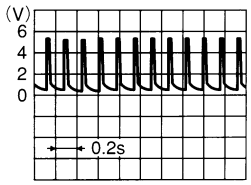
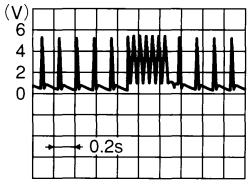
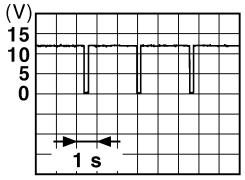
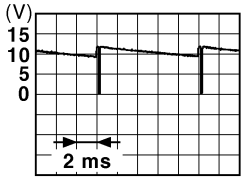
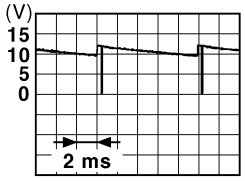
Physical Values

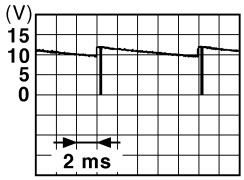
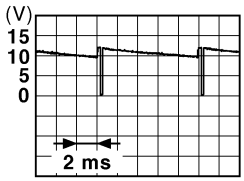
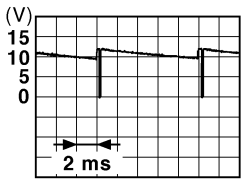
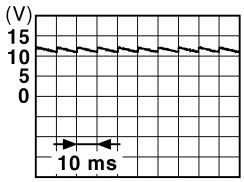
INFOID:0000000004291619

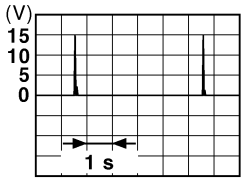
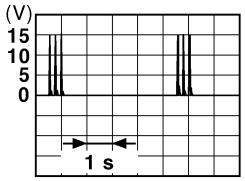
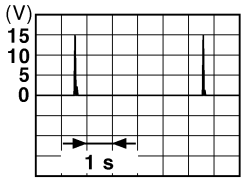
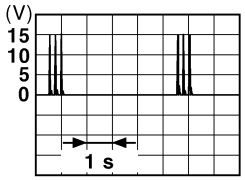
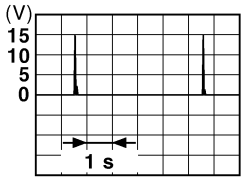
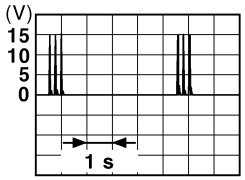
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OFF		Battery voltage
3 (L/W)	Ground	Ignition power supply 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)	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	Step lamp	ON	0V
					OFF	Battery voltage
8 (V)	Ground	All doors LOCK	Output	All doors	LOCK (actuator is activated)	Battery voltage
					Other than LOCK (actuator is not activated)	0V
9 (L)	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)	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 (GR/W)	Ground	Engine switch (push 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 or ON	0V

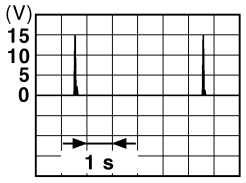
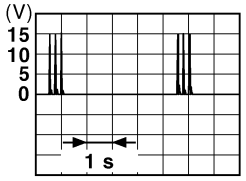
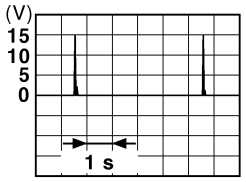
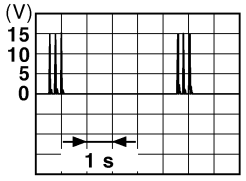
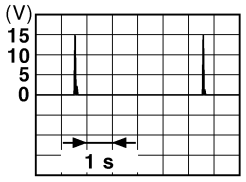
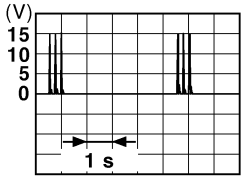
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch RH	 PKID0926E 6.5 V
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch LH	 PKID0926E 6.5 V
19 (Y)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
					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
27 (O)	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	Rear window defogger feedback signal	Input	Rear window defogger switch	OFF	0V
					ON	Battery voltage

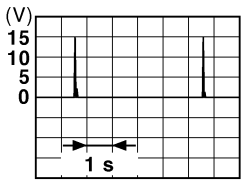
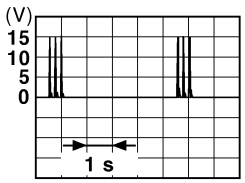
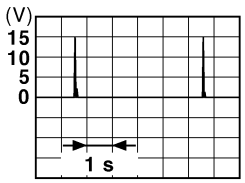
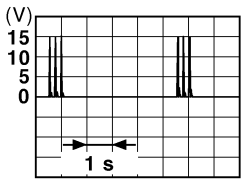
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	 JPMIA0011GB 11.8 V
					ON (when front door RH opens)	0V
37 (O)	Ground	Trunk lid opener cancel switch	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	5V
					ON	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	Engine switch (push 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
46 (V/W)	Ground	Receiver & sensor power supply output	Output	Ignition switch	OFF	0V
					ACC or ON	5.0V

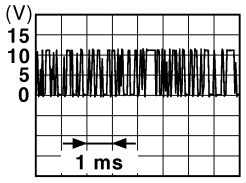
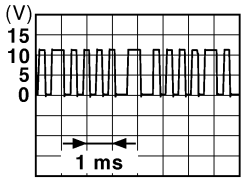
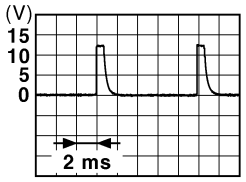
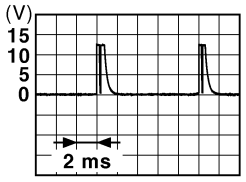
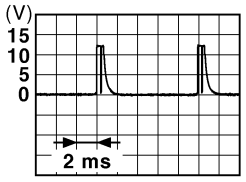
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
47 (G/O)	Ground	Tire pressure receiver signal	Input/ Output	Ignition switch ON	Standby state	 OCC3881D
					When receiving the signal from the transmitter	 OCC3880D
48 (R/G)	Ground	Selector lever P/N 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
					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	10.7V

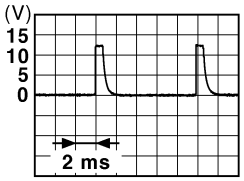
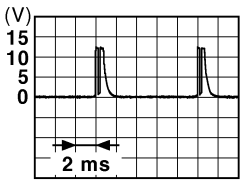
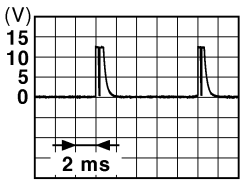
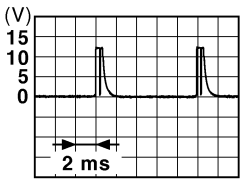
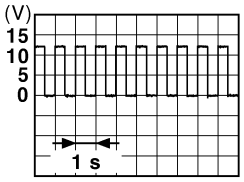
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
52 (G/B)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front washer switch ON (Wiper intermittent dial 4)	 JPMIA0033GB 10.7V
					Any 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	
57 (W)	Ground	Tire pressure warning check switch	Input	—		5V
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

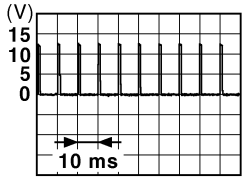
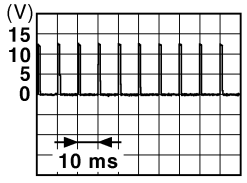
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
60 (B/R)	Ground	Front console antenna 2 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 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 (V)	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

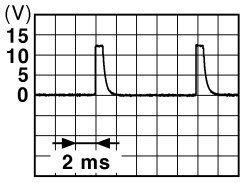
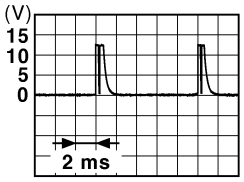
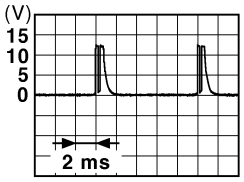
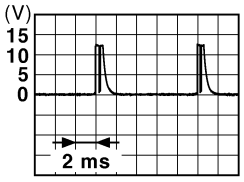
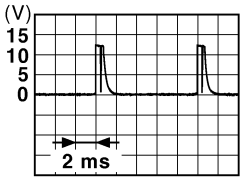
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
63 (P)	Ground	Front outside handle RH antenna (+)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					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

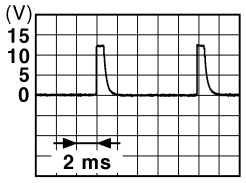
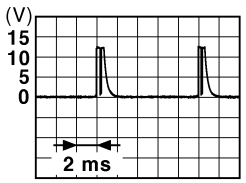
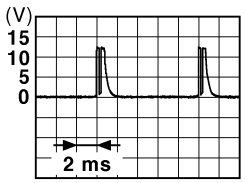
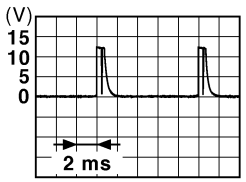
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
66 (R)	Ground	Instrument panel antenna (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 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

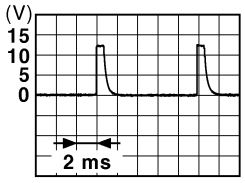
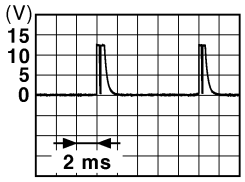
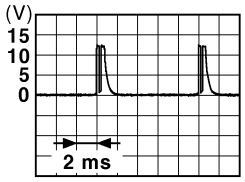
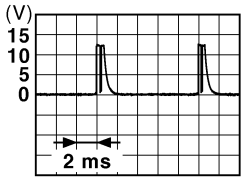
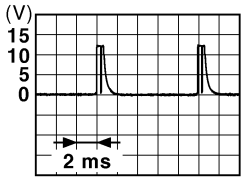
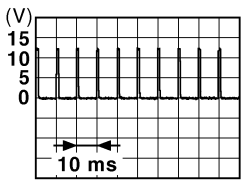
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
71 (L/O)	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		 JMKIA0064GB
				When operating either button on Intelligent Key		 JMKIA0065GB
75 (R/Y)	Ground	Combination switch 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

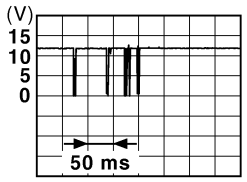
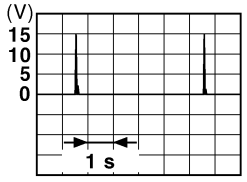
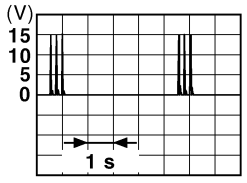
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
76 (R/G)	Ground	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch high-beam (Wiper intermittent dial 4)	 JPMIA0036GB 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	Engine switch (push 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

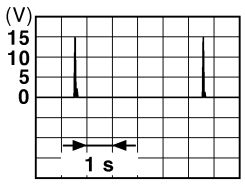
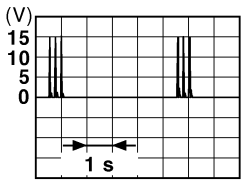
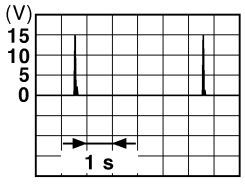
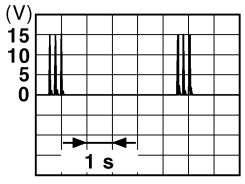
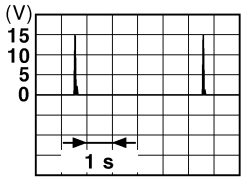
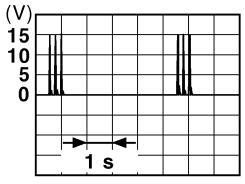
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
81 (Y/L)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
83 (L)	Ground	ACC relay control	Output	Ignition switch	OFF	0V
					ACC or ON	Battery voltage
84 (Y/R)	Ground	A/T device	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	Selector lever P position switch	Input	Selector lever	P position	0V
					Any position other than P	Battery voltage
88 (R)	Ground	Front door RH request switch	Input	Front door RH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
89 (R)	Ground	Front door LH request switch	Input	Front door LH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
90 (Y)	Ground	Blower fan 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	Steering wheel lock unit power supply	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0V

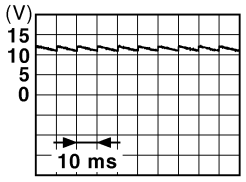
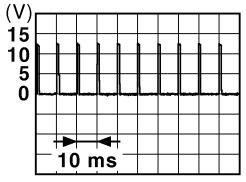
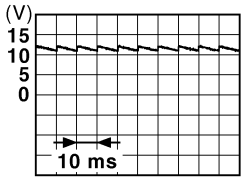
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
95 (R/W)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Turn signal switch LH	 JPMIA0037GB 1.3V
					Turn signal switch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

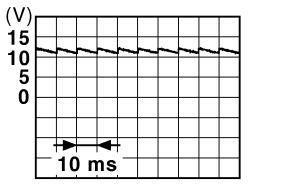
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
96 (P/B)	Ground	Combination switch INPUT 4	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch AUTO (Wiper intermittent dial 4)	 JPMIA0038GB 1.3V
					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/O)	Ground	Hazard switch	Input	Hazard switch	Pressed	0 V
					Not pressed	 JPMIA0012GB 1.1V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
99 (L/Y)	Ground	Electronic steering column lock unit 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

