SECTION SEC
SECURITY CONTROL SYSTEM

CONTENTS

WITH INTELLIGENT KEY SYSTEM

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012423928

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.**

Precaution for Work

INFOID:0000000012423929

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

PREPARATION

Special Service Tool

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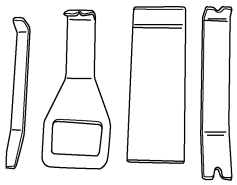
The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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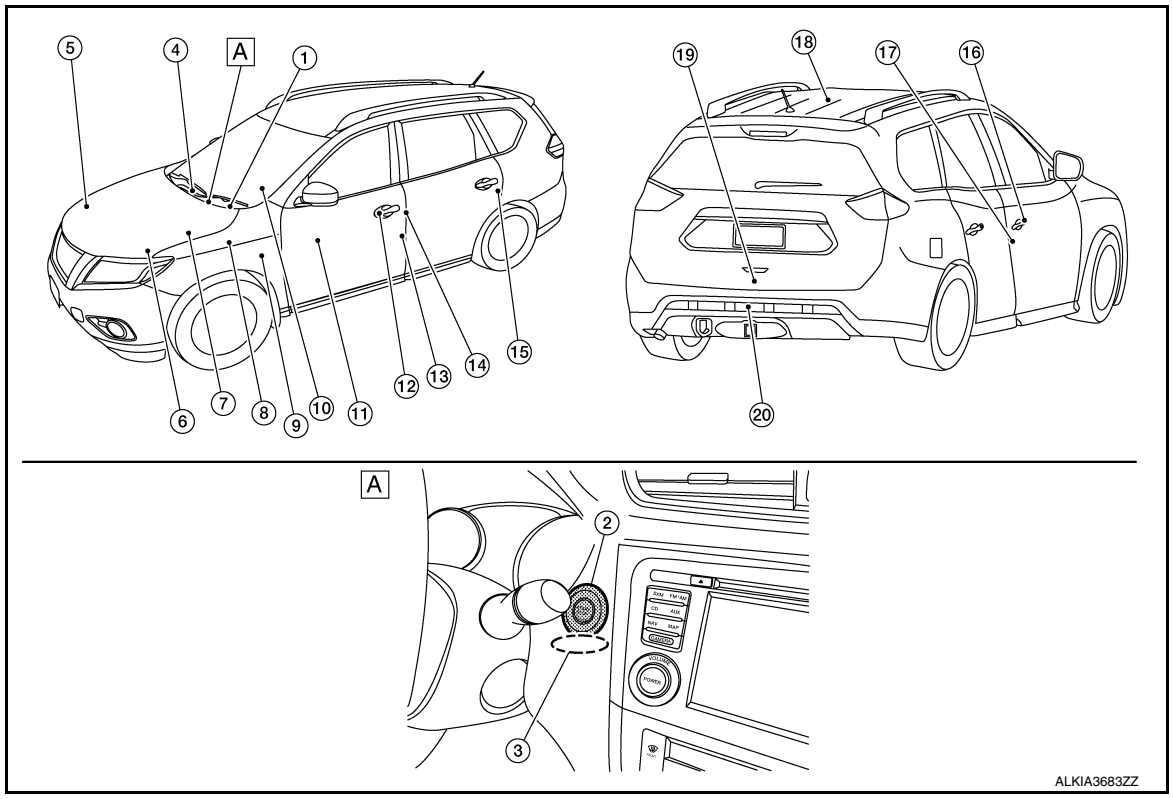

A. View right of steering column.

No.	Component	Function
1.	Combination meter	Combination meter transmits the vehicle speed signal to BCM via CAN communication. BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM compares both signals to detect the vehicle speed. Security indicator lamp is located on combination meter. Security indicator lamp blinks when ignition switch is in any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] is on board. Refer to MWI-6, "METER SYSTEM : Component Parts Location".
2.	Push-button ignition switch	Push-button ignition switch has push switch inside which detects that push-button ignition switch is pressed, and then transmits ON/OFF signal to BCM. BCM changes the ignition switch position with the operation of push-button ignition switch. BCM maintains the ignition switch position status while push-button ignition switch is not operated.
3.	NATS antenna amp.	Refer to SEC-9, "NATS Antenna Amp.".
4.	Inside key antenna (instrument center)	Inside key antenna (instrument center) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-24, "Inside Key Antenna (Instrument Center)".
5.	Horn	Horn is operated when the panic button on the Intelligent Key is pressed or the alarm is activated.
6.	Transmission range switch	Refer to TM-14, "CVT CONTROL SYSTEM : Transmission Range Switch".