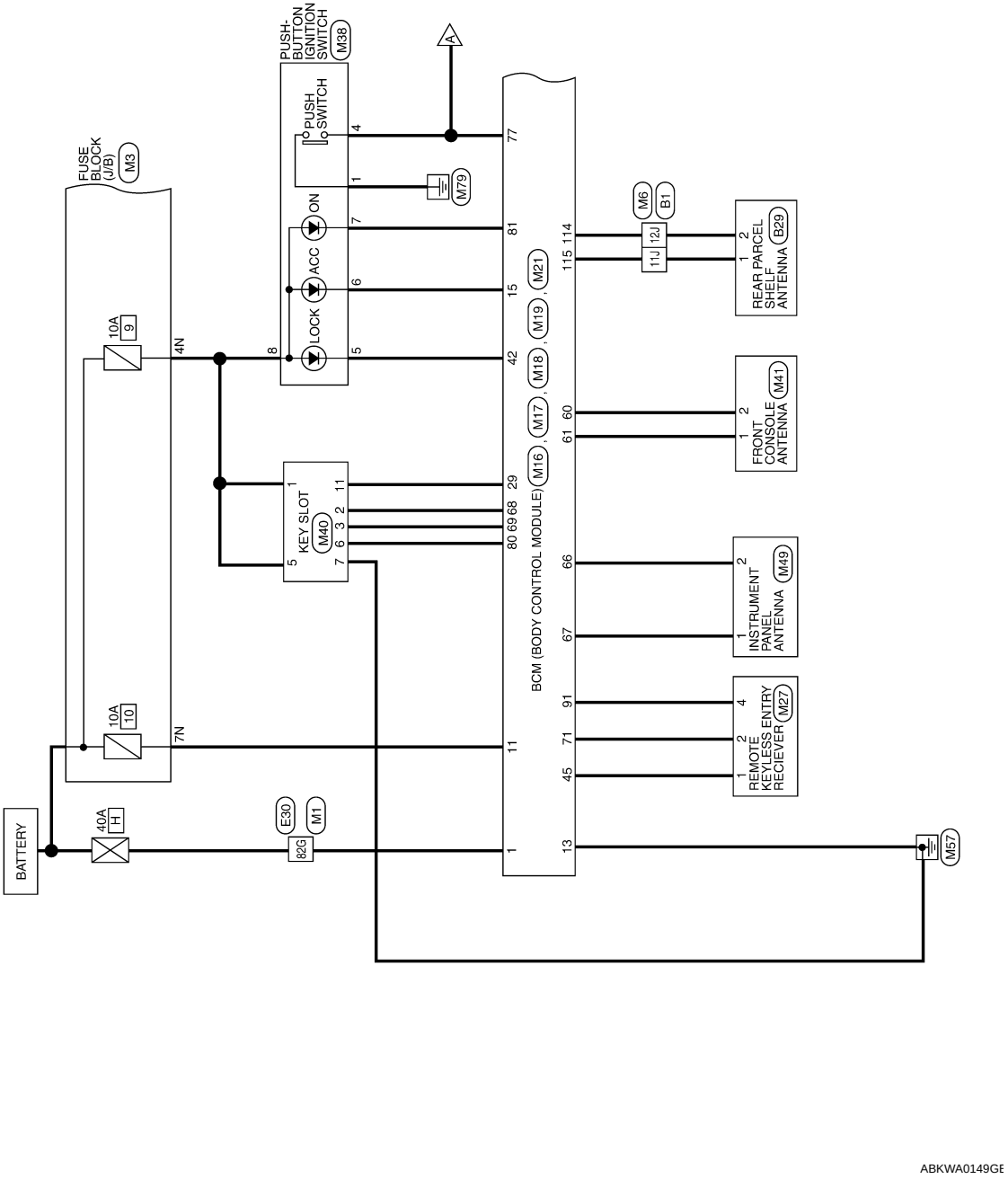
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
127 (BR/ W)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0V
130 (W)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	 JPMIA0011GB 11.8V
					ON (trunk is open)	0V
132 (R)	Ground	Starter motor relay control	Output	Ignition switch OFF (M/T vehicle)	When the clutch pedal is depressed	Battery voltage
					When the clutch pedal is not depressed	0V
				Ignition switch ON (other than M/ T vehicle)	When selector lever is in P or N position and the brake is depressed	Battery voltage
					When selector lever is in P or N position and the brake is not depressed	0V
141 (BR)	Ground	Trunk request switch	Input	Trunk request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
144 (GR)	Ground	Request switch buzz- er	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	Battery voltage
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

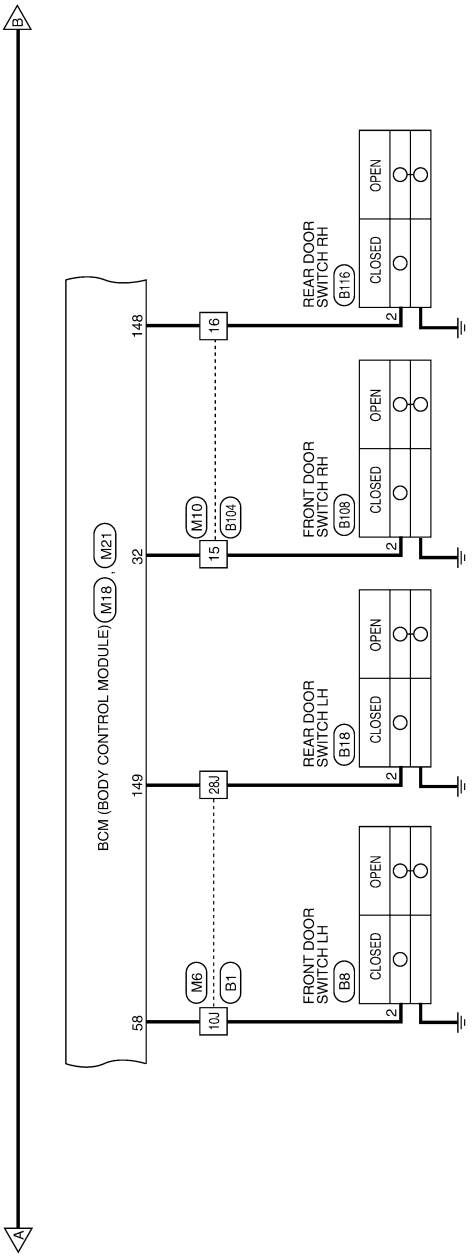
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	 JPMIA0011GB 11.8V
					ON (when rear door LH opens)	0V

Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -

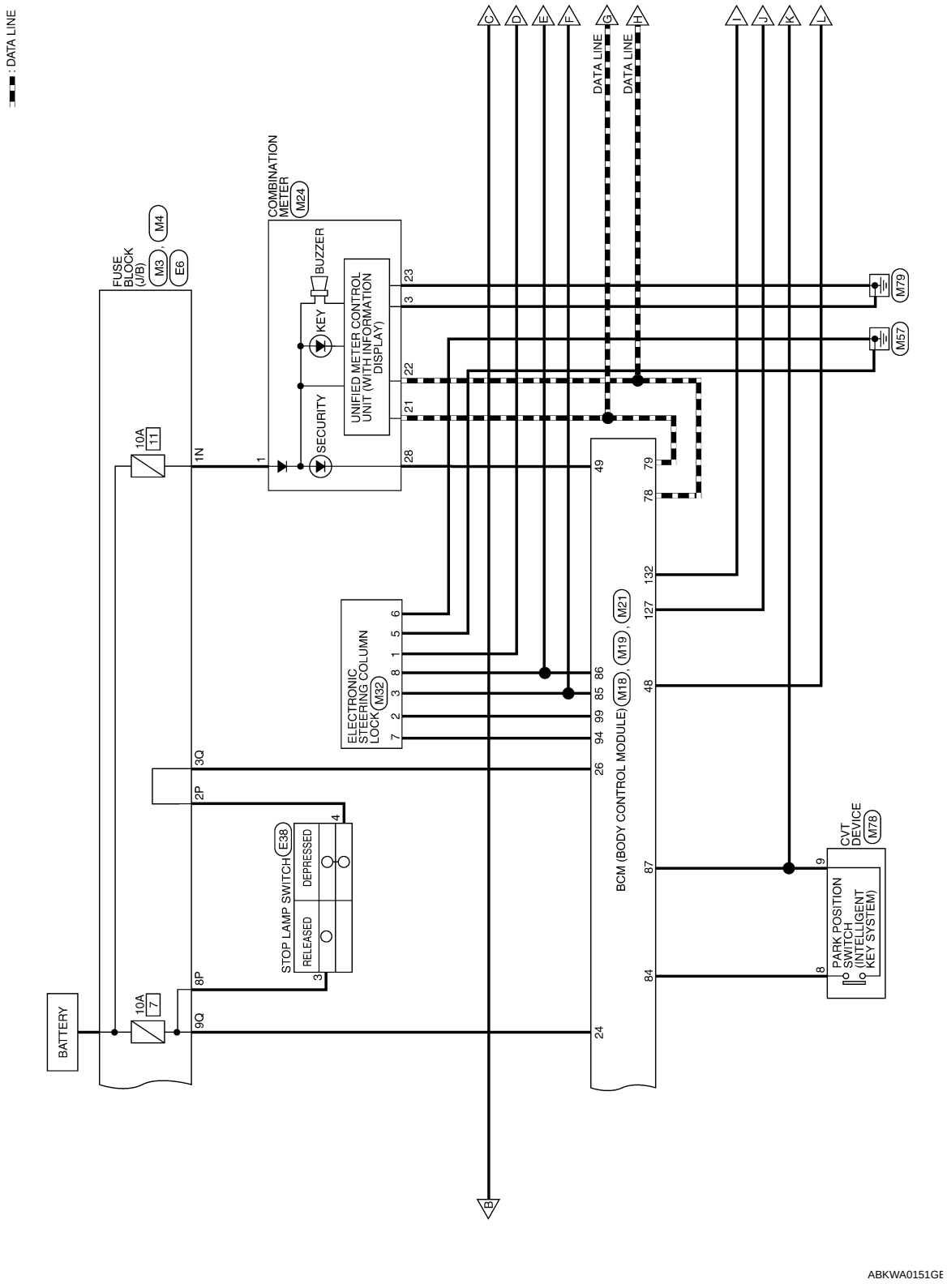
INFOID:0000000004255504

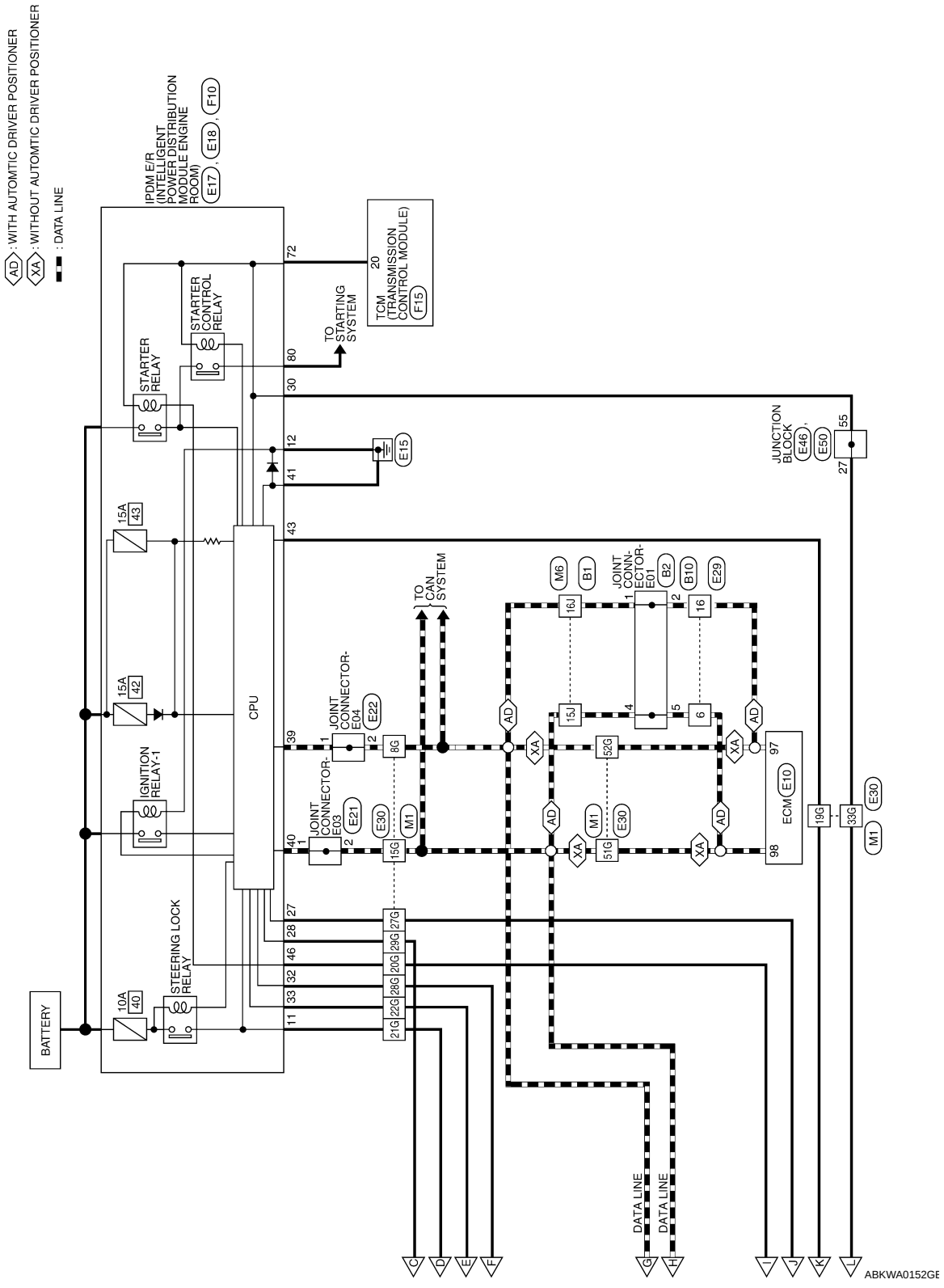
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION





ABKWA0150GE

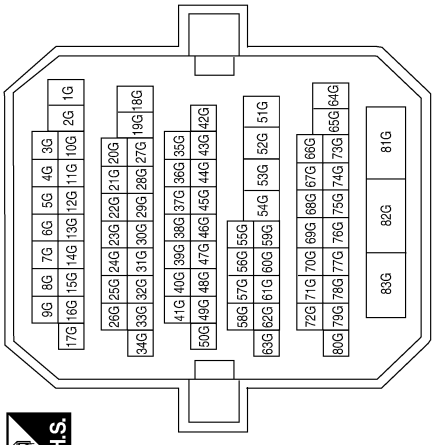

: DATA LINE
C
D
E
F
G
H
I
J
K
L
DATA LINE
DATA LINE
COMBINATION METER (M24)
BUZZER
KEY
SECURITY
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
FUSE BLOCK (J/B) (M3), (M4), E6
10A 11
10A 7
1N
3Q
2P
8P
9Q
BATTERY
STOP LAMP SWITCH (E38)
DEPRESSED
RELEASED
ELECTRONIC STEERING COLUMN LOCK (M32)
BCM (BODY CONTROL MODULE) (M18), (M19), (M21)
CVT DEVICE (M78)
PARK POSITION SWITCH (INTELLIGENT KEY SYSTEM)
(M79)
(M57)
B
ABKWA0151GE


AD : WITH AUTOMTIC DRIVER POSITIONER
XA : WITHOUT AUTOMTIC DRIVER POSITIONER
: DATA LINE
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E17, E18, F10
STARTER CONTROL RELAY
STARTER RELAY
IGNITION RELAY-1
STEERING LOCK RELAY
BATTERY
15A 43
15A 42
10A 40
CPU
TO STARTING SYSTEM
TCM (TRANSMISSION CONTROL MODULE) F15
TO CAN SYSTEM
JUNCTION BLOCK E46, E50
E15
JOINT CONNECTOR-E04 E22
JOINT CONNECTOR-E03 E21
JOINT CONN-ECTOR-E01 B2
ECM E10
E30
M1
M6
B1
B10
E29
DATA LINE
DATA LINE
ABKWA0152GE

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

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

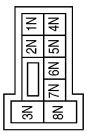
H.S.



Terminal No.	Color of Wire	Signal Name
8G	P	–
15G	L	–
19G	G/B	–
20G	R	–
21G	P/L	–
22G	G/R	–
27G	BR/W	–
28G	L/O	–
29G	BR	–
33G	R/G	–
51G	L	–
52G	P	–
82G	W/B	–

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

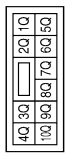
H.S.



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	–

ABKIA0484GB

Connector No.	M10
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
15	R/B	–
16	R/W	–

Terminal No.	Color of Wire	Signal Name
10J	SB	–
11J	W	–
12J	B	–
15J	L	–
16J	P	–
28J	R/B	–

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	GND 1
15	Y/L	ACC LED

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

H.S.

9J	8J	7J	6J	5J	4J	3J		2J	1J
17J	16J	15J	14J	13J	12J	11J	10J		
	25J	24J	23J	22J		21J	20J	19J	18J
	30J	29J	28J	27J	26J				
		37J	36J	35J	34J	33J	32J	31J	
		46J	45J	44J	43J	42J	41J	40J	39J	38J
		55J	54J	53J	52J	51J	50J	49J		48J	47J
		63J	62J	61J	60J	59J	58J	57J	56J		
		70J	69J	68J	67J	66J	65J	64J			
		79J	78J	77J	76J	75J	74J	73J	72J	71J	
		87J	86J	85J	84J		83J	82J	81J	80J	
		92J	91J	90J	89J	88J					
		99J	98J	97J	96J	95J	94J	93J			

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

ABKIA0485GB

Terminal No.	Color of Wire	Signal Name
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/ASCD CANCEL SW
91	L/R	RF POWER SUPPLY 12V
94	G/Y	S/L POWER SUPPLY 12V
99	L/Y	S/L K-LINE

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
68	G/O	FOB READER CLOCK
69	O	FOB READER DATA
71	L/O	RF1 TUNER SIGNAL
77	BR	ENG START SW
78	P	CAN-L

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	BRAKE SW 1
26	O/L	BRAKE SW 2
29	Y	FOB IN SW 1
32	R/B	AS DOOR SW
42	R	S/L LOCK LED
45	P	GND RF2 A/L
48	R/G	SHIFT N/P/NEUTRAL SW
49	L/O	IMMO LED (SECURITY INDICATOR)
58	SB	DR DOOR SW

Terminal No.	Color of Wire	Signal Name
118	L/O	BACK DOOR ANT B
119	BR/W	BACK DOOR ANT A
127	BR/W	IGN RELAY CONT1
132	R	ST RELAY OUTPUT
148	R/W	RR DOOR SW
149	R/B	RL DOOR SW

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

ABKIA0486GB

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 (POWER)
21	L	CAN-H
22	P	CAN-L
23	B	GND (CIRCUIT)
28	L/O	SECURITY

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

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	P	GND
2	L/O	RF1 TUNER SIGNAL
4	L/R	+12V

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.	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	–
4	BR	–
5	R	–
6	Y/L	–
7	LG	–
8	G/Y	–

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.	M41
Connector Name	FRONT CONSOLE ANTENNA
Connector Color	GRAY

H.S.

1	2

Terminal No.	Color of Wire	Signal Name
1	W/R	–
2	B/R	–

ABKIA0487GB

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

H.S.

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

Connector No.	M78
Connector Name	CVT DEVICE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
8	Y/R	DETENT KEY SW
9	G/B	DETENT KEY SW

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

H.S.

Terminal No.	Color of Wire	Signal Name
2P	LG	–
8P	R	–

Connector No.	E10
Connector Name	ECM
Connector Color	BLACK

H.S.

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

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	Y	DETENT SW
46	BR	START CONT

ABKIA0488GB

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

H.S.

9	10	11	12	13	14
3	4	5	6	7	8

25	26	27	28	29	30	31	32	33	34
15	16	17	18	19	20	21	22	23	24

37	38
35	36

Terminal No.	Color of Wire	Signal Name
11	O	ESCL
12	B	P-GND
27	W	IGN SIGNAL
28	SB	PUSH START SW
30	BR	CLUTCH I/L SW
32	P	SL CONDITION 1
33	G	SL CONDITION 2

Connector No.	E21
Connector Name	JOINT CONNECTOR-E03
Connector Color	WHITE

H.S.

4	3	2	1

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

Connector No.	E22
Connector Name	JOINT CONNECTOR-E04
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	P	–
2	P	–

Connector No.	E29
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
6	L	–
16	P	–

ABKIA0489GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
3	R	–
4	LG	–

Terminal No.	Color of Wire	Signal Name
8G	P	–
15G	L	–
19G	Y	–
20G	BR	–
21G	O	–
22G	G	–
27G	W	–
28G	P	–
29G	SB	–
33G	BR	–
51G	L	–
52G	P	–
82G	LG	–

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

H.S.

Connector No.	E50
Connector Name	JUNCTION BLOCK
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
55	BR	–

Connector No.	E46
Connector Name	JUNCTION BLOCK
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
27	BR	–

ABKIA0490GB

Connector No.	F10
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

53	54	55	56	57	58
47	48	49	50	51	52

69	70	71	72	73	74	75	76	77	78
59	60	61	62	63	64	65	66	67	68

81	82
79	80

Terminal No.	Color of Wire	Signal Name
72	R/B	NP SW
80	B/W	STARTER MOTOR

Connector No.	F15
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
20	R/B	ST RLY

Connector No.	B2
Connector Name	JOINT CONNECTOR-B01
Connector Color	BLACK

H.S.

6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	P	–
2	P	–
4	L	–
5	L	–

Terminal No.	Color of Wire	Signal Name
10J	SB	–
11J	W	–
12J	B	–
15J	L	–
16J	P	–
28J	BR	–

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

H.S.

1J	2J	3J	4J	5J	6J	7J	8J	9J
10J	11J	12J	13J	14J	15J	16J	17J	
18J	19J	20J	21J	22J	23J	24J	25J	
26J	27J	28J	29J	30J	31J	32J	33J	34J
35J	36J	37J	38J	39J	40J	41J	42J	43J
44J	45J	46J	47J	48J	49J	50J	51J	52J
53J	54J	55J	56J	57J	58J	59J	60J	61J
62J	63J	64J	65J	66J	67J	68J	69J	70J
71J	72J	73J	74J	75J	76J	77J	78J	79J
80J	81J	82J	83J	84J	85J	86J	87J	
88J	89J	90J	91J	92J	93J	94J	95J	96J
97J	98J	99J						

ABKIA0491GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	BR	–

Connector No.	B10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
6	L	–
16	P	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	SB	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	GR	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
15	GR	–
16	B	–

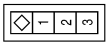
Connector No.	B29
Connector Name	REAR PARCEL SHELF ANTENNA
Connector Color	GRAY

H.S.