No.	Component	Function
7.	IPDM E/R	Refer to PCS-6, "Component Parts Location".
8.	Stop lamp switch	Refer to BRC-12, "Stop Lamp Switch".
9.	BCM	BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] and VEHICLE SECURITY SYSTEM. BCM performs the ID verification between BCM and Intelligent Key when the Intelligent Key is carried into the detection area of inside key antenna, and push-button ignition switch is pressed. If the ID verification result is OK, ignition switch operation is available. Then, when the ignition switch is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine. Refer to BCS-7, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
10.	CVT shift selector	Refer to TM-20, "SHIFT LOCK SYSTEM : Component Parts Location".
11.	Main power window and door lock/unlock switch (Front power window and door lock/unlock switch RH similar)	Door lock and unlock switch is integrated into the main power window and door lock/unlock switch. Door lock and unlock switch transmits door lock/unlock operation signal to BCM. Refer to PWC-7, "Main Power Window And Door Lock/Unlock Switch".
12.	Outside key antenna LH	Outside key antenna (LH) detects whether Intelligent Key is outside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-24, "Outside Key Antenna (LH)".
13.	Front door lock assembly LH	Door key cylinder switch is integrated into front door lock assembly (driver side). Door key cylinder switch detects door LOCK/UNLOCK operation using mechanical key, and then transmits the operation signal to BCM. Refer to DLK-26, "Front Door Lock Assembly (LH)".
14.	Front door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
15.	Rear door switch LH (rear door switch RH similar)	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
16.	Outside key antenna RH	Outside key antenna (RH) detects whether Intelligent Key is outside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-25, "Outside Key Antenna (RH)".
17.	Front door switch RH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
18.	Inside key antenna (console)	Inside key antenna (console) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-24, "Inside Key Antenna (Console)".
19.	Back door lock assembly	Back door lock actuator locks/unlocks the back door latch assembly.
20.	Outside key antenna (rear bumper)	Outside key antenna (Rear bumper) detects whether Intelligent Key is outside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-24, "Outside Key Antenna (Rear Bumper)".

NATS Antenna Amp.

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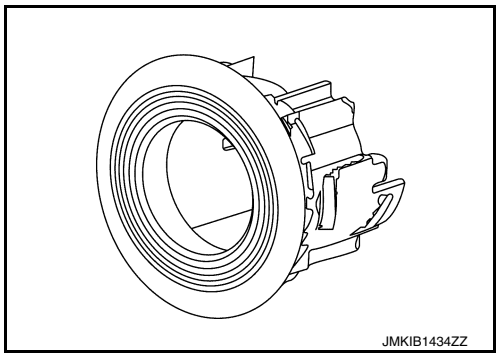
The ID verification is performed between BCM and transponder integrated into Intelligent Key via NATS antenna amp. when Intelligent Key backside is contacted to push-button ignition switch in case that Intelligent Key battery is discharged. If the ID verification result is OK, the operation of ignition switch is available.