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

ABKIA0492GB

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



Terminal No.	Color of Wire	Signal Name
2	B	–

ABKIA0493GB

Wiring Diagram - NVIS -

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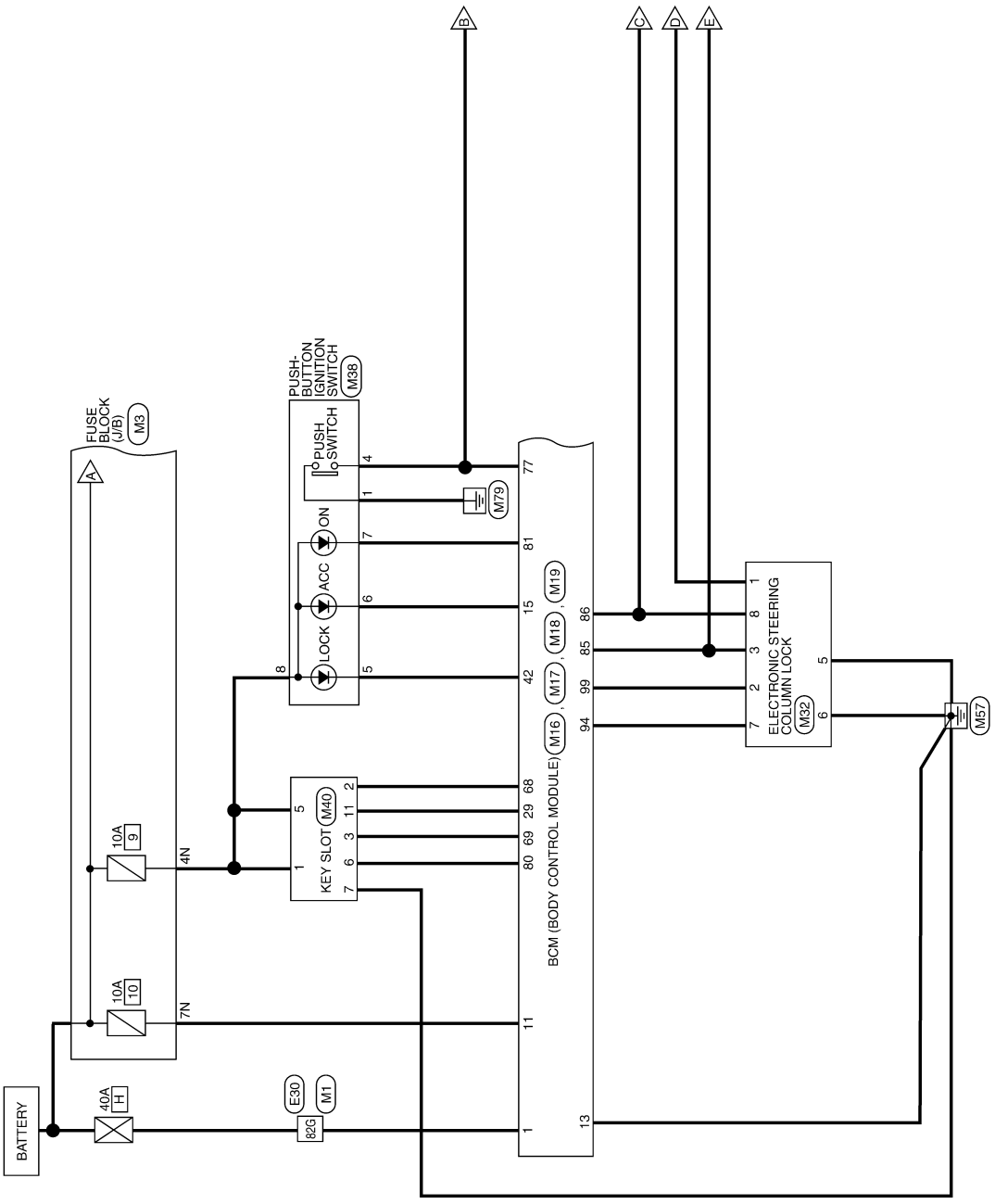
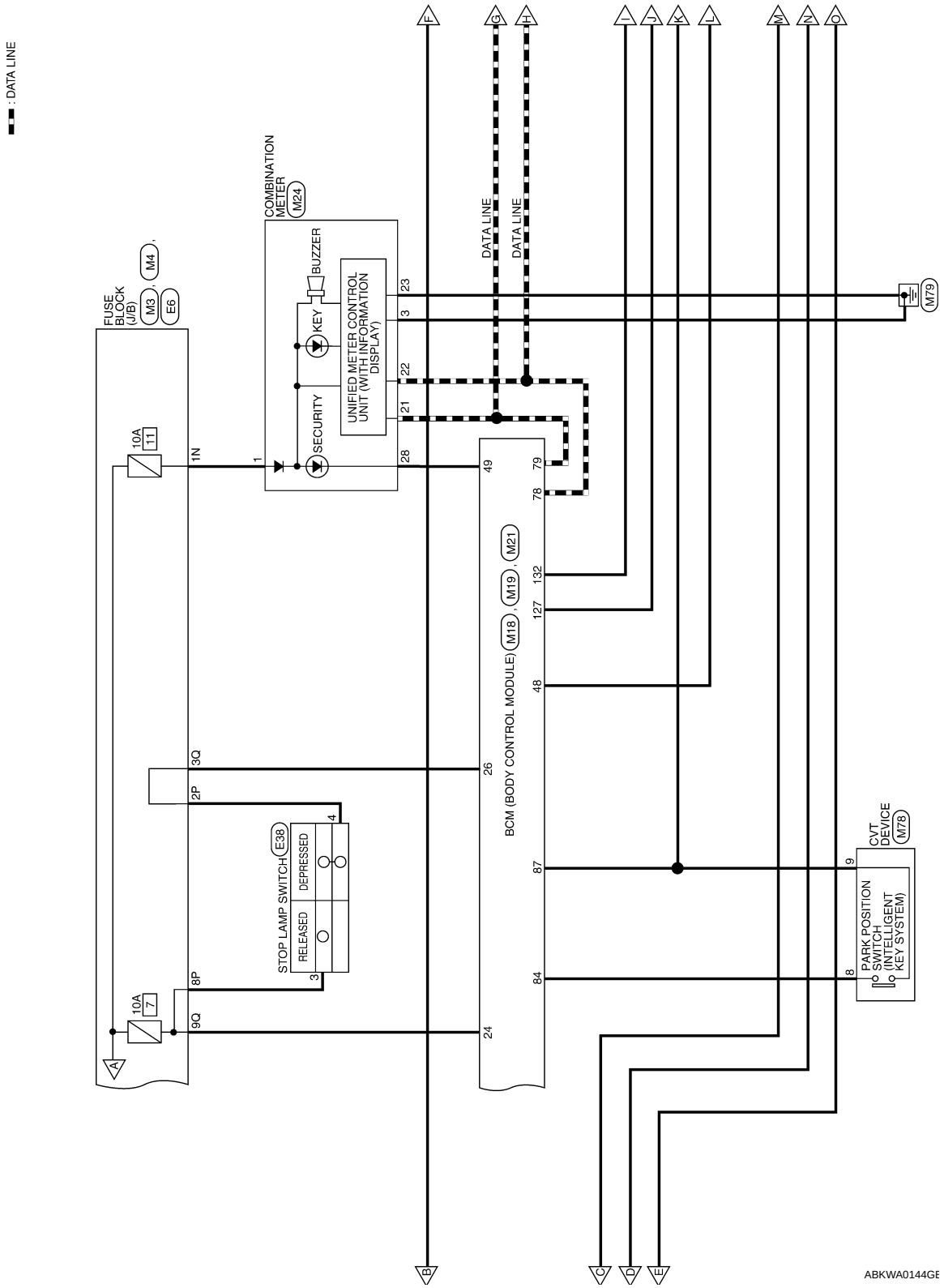
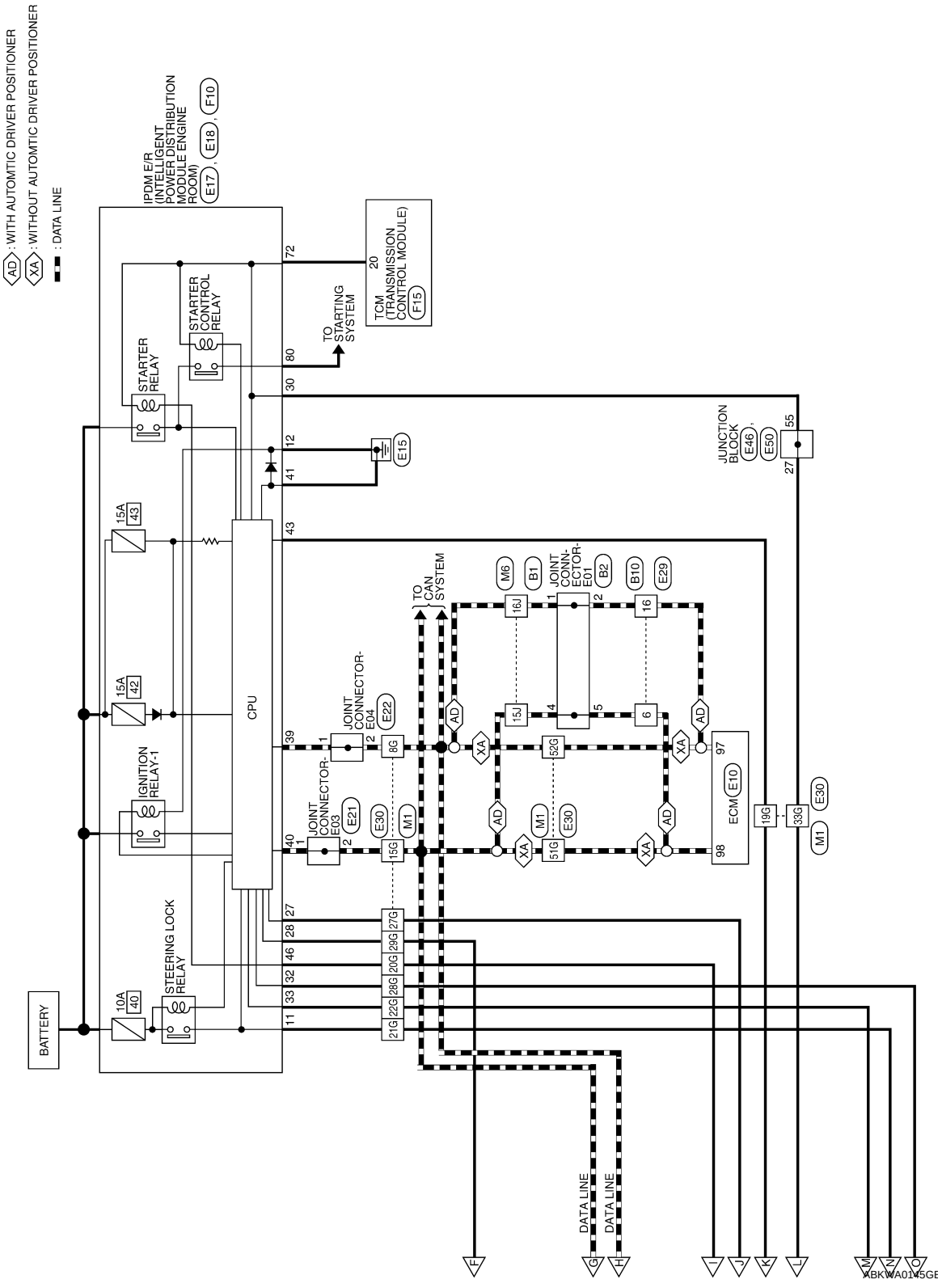


NVIS

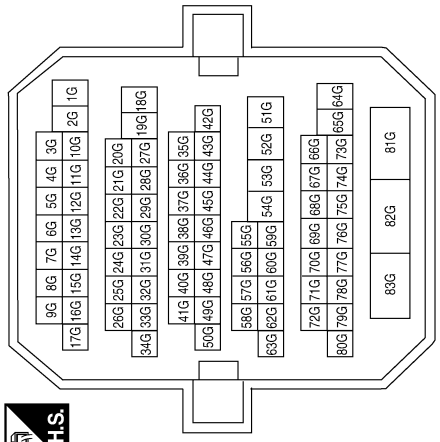
ABKWA0142GE


: DATA LINE
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)
RELEASED
DEPRESSED
BCM (BODY CONTROL MODULE) (M18), (M19), (M21)
CVT DEVICE (M78)
PARK POSITION SWITCH (INTELLIGENT KEY SYSTEM)
(M79)
ABKWA0144GE


AD : WITH AUTOMTIC DRIVER POSITIONER
XA : WITHOUT AUTOMTIC DRIVER POSITIONER
: DATA LINE
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E17, E18, F10
TCM (TRANSMISSION CONTROL MODULE) F15
TO STARTING SYSTEM
STARTER CONTROL RELAY
STARTER RELAY
JUNCTION BLOCK E46, E50
E15
15A 43
15A 42
IGNITION RELAY-1
STEERING LOCK RELAY
10A 40
BATTERY
CPU
TO CAN SYSTEM
JOINT CONNECTOR-E04 E22
JOINT CONNECTOR-E03 E21
JOINT CONN-ECTOR-E01
ECM E10
E30
M1
M6
B1
B2
B10
E29
DATA LINE
DATA LINE
XBKWA0145GE

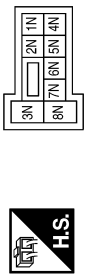
NVIS CONNECTORS

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



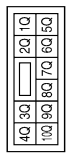
Terminal No.	Color of Wire	Signal Name
8G	P	–
15G	L	–
19G	G/B	–
20G	R	–
21G	P/L	–
22G	G/R	–
27G	BR/W	–
28G	L/O	–
29G	BR	–
33G	R/G	–
51G	L	–
52G	P	–
82G	W/B	–

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



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



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

ABKIA0468GB

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

Terminal No.	Color of Wire	Signal Name
24	R/W	BRAKE SW 1
26	O/L	BRAKE SW 2
29	Y	FOB IN SW 1
42	R	S/L LOCK LED
48	R/G	SHIFT N/P/NEUTRAL SW
49	L/O	IMMO LED (SECURITY INDICATOR)

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

H.S.

Terminal No.	Color of Wire	Signal Name
15J	L	–
16J	P	–

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

H.S.

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

ABKIA0469GB

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
77	BR	ENG START SW
78	P	CAN-L

Terminal No.	Color of Wire	Signal Name
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/ASCD CANCEL SW
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 RELAY CONT1
132	R	ST CONT USM

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 (POWER)
21	L	CAN-H
22	P	CAN-L
23	B	GND (CIRCUIT)
28	L/O	SECURITY

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.	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	–
4	BR	–
5	R	–
6	Y/L	–
7	LG	–
8	G/Y	–

ABKIA0470GB

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.	M78
Connector Name	CVT 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.	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	LG	–
8P	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.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

42	41	40	39
46	45	44	43

Terminal No.	Color of Wire	Signal Name
39	P	CAN-L
40	L	CAN-H
41	B	S-GND
43	Y	DETENT SW
46	BR	START CONT

ABKIA0471GB

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

H.S.

9	10	11	12	13	14
3	4	5	6	7	8

25	26	27	28	29	30	31	32	33	34
15	16	17	18	19	20	21	22	23	24

37	38
35	36

Terminal No.	Color of Wire	Signal Name
11	O	ESCL
12	B	P-GND
27	W	IGN SIGNAL
28	SB	PUSH START SW
30	BR	CLUTCH I/L SW
32	P	SL CONDITION 1
33	G	SL CONDITION 2

Connector No.	E21
Connector Name	JOINT CONNECTOR-E03
Connector Color	WHITE

H.S.

4	3	2	1

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

Connector No.	E29
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
6	L	–
16	P	–

Connector No.	E22
Connector Name	JOINT CONNECTOR-E04
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	P	–
2	P	–

ABKIA0472GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
3	R	–
4	LG	–

Terminal No.	Color of Wire	Signal Name
8G	P	–
15G	L	–
19G	Y	–
20G	BR	–
21G	O	–
22G	G	–
27G	W	–
28G	P	–
29G	SB	–
33G	BR	–
51G	L	–
52G	P	–
82G	LG	–

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

H.S.

Connector No.	E50
Connector Name	JUNCTION BLOCK
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
55	BR	–

Connector No.	E46
Connector Name	JUNCTION BLOCK
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
27	BR	–

ABKIA0473GB

Connector No.	F10
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

53	54	55	56	57	58
47	48	49	50	51	52

69	70	71	72	73	74	75	76	77	78
59	60	61	62	63	64	65	66	67	68

81	82
79	80

Terminal No.	Color of Wire	Signal Name
72	R/B	NP SW
80	B/W	STARTER MOTOR

Connector No.	F15
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
20	R/B	ST RLY

Connector No.	B2
Connector Name	JOINT CONNECTOR-B01
Connector Color	BLACK

H.S.

6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	P	–
2	P	–
4	L	–
5	L	–

Terminal No.	Color of Wire	Signal Name
15J	L	–
16J	P	–

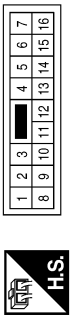
Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1J	2J	3J	4J	5J	6J	7J	8J	9J	10J	11J	12J	13J	14J	15J	16J	17J
18J	19J	20J	21J	22J	23J	24J	25J	26J	27J	28J	29J	30J				
31J	32J	33J	34J	35J	36J	37J	38J	39J	40J	41J	42J	43J	44J	45J	46J	
47J	48J	49J	50J	51J	52J	53J	54J	55J	56J	57J	58J	59J	60J	61J	62J	63J
64J	65J	66J	67J	68J	69J	70J	71J	72J	73J	74J	75J	76J	77J	78J	79J	
80J	81J	82J	83J	84J	85J	86J	87J	88J	89J	90J	91J	92J				
93J	94J	95J	96J	97J	98J	99J										

ABKIA0474GB

Connector No.	B10
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	L	–
16	P	–

ABKIA0475GB

Wiring Diagram - VEHICLE SECURITY SYSTEM -

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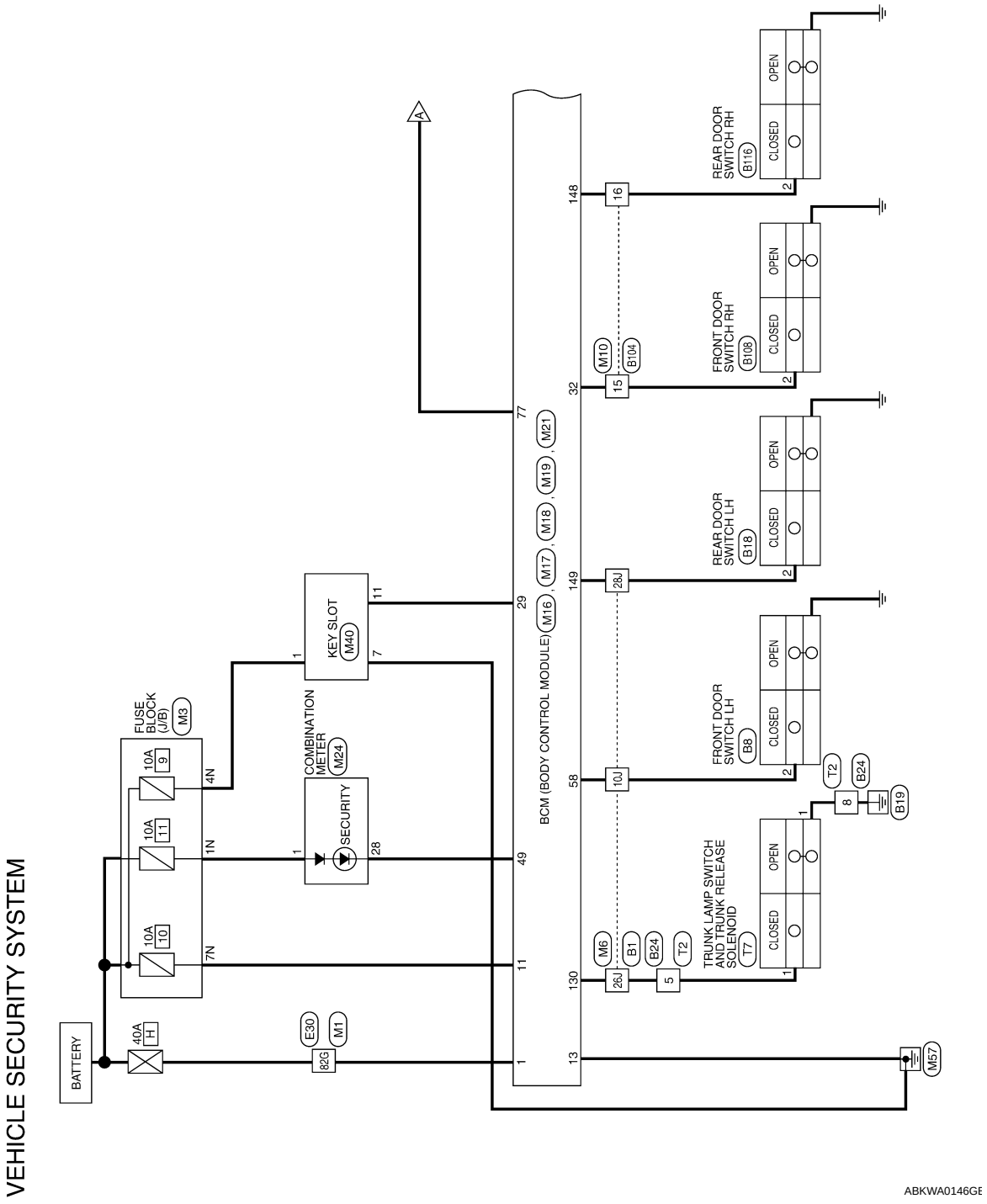

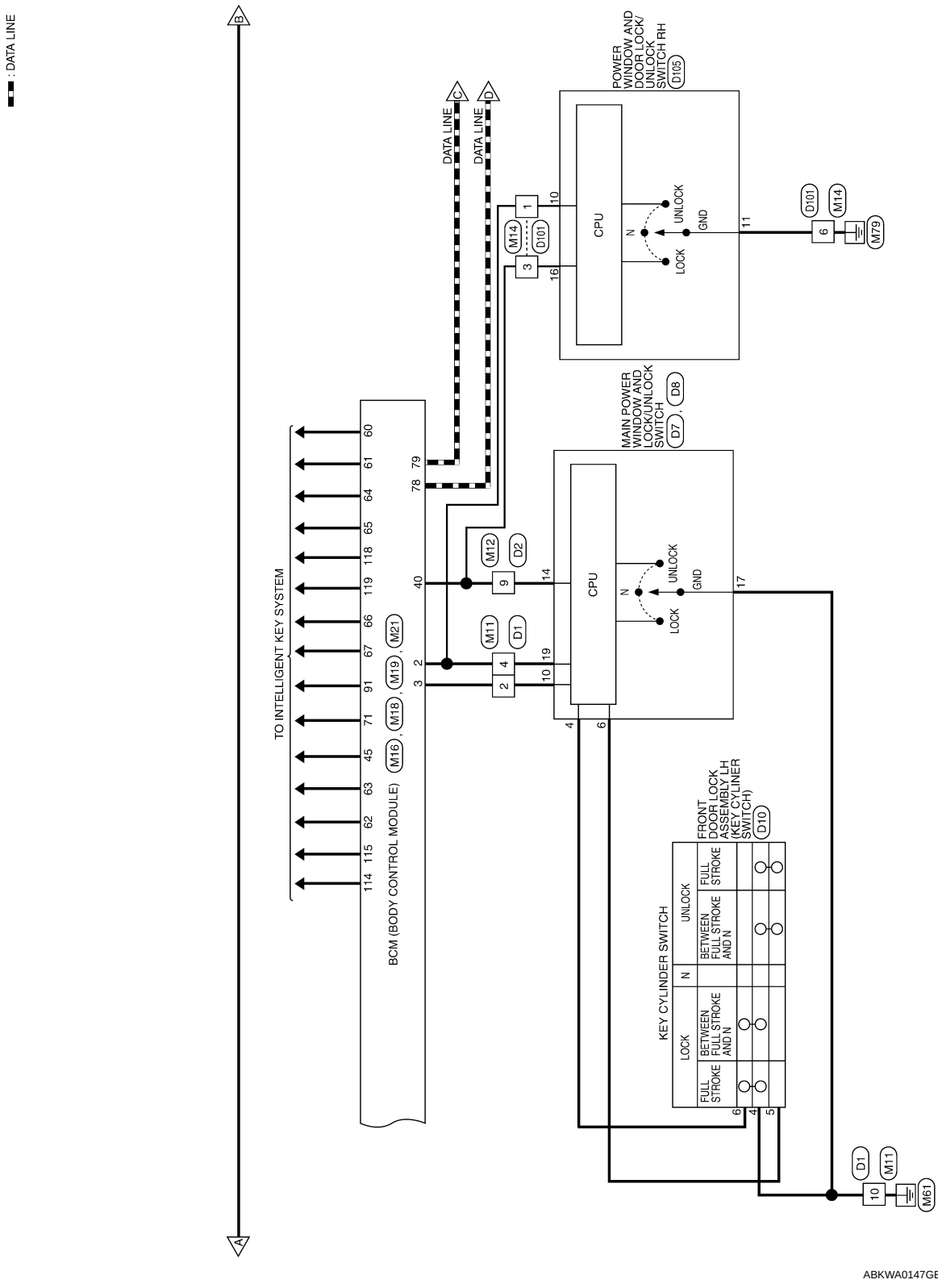

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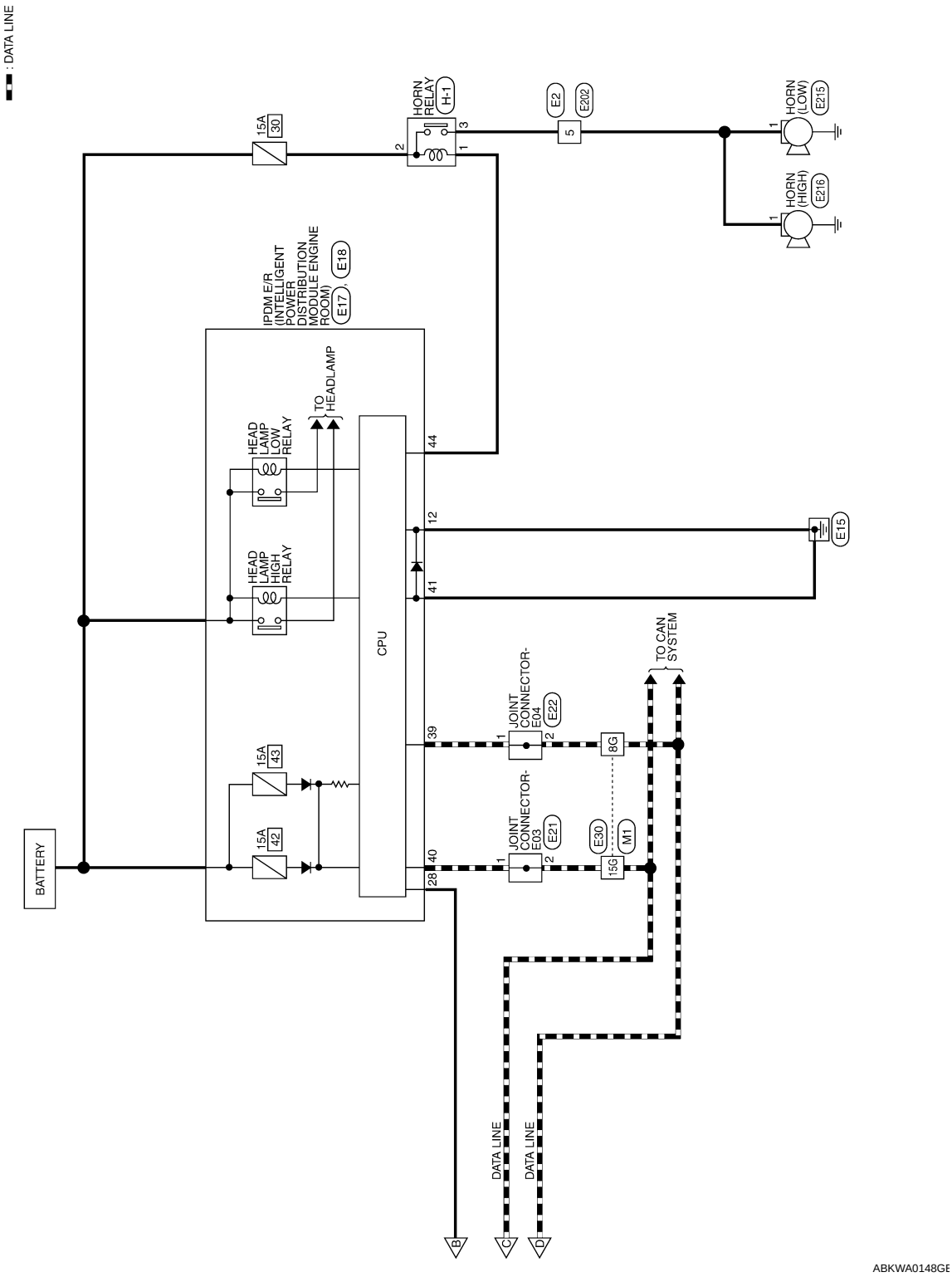

: DATA LINE
HORN RELAY H-1
15A 30
E2
E202
5
HORN (LOW) E215
HORN (HIGH) E216
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E17, E18
TO HEADLAMP
HEAD LAMP LOW RELAY
HEAD LAMP HIGH RELAY
CPU
44
12
41
E15
15A 43
15A 42
BATTERY
39
40
28
JOINT CONNECTOR-E04 E22
JOINT CONNECTOR-E03 E21
8G
E30
15G
M1
TO CAN SYSTEM
DATA LINE
DATA LINE
B
C
D
ABKWA0148GE

VEHICLE SECURITY SYSTEM CONNECTORS

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

H.S.