SYSTEM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Diagram

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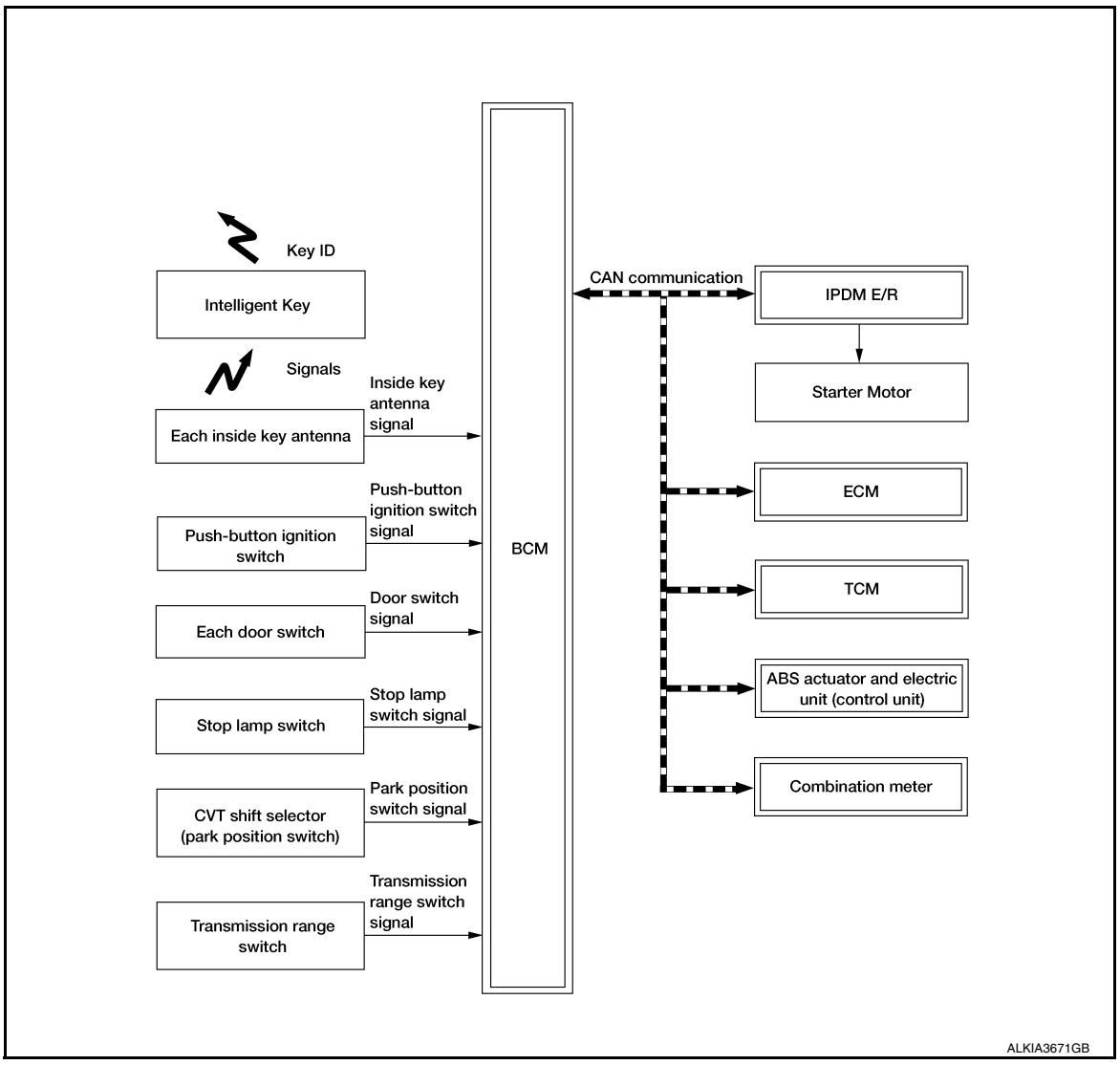


INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:0000000012423934

SYSTEM DESCRIPTION

- The engine start function of Intelligent Key system makes it possible to start and stop the engine without using the key, based on the electronic ID verification. The electronic ID verification is performed between BCM and Intelligent Key when the push-button ignition switch is pressed while the Intelligent Key is within the detection area of inside key antenna.
  NOTE:
  The driver should carry the Intelligent Key at all times.
- Intelligent Key has 2 IDs [Intelligent Key ID and NVIS (NATS) ID]. It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- When Intelligent Key battery is discharged, engine can be started by operating push-button ignition switch after contacting Intelligent Key backside to push-button ignition switch. At that time, the NVIS (NATS) ID verification is performed.
- If the ID is successfully verified, when push-button ignition switch is pressed, the engine can be started.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.

NOTE:
Refer to SEC-13, "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description" for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

The transponder [the chip for NVIS (NATS) ID verification] is integrated into the Intelligent Key.
In that case, the NVIS (NATS) ID verification can be performed when Intelligent Key backside is contacted to push-button ignition switch. If verification result is OK, engine can be started.

OPERATION WHEN INTELLIGENT KEY IS CARRIED

1. When the push-button ignition switch is pressed, the BCM activates the inside key antenna and transmits the request signal to the Intelligent Key.
2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the BCM.
3. BCM receives the Intelligent Key ID signal and verifies it with the registered ID.
4. BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
5. IPDM E/R turns the ignition relay ON and starts the ignition power supply.
6. BCM detects that the selector lever position and brake pedal operating condition.
7. BCM transmits the starter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
8. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
9. Power supply is supplied through the starter relay and the starter control relay to operate the starter motor.
   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.
10. When BCM receives feedback signal from ECM indicating that the engine is started, the BCM transmits a stop signal to IPDM E/R and stops cranking by turning OFF the starter motor relay. (If engine start is unsuccessful, cranking stops automatically within 5 seconds.)
    CAUTION:
    When the Intelligent Key is carried outside of the vehicle (inside key antenna detection area) while the power supply is in the ACC or ON position, even if the engine start condition* is satisfied, the engine cannot be started.