9G	8G	7G	6G	5G	4G	3G	2G	1G
17G	16G	15G	14G	13G	12G	11G	10G	
26G	25G	24G	23G	22G	21G	20G	19G	18G
34G	33G	32G	31G	30G	29G	28G	27G	
41G	40G	39G	38G	37G	36G	35G		
50G	49G	48G	47G	46G	45G	44G	43G	42G
58G	57G	56G	55G					
63G	62G	61G	60G	59G	54G	53G	52G	51G
72G	71G	70G	69G	68G	67G	66G		
80G	79G	78G	77G	76G	75G	74G	73G	65G	64G
				83G	82G	81G		

Terminal No.	Color of Wire	Signal Name
8G	P	–
15G	L	–
82G	W/B	–

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

H.S.

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

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

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

H.S.

9J	8J	7J	6J	5J	4J	3J	2J	1J
17J	16J	15J	14J	13J	12J	11J	10J	
25J	24J	23J	22J		21J	20J	19J	18J
30J	29J	28J	27J	26J				
37J	36J	35J	34J	33J	32J	31J		
46J	45J	44J	43J	42J	41J	40J	39J	38J
55J	54J	53J	52J	51J	50J	49J		
63J	62J	61J	60J	59J	58J	57J	56J	48J	47J
70J	69J	68J	67J	66J	65J	64J		
79J	78J	77J	76J	75J	74J	73J	72J	71J
87J	86J	85J	84J		83J	82J	81J	80J
92J	91J	90J	89J	88J				
99J	98J	97J	96J	95J	94J	93J		

Terminal No.	Color of Wire	Signal Name
10J	SB	–
26J	W	–
28J	R/B	–

ABKIA0476GB

Connector No.	M10
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
15	R/B	–
16	R/W	–

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
2	L/W	–
4	R/Y	–
10	B	–

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	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
9	Y/G	–

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
1	R/Y	–
3	Y/G	–
6	B	–

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
2	R/Y	P/W POWER SUPPLY PERM
3	L/W	P/W POWER SUPPLY IGN

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

ABKIA0477GB

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
40	Y/G	PW K-LINE
45	P	GND RF2 A/L
49	L/O	IMMO LED (SECURITY INDICATOR)
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
62	V	AS DOOR ANT B
63	P	AS DOOR ANT A
64	V	DR DOOR ANT B

Terminal No.	Color of Wire	Signal Name
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	RF POWER SUPPLY 12V

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	W	TRUNK SW
148	R/W	RR DOOR SW
149	R/B	RL DOOR 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
28	L/O	SECURITY

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	O	–

ABKIA0478GB

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

H.S.

42	41	40	39
46	45	44	43

Terminal No.	Color of Wire	Signal Name
39	P	CAN-L
40	L	CAN-H
41	B	S-GND
44	W	HORN RLY

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

H.S.

9	10	11	12	13	14
3	4	5	6	7	8

25	26	27	28	29	30	31	32	33	34
15	16	17	18	19	20	21	22	23	24

37	38
35	36

Terminal No.	Color of Wire	Signal Name
12	B	P-GND
28	SB	PUSH START SW

Connector No.	E21
Connector Name	JOINT CONNECTOR-E03
Connector Color	WHITE

H.S.

4	3	2	1

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

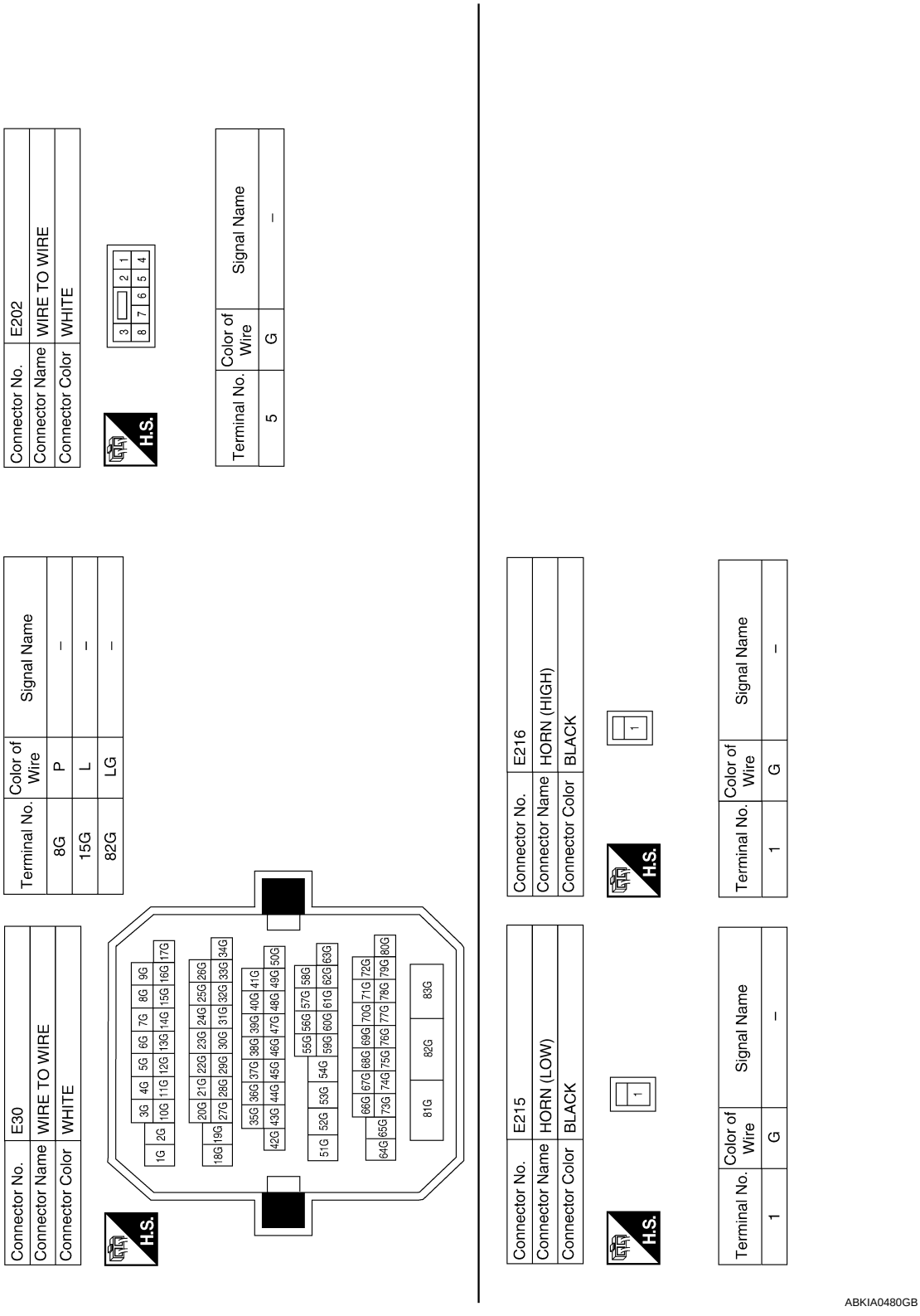
Connector No.	E22
Connector Name	JOINT CONNECTOR-E04
Connector Color	WHITE

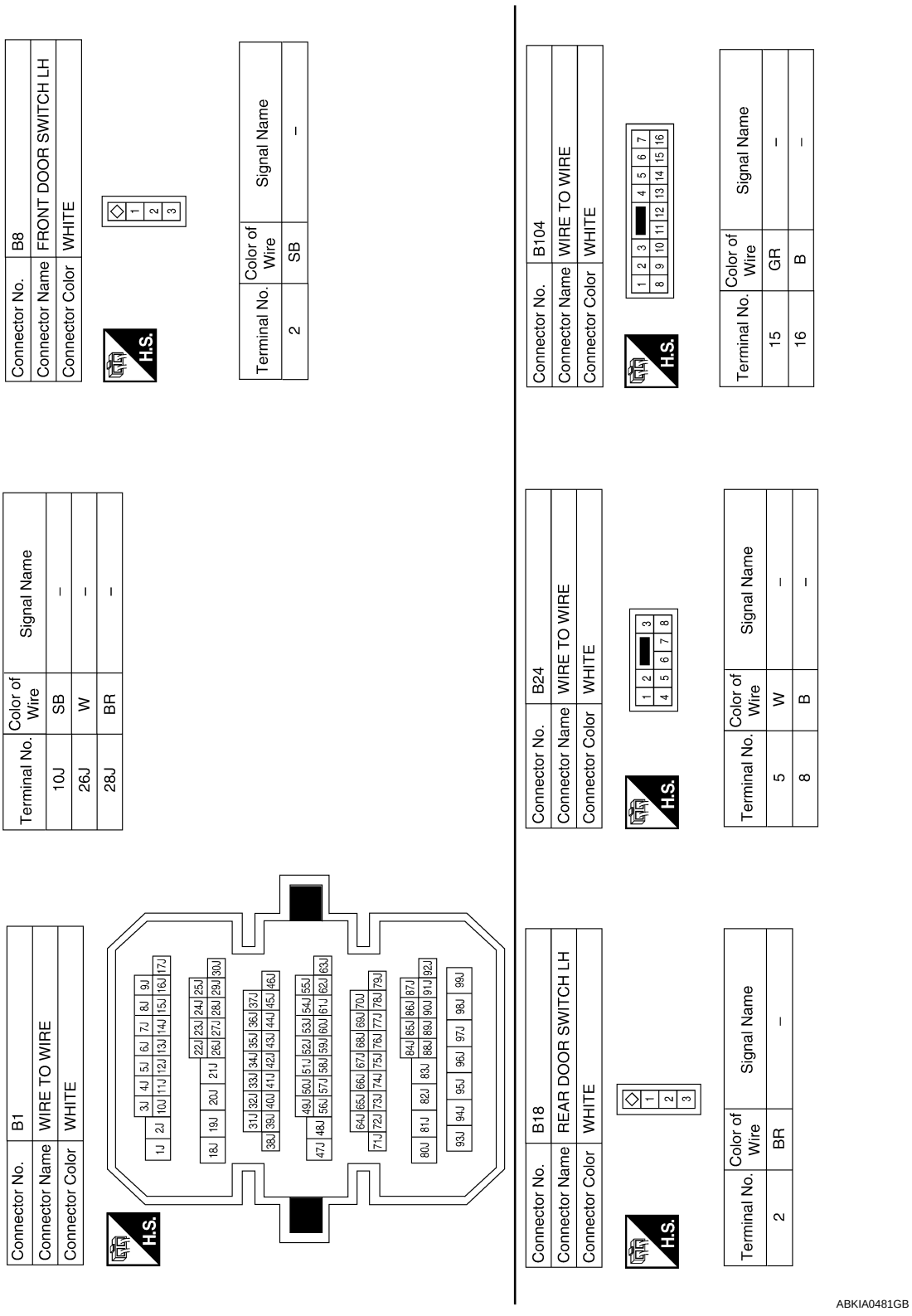
H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	P	–
2	P	–

ABKIA0479GB


Connector No. E30
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1G 2G 3G 4G 5G 6G 7G 8G 9G
10G 11G 12G 13G 14G 15G 16G 17G
18G 19G 20G 21G 22G 23G 24G 25G 26G
27G 28G 29G 30G 31G 32G 33G 34G
35G 36G 37G 38G 39G 40G 41G
42G 43G 44G 45G 46G 47G 48G 49G 50G
51G 52G 53G 54G 55G 56G 57G 58G
59G 60G 61G 62G 63G
64G 65G 66G 67G 68G 69G 70G 71G 72G
73G 74G 75G 76G 77G 78G 79G 80G
81G 82G 83G
Terminal No. Color of Wire Signal Name
8G P –
15G L –
82G LG –
Connector No. E202
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
3 2 1
8 7 6 5 4
Terminal No. Color of Wire Signal Name
5 G –
Connector No. E215
Connector Name HORN (LOW)
Connector Color BLACK
H.S.
1
Terminal No. Color of Wire Signal Name
1 G –
Connector No. E216
Connector Name HORN (HIGH)
Connector Color BLACK
H.S.
1
Terminal No. Color of Wire Signal Name
1 G –
ABKIA0480GB


Connector No. B1
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1J 2J 3J 4J 5J 6J 7J 8J 9J 10J 11J 12J 13J 14J 15J 16J 17J
18J 19J 20J 21J 22J 23J 24J 25J 26J 27J 28J 29J 30J
31J 32J 33J 34J 35J 36J 37J 38J 39J 40J 41J 42J 43J 44J 45J 46J
47J 48J 49J 50J 51J 52J 53J 54J 55J 56J 57J 58J 59J 60J 61J 62J 63J
64J 65J 66J 67J 68J 69J 70J 71J 72J 73J 74J 75J 76J 77J 78J 79J
80J 81J 82J 83J 84J 85J 86J 87J 88J 89J 90J 91J 92J
93J 94J 95J 96J 97J 98J 99J
Terminal No. Color of Wire Signal Name
10J SB –
26J W –
28J BR –
Connector No. B8
Connector Name FRONT DOOR SWITCH LH
Connector Color WHITE
H.S.
1 2 3
Terminal No. Color of Wire Signal Name
2 SB –
Connector No. B18
Connector Name REAR DOOR SWITCH LH
Connector Color WHITE
H.S.
1 2 3
Terminal No. Color of Wire Signal Name
2 BR –
Connector No. B24
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 W –
8 B –
Connector No. B104
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
15 GR –
16 B –
ABKIA0481GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	GR	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–

Connector No.	T2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	W	–
8	B	–

Connector No.	T7
Connector Name	TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID
Connector Color	WHITE

H.S.

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

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

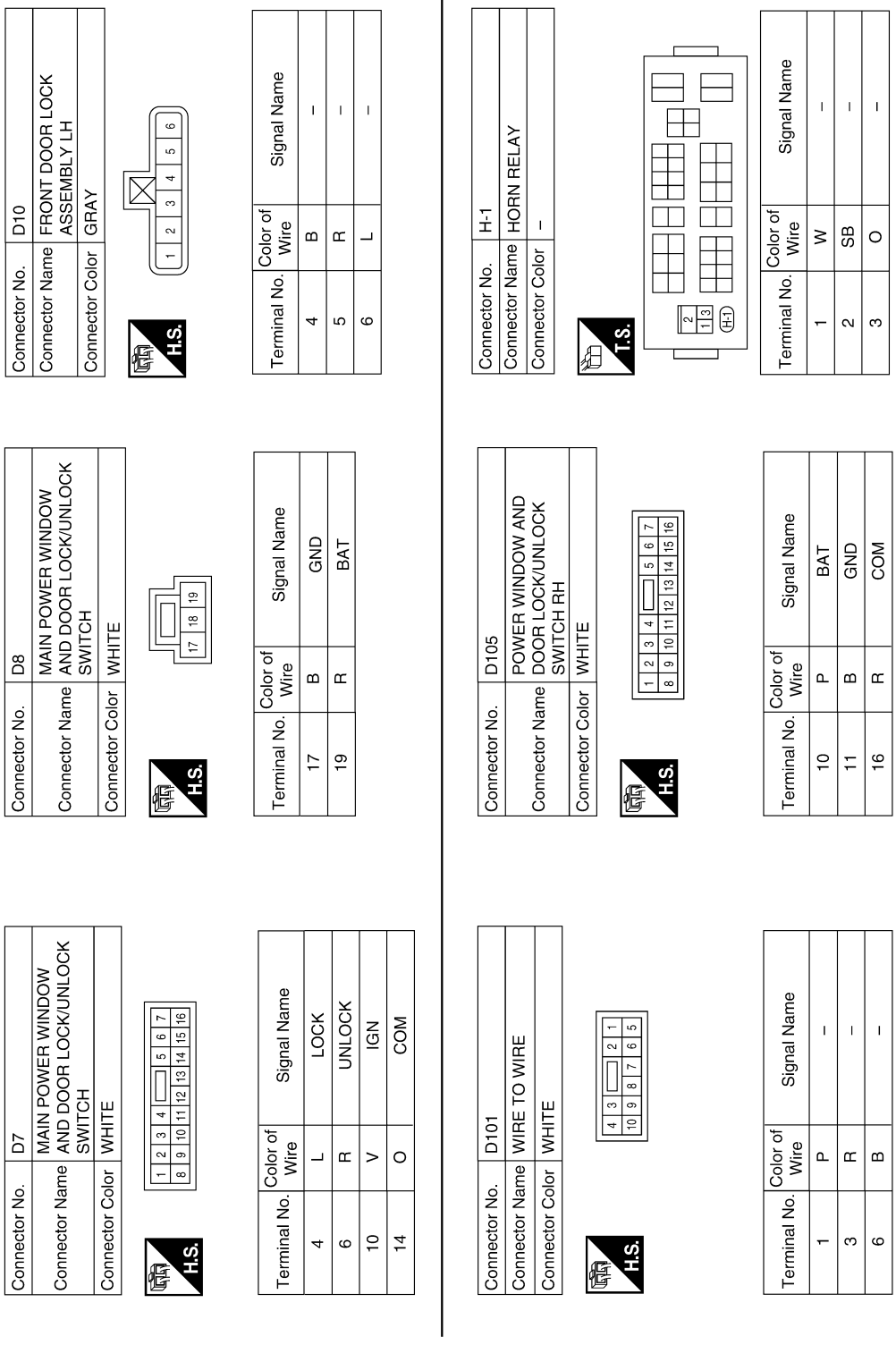
Terminal No.	Color of Wire	Signal Name
2	V	–
4	R	–
10	B	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
9	O	–

ABKIA0482GB



Fail Safe

INFOID:0000000004291620

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC

Display contents of CONSULT	Fail-safe	Cancellation
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Starter control relay signal • Starter relay status signal
B2562: LO VOLTAGE	• Inhibit engine cranking • Inhibit electronic steering column lock	100 ms after the power supply voltage increases to more than 8.8 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 km/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
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 engine 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 engine 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)

Display contents of CONSULT	Fail-safe	Cancellation
B2608: STARTER RELAY	Inhibit engine 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 engine 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 engine 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 engine status signal (CAN)
B2612: S/L STATUS	• Inhibit engine 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 engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B2619: BCM	Inhibit engine cranking	1 second after the electronic steering column lock unit power supply output control inside BCM becomes normal
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions are fulfilled • Power position changes to ACC • Receives engine status signal (CAN)

DTC Inspection Priority Chart

INFOID:0000000004291621

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

Priority	DTC
1	• B2562: LO VOLTAGE
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

Priority	DTC
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 • 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
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:0000000004291622

NOTE:

Details of time display

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

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	BCS-37
U1010: CONTROL UNIT (CAN)	—	—	—	BCS-38
U0415: VEHICLE SPEED SIG	—	—	—	BCS-39
B2013: ID DISCORD BCM-S/L	×	—	—	SEC-30
B2014: CHAIN OF S/L-BCM	×	—	—	SEC-31
B2190: NATS ANTENNA AMP	×	—	—	SEC-34
B2191: DIFFERENCE OF KEY	×	—	—	SEC-37
B2192: ID DISCORD BCM-ECM	×	—	—	SEC-38
B2193: CHAIN OF BCM-ECM	×	—	—	SEC-39
B2553: IGNITION RELAY	—	—	—	PCS-54
B2555: STOP LAMP	—	—	—	SEC-40
B2556: PUSH-BTN IGN SW	—	×	—	SEC-42
B2557: VEHICLE SPEED	×	×	—	SEC-44
B2560: STARTER CONT RELAY	×	×	—	SEC-45
B2562: LOW VOLTAGE	—	—	—	BCS-40
B2601: SHIFT POSITION	×	×	—	SEC-46
B2602: SHIFT POSITION	×	×	—	SEC-49
B2603: SHIFT POSI STATUS	×	×	—	SEC-51
B2604: PNP SW	×	×	—	SEC-54
B2605: PNP SW	×	×	—	SEC-56
B2606: S/L RELAY	×	×	—	SEC-58
B2607: S/L RELAY	×	×	—	SEC-59
B2608: STARTER RELAY	×	×	—	SEC-61
B2609: S/L STATUS	×	×	—	SEC-63
B260A: IGNITION RELAY	×	×	—	PCS-56
B260B: STEERING LOCK UNIT	—	×	—	SEC-67
B260C: STEERING LOCK UNIT	—	×	—	SEC-68
B260D: STEERING LOCK UNIT	—	×	—	SEC-69
B260F: ENG STATE SIG LOST	×	×	—	SEC-70
B2612: S/L STATUS	×	×	—	SEC-72
B2614: ACC RELAY CIRC	—	×	—	PCS-58
B2615: BLOWER RELAY CIRC	—	×	—	PCS-61
B2616: IGN RELAY CIRC	—	×	—	PCS-64
B2617: STARTER RELAY CIRC	×	×	—	PCS-64
B2618: BCM	×	×	—	PCS-67

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2619: BCM	×	×	—	SEC-78
B261A: PUSH-BTN IGN SW	—	×	—	SEC-79
B2621: INSIDE ANTENNA	—	—	—	DLK-57
B2622: INSIDE ANTENNA	—	—	—	DLK-60
B2623: INSIDE ANTENNA	—	—	—	DLK-63
B26E1: ENG STATE NO RES	×	×	—	SEC-71
C1704: LOW PRESSURE FL	—	—	×	WT-48
C1705: LOW PRESSURE FR	—	—	×	WT-48
C1706: LOW PRESSURE RR	—	—	×	WT-48
C1707: LOW PRESSURE RL	—	—	×	WT-48
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-15
C1713: [CHECKSUM ERR] FR	—	—	×	WT-15
C1714: [CHECKSUM ERR] RR	—	—	×	WT-15
C1715: [CHECKSUM ERR] RL	—	—	×	WT-15
C1716: [PRESSDATA ERR] FL	—	—	×	WT-17
C1717: [PRESSDATA ERR] FR	—	—	×	WT-17
C1718: [PRESSDATA ERR] RR	—	—	×	WT-17
C1719: [PRESSDATA ERR] RL	—	—	×	WT-17
C1720: [CODE ERR] FL	—	—	×	WT-15
C1721: [CODE ERR] FR	—	—	×	WT-15
C1722: [CODE ERR] RR	—	—	×	WT-15
C1723: [CODE ERR] RL	—	—	×	WT-15
C1724: [BATT VOLT LOW] FL	—	—	×	WT-15
C1725: [BATT VOLT LOW] FR	—	—	×	WT-15
C1726: [BATT VOLT LOW] RR	—	—	×	WT-15
C1727: [BATT VOLT LOW] RL	—	—	×	WT-15
C1729: VHCL SPEED SIG ERR	—	—	×	WT-18
C1734: CONTROL UNIT	—	—	×	WT-19

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

Reference Value

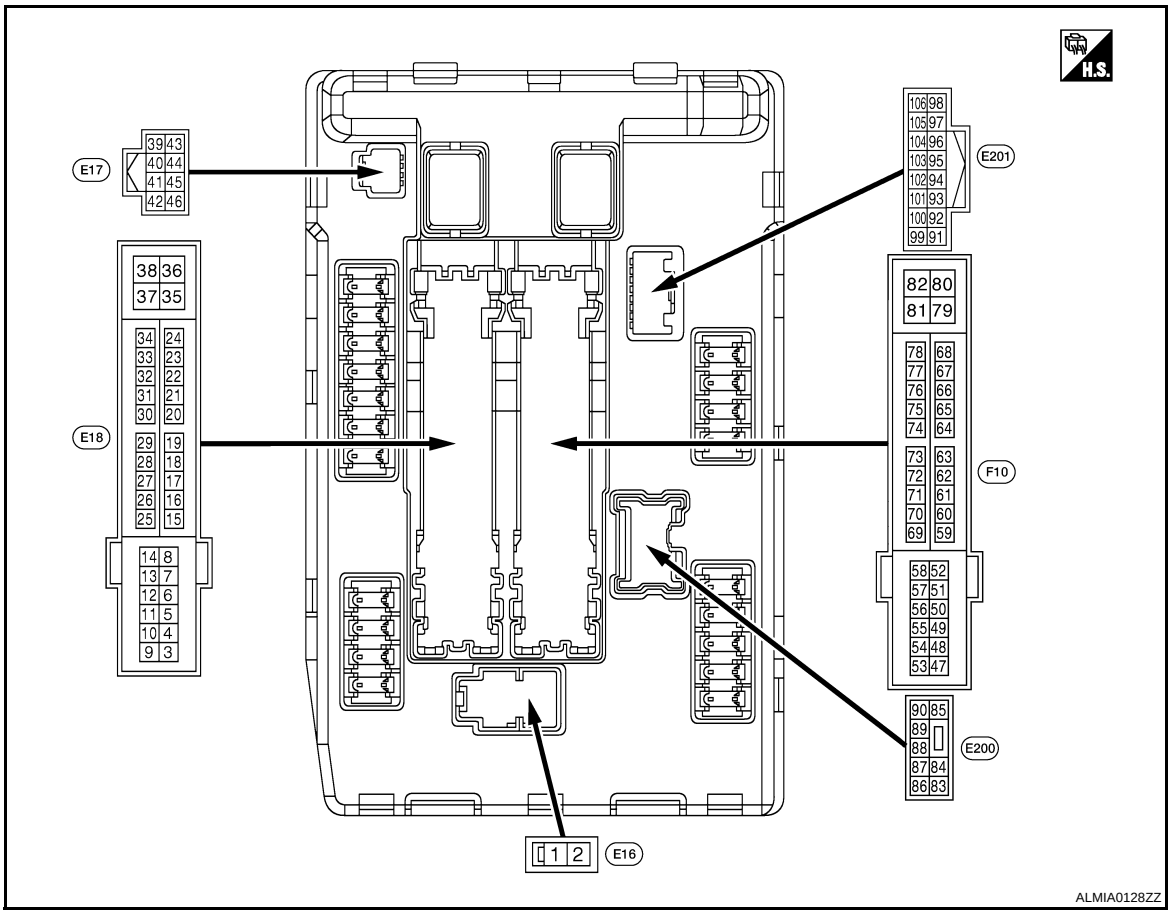
INFOID:0000000004291623

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1,2,3,4
AC COMP REQ	Engine running	A/C switch OFF	Off
		A/C switch ON (Compressor is operating)	On
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 running light activated (Only for Canada models)	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
INTER/NP SW	Ignition switch ON	CVT selector lever in any position other than P or N	Off
	Ignition switch ON	CVT selector lever in P or N position	On
ST RLY CONT	Ignition switch ON		Off
	At engine cranking		On
IHBT RLY -REQ	Ignition switch ON		Off
	At engine cranking		On