*: For the engine start condition, refer to the table below “POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION”.

OPERATION RANGE

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

ENGINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IGNITION SWITCH

When Intelligent Key battery is discharged, the NVIS (NATS) ID verification between transponder in Intelligent Key and BCM is performed when Intelligent Key backside is contacted to push-button ignition switch. If the verification result is OK, engine can be started.

POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

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

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna and when Intelligent Key backside is contacted to push-button ignition switch, it is equivalent to the operations below.
- When starting the engine, the BCM monitors under the engine start conditions:

- Brake pedal operating condition
- Selector lever position
- Vehicle speed

Vehicle speed: less than 4 km/h (2.5 MPH)

Power supply position	Engine start/stop condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
LOCK → ACC	—	Not depressed	1
LOCK → ACC → ON	—	Not depressed	2
LOCK → ACC → ON → OFF	—	Not depressed	3
LOCK → START ACC → START ON → START	P or N position	Depressed	1
Engine is running → OFF	—	—	1

Vehicle speed: 4 km/h (2.5 MPH) or more

Power supply position	Engine start/stop condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
Engine is running → ACC	—	—	Emergency stop operation
Engine stall return operation while driving	N position	Not depressed	1

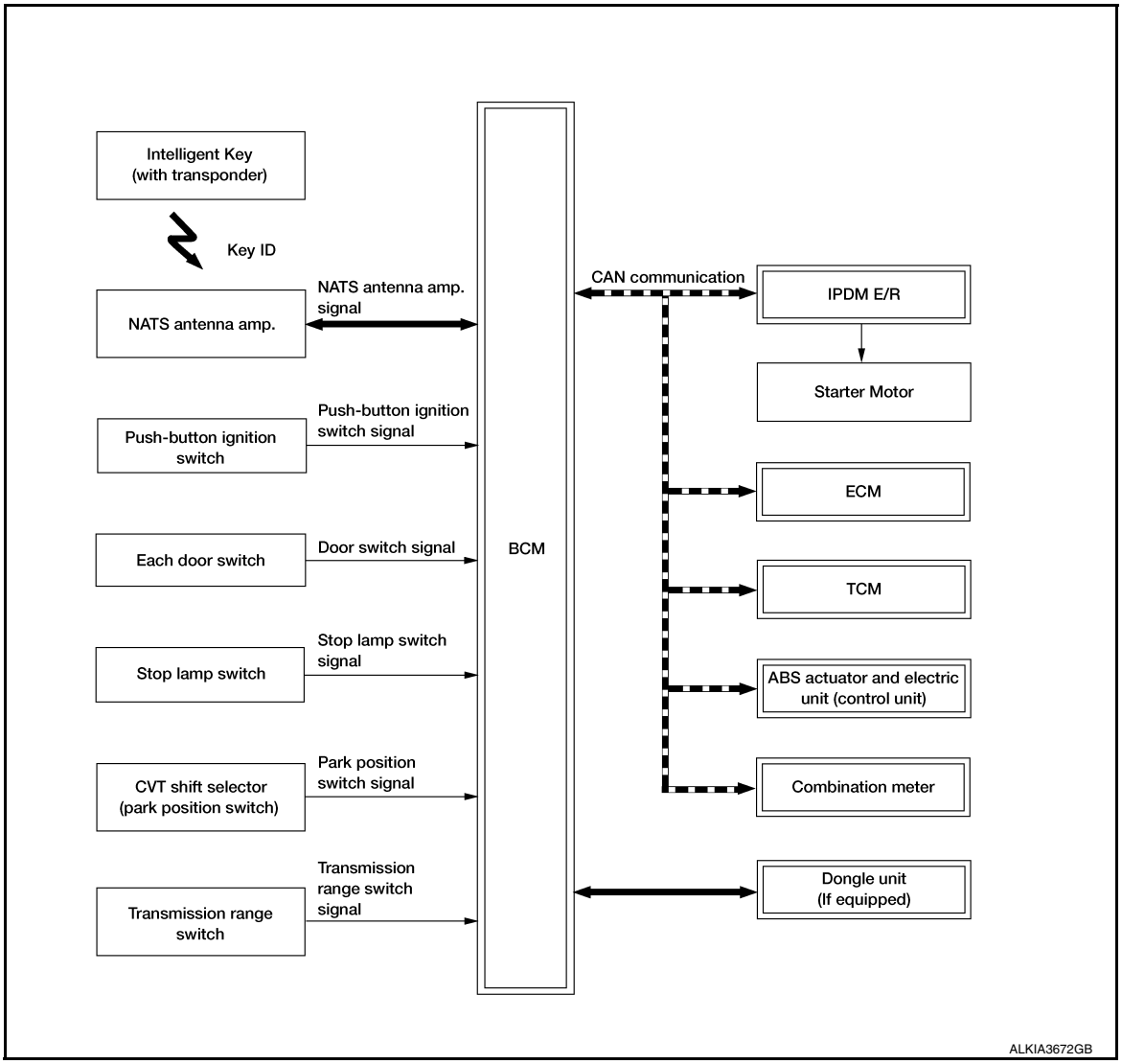
Emergency stop operation

- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:0000000012423935



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:0000000012423936

SYSTEM DESCRIPTION

- The NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] prevents the engine from being started by Intelligent Key whose ID is not registered to the vehicle (BCM). It has higher protection against auto theft involving the duplication of mechanical keys.
- The ignition key integrated in the Intelligent Key cannot start the engine. When the Intelligent Key battery is discharged, the NVIS (NATS) ID verification is performed between the transponder integrated with Intelligent Key and BCM via NATS antenna amp. when the Intelligent Key backside is contacted to push-button ignition switch. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator lamp and apply the anti-theft system equipment sticker that warns that the NVIS (NATS) is on-board the model.