Monitor Item	Condition		Value/Status
ST/INHI RLY	Ignition switch ON		Off
	At engine cranking		ST →INHI
	The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF		UNKWN
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 driver door after the ignition switch is turned OFF (for a few seconds) • Press the push-button ignition switch when the steering lock is activated		On
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
HOOD SW	**NOTE:** This item is displayed, but cannot be monitored.		On
HL WASHER REQ	**NOTE:** This item is displayed, but cannot be monitored.		On

TERMINAL LAYOUT



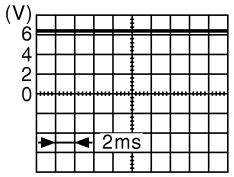
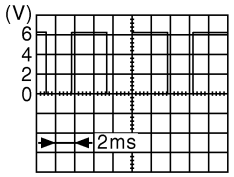
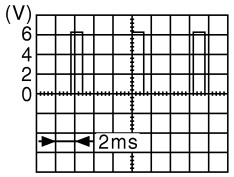
PHYSICAL VALUES

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 (L)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
4 (LG)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch LO	Battery voltage
5 (Y)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch HI	Battery voltage
6 (L)	Ground	Daytime light relay power supply (Canada models only)	Output	Ignition switch OFF		Battery voltage
7 (GR)	Ground	Tail, license plate lamps & interior lamps	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
10 (BR)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
11 (O)	Ground	Electronic steering column lock 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		0 V
12 (B)	Ground	Ground	—	Ignition switch ON		0 V
13 (SB)	Ground	Fuel pump power supply	Output	Approximately 1 second or more after turning the ignition switch ON		0 V
				• Approximately 1 second after turning the ignition switch ON • Engine running		Battery voltage
15 (W)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
16 (R)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position	0 V
					Any position other than front wiper stop position	Battery voltage
19 (Y)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
20 (L)	Ground	Ambient sensor ground	—	Ignition switch ON		0V
21 (LG)	Ground	Ambient sensor	—	Ignition switch ON		5V
22 (SB)	Ground	Refrigerent pressure sensor ground	—	Ignition switch ON		0V
23 (GR)	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 (G)	Ground	Refrigerent pressure sensor power supply	—	Ignition switch ON		5V
25 (GR)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
27 (W)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage
				Ignition switch ON		0 V
28 (SB)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0 V
				Release the push-button ignition switch		Battery voltage
30 (BR)	Ground	Starter relay control	Input	CVT selector lever in any position other than P or N (ignition switch ON)		0 V
				CVT selector lever P or N (ignition switch ON)		Battery voltage
32 (P)	Ground	Electronic steering column lock unit condition-1	Input	Electronic steering column lock is activated		0 V
				Electronic steering column lock is deactivated		Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
33 (G)	Ground	Electronic steering column lock condition-2	Input	Electronic steering column lock is activated		Battery voltage
				Electronic steering column lock is deactivated		0 V
34 (O)	Ground	Cooling fan relay-3 control	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
35 (P)	Ground	Cooling fan motor control	Output	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
36 (G)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
38 (GR)	Ground	Cooling fan motor control	Output	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
39 (P)	—	CAN - L	Input/ Output	—		—
40 (L)	—	CAN - H	Input/ Output	—		—
41 (B)	Ground	Ground	—	Ignition switch ON		0 V
42 (SB)	Ground	Cooling fan relay-2 control	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
43 (Y)	Ground	CVT device (Detention switch)	Input	Ignition switch ON	Press the CVT selector button (CVT selector lever P)	Battery voltage
					• CVT selector lever in any position other than P • Release the CVT selector button (CVT selector lever P)	0 V
44 (W)	Ground	Horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
45 (GR)	Ground	Anti theft horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
46 (BR)	Ground	Starter relay control	Input	CVT selector lever in any position other than P or N (ignition switch ON)		0 V
				CVT selector lever P or N (ignition switch ON)		Battery voltage
48 (W)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 V
					A/C switch ON (A/C compressor is operating)	Battery voltage
49 (R/G)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V
				• 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		0 V
				Ignition switch ON		Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
52 (Y/G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				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)		0 V
				• 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)		0 V
				• 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		0 V
				Ignition switch ON		Battery voltage
57 (O)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
58 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				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 - 1.5 V
70 (O)	Ground	Throttle control motor relay control	Output	Ignition switch ON → OFF		0 -1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON		0 - 1.0 V
72 (R/B)	Ground	PNP switch signal	Input	Ignition switch ON	CVT selector lever in P or N position	Battery voltage
					CVT selector lever in any position other than P or N position	0 V
75 (LG)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
					Engine running	Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
76 (SB)	Ground	Power generation command signal	Output	Ignition switch ON		 JPMIA0001GB 6.3 V
				40% is set on “Active test”, “ALTERNATOR DUTY” of “ENGINE”		 JPMIA0002GB 3.8 V
				80% is set on “Active test”, “ALTERNATOR DUTY” of “ENGINE”		 JPMIA0003GB 1.4 V
77 (GR)	Ground	Fuel pump relay control	Output	• Approximately 1 second after turning the ignition switch ON • Engine running		0 - 1.0 V
				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
80 (B/W)	Ground	Starter motor	Output	At engine cranking		Battery voltage
83 (R/Y)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
84 (L)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
86 (W/R)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	• Front fog lamp switch ON • Daytime running light activated (Only for Canada models)	Battery voltage
					Front fog lamp switch OFF	0 V
87 (L/Y)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	• Front fog lamp switch ON • Daytime running light activated (Only for Canada models)	Battery voltage
					Front fog lamp switch OFF	0 V
88 (R/W)	Ground	Washer pump power supply	Output	Ignition switch ON		Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
89 (L/W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	• Lighting switch HI • Lighting switch PASS	Battery voltage
					Lighting switch OFF	0 V
90 (G)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	• Lighting switch HI • Lighting switch PASS	Battery voltage
					Lighting switch OFF	0 V
91 (LG/ R)	Ground	Parking lamp (RH)	Output	Ignition switch ON	Lighting switch 1ST	Battery voltage
					Lighting switch OFF	0 V
92 (LG/ B)	Ground	Parking lamp (LH)	Output	Ignition switch ON	Lighting switch 1ST	Battery voltage
					Lighting switch OFF	0 V
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 (Only for Canada models)	Output	Ignition switch ON	Daytime light system active	Battery voltage
				Ignition switch ON	Daytime light system inactive	0 V

Fail Safe

INFOID:0000000004291624

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
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%

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 • Illumination • 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.
Starter motor	Starter control relay OFF
Electronic steering column lock	Steering 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:0000000004291625

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-18
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-19
B2099: IGN RELAY OFF	—	CRNT	1 – 39	PCS-20
B2108: STRG LCK RELAY ON	—	CRNT	1 – 39	SEC-81
B2109: STRG LCK RELAY OFF	—	CRNT	1 – 39	SEC-82
B210A: STRG LCK STATE SW	—	CRNT	1 – 39	SEC-83
B210B: START CONT RLY ON	—	CRNT	1 – 39	SEC-87
B210C: START CONT RLY OFF	—	CRNT	1 – 39	SEC-88
B210D: STARTER RELAY ON	—	CRNT	1 – 39	SEC-89
B210E: STARTER RELAY OFF	—	CRNT	1 – 39	SEC-90
B210F: INTRLCK/PNP SW ON	—	CRNT	1 – 39	SEC-92
B2110: INTRLCK/PNP SW OFF	—	CRNT	1 – 39	SEC-94

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:0000000004255513

Engine cannot be started with all Intelligent Keys.

CAUTION:

- **Follow Trouble Diagnosis Flowchart referring to "SEC-5, "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	SEC-96
	IPDM E/R	SEC-97
2. Check push button ignition switch		SEC-79
3. Check Intermittent Incident		GI-39

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000004255514

Procedure			Diagnostic procedure	Refer to page
Symptom				
1	Vehicle security system cannot be set by ····	Door switch	Check door switch	DLK-68
		Trunk	Check trunk room lamp switch	DLK-84
		Door outside key	Check key cylinder switch	DLK-78
		Intelligent Key	Check Intelligent Key.	DLK-112
		—	Check Intermittent Incident	GI-39
	Security indicator does not turn ON.		Check vehicle security indicator	SEC-108
			Check Intermittent Incident	GI-39
2	* Vehicle security system does not sound alarm when ····	Any door is opened.	Check door switch	DLK-68
			Check Intermittent Incident	GI-39
3	Vehicle security alarm does not activate.	Horn alarm	Check horn	SEC-104
			Check Intermittent Incident	GI-39
		Head lamp alarm	Check head lamp alarm	SEC-106
			Check Intermittent Incident	GI-39
4	Vehicle security system cannot be canceled by ····	Door outside key	Check key cylinder switch	SEC-101
			Check Intermittent Incident	GI-39
		Intelligent Key	Check Intelligent Key	DLK-112
			Check Intermittent Incident	GI-39

*: Check that the system is in the armed phase.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

INFOID:0000000004255515

Security indicator does not turn ON or flash.

CAUTION:

- **Follow Trouble Diagnosis Flowchart referring to "SEC-5, "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-108
2. Check Intermittent Incident	GI-39

ON-VEHICLE MAINTENANCE

PRE-INSPECTION FOR DIAGNOSTIC

Basic Inspection

INFOID:0000000004255516

The engine start function, door lock function, power distribution system and NATS-IVIS/NMS in the Intelligent Key system are closely related to each other regarding control. Narrow down the functional area in question by performing basic inspection to identify which function is malfunctioning. The vehicle security function can operate only when the door lock and power distribution systems 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 is 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-185, "Symptom Table".

2.CHECK ENGINE STARTING

1. Checks that the engine starts when operating the Intelligent Key inserted into the key slot.

Does the engine start?

YES >> GO TO 3
NO >> Refer to SEC-184, "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-68, "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. Check that the position indicator is illuminated at different positions of the circuit.

Is each position indicator illuminating?

YES >> GO TO 5
NO >> Refer to SEC-79, "Description".

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.

>> Refer to SEC-187, "Vehicle Security Operation Check".

Vehicle Security Operation Check

INFOID:0000000004255517

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.

Security indicator lamp should illuminate.

OK >> GO TO 3
NG >> Perform diagnosis and repair. Refer to SEC-108, "Component Function Check".

3. CHECK ALARM FUNCTION

1. After 30 seconds, security indicator lamp will start to blink.
2. Open any door or hood before unlocking with Intelligent Key or mechanical key, or open trunk lid without Intelligent Key or mechanical key.

Do alarm function properly.

OK >> GO TO 4
NG >> Check the following.
- The vehicle security system does not phase in alarm mode. Refer to SEC-185, "Symptom Table".
- Alarm (horn, headlamp and hazard lamp) do not operate. Refer to SEC-185, "Symptom Table".

4. CHECK ALARM CANCEL OPERATION

Unlock any door or open trunk lid using Intelligent Key or mechanical key.

Alarm (horn, headlamp and hazard lamp) should stop.

OK >> Inspection End.
NG >> Check door lock function. Refer to SEC-18, "System Description".

ON-VEHICLE REPAIR

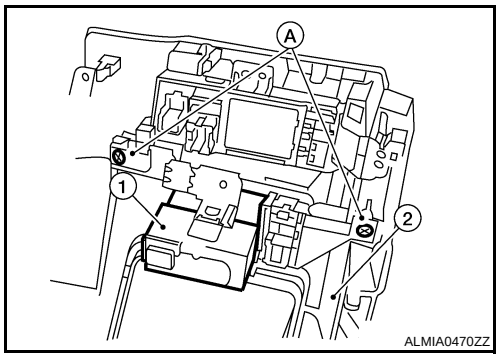
KEY SLOT

Removal and Installation

INFOID:0000000004255518

REMOVAL

1. Remove the instrument lower panel LH. Refer to IP-12, "Removal and Installation".
2. Disconnect key slot connector.
3. Remove the key slot screws (A), and then remove key slot (1) from instrument lower panel LH (2).



INSTALLATION

Installation is in the reverse order of removal.

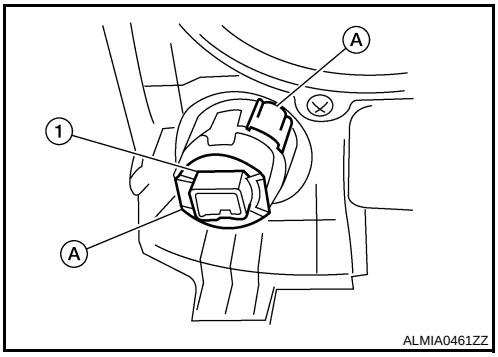
PUSH BUTTON IGNITION SWITCH

Removal and Installation

INFOID:0000000004255519

REMOVAL

1. Remove the cluster lid A assembly. Refer to IP-12, "Removal and Installation".
2. Release the pawls (A) and remove the push-button ignition switch (1) from cluster lid A.



INSTALLATION

Installation is in the reverse order of removal.