- Security indicator lamp always blinks when the power supply position is any position other than ON.
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.
- Specified registration is required when replacing ECM, BCM or Intelligent Key.
- Possible symptom of NVIS (NATS) malfunction is “Engine cannot start”. The engine can not be started because of other than NVIS (NATS) malfunction, so start the trouble diagnosis according to SEC-66, "Work Flow".
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-503, "Removal and Installation".

PRECAUTIONS FOR KEY REGISTRATION

- The ID registration is a procedure that erases the current NVIS (NATS) ID once, and then reregisters a new ID. Therefore before starting the registration operation, collect all registered Intelligent Keys from the customer.
- When registering the Intelligent Key, perform only one procedure to simultaneously register both ID [NVIS (NATS) ID and Intelligent Key ID].

SECURITY INDICATOR LAMP

- Warns that the vehicle is equipped with NVIS (NATS).
- Security indicator lamp always blinks when the power supply position is any position other than ON.

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

ENGINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IGNITION SWITCH

1. When brake pedal is depressed while selector lever is in the P (Park) position, BCM activates NATS antenna amp. that is located behind push-button ignition switch.
2. When Intelligent Key (transponder built-in) backside is contacted to push-button ignition switch, BCM starts NVIS (NATS) ID verification between BCM and Intelligent Key (transponder built-in) via NATS antenna amp.
3. When the NVIS (NATS) ID verification result is OK, buzzer in combination meter sounds and BCM transmits the result to ECM.
4. BCM turns ACC relay ON and transmits ignition power supply ON signal to IPDM E/R.
5. IPDM E/R turns the ignition relay ON and starts the ignition power supply.
6. BCM detects that the selector lever position is P (Park) or N (Neutral).
7. BCM transmits starter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
8. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
9. Power supply is supplied through the starter relay and the starter control relay to operate the starter motor.
10. When BCM receives feedback signal from ECM indicating that the engine is started, BCM transmits a stop signal to IPDM E/R and stops cranking by turning off the starter motor relay. (If engine start is unsuccessful, cranking stops automatically within 5 seconds.)

*: For the engine start condition, refer to the table “POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION” below.

POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

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

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna and when Intelligent Key backside is contacted to push-button ignition switch, it is equivalent to the operations below.
- When starting the engine, the BCM monitors under the engine start conditions:

- Brake pedal operating condition
- Selector lever position
- Vehicle speed

Vehicle speed: less than 4 km/h (2.5 MPH)

Power supply position	Engine start/stop condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
LOCK → ACC	—	Not depressed	1
LOCK → ACC → ON	—	Not depressed	2
LOCK → ACC → ON → OFF	—	Not depressed	3

Power supply position	Engine start/stop condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
LOCK → START ACC → START ON → START	P (Park) or N (Neutral) position	Depressed	1
Engine is running → OFF	—	—	1

Vehicle speed: 4 km/h (2.5 MPH) or more

Power supply position	Engine start/stop condition		Push-button ignition switch operation frequency
	Selector lever	Brake pedal operation condition	
Engine is running → ACC	—	—	Emergency stop operation
Engine stall return operation while driving	N (Neutral) position	Not depressed	1

Emergency stop operation

- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Diagram

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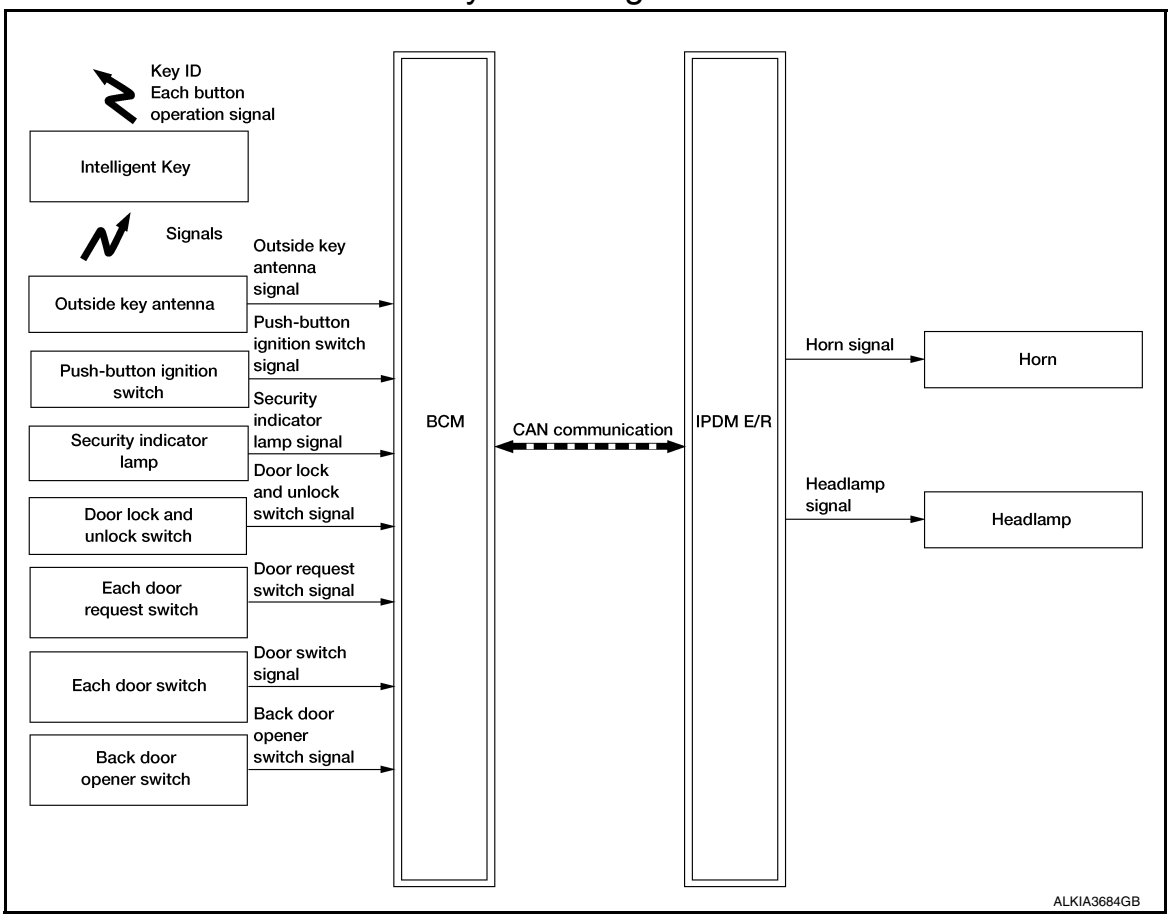


VEHICLE SECURITY SYSTEM : System Description

INFOID:0000000012423938

- The vehicle security system has two alarm functions (theft warning alarm and panic alarm) and reduces the possibility of a theft or mischief by activating horns and headlamps intermittently.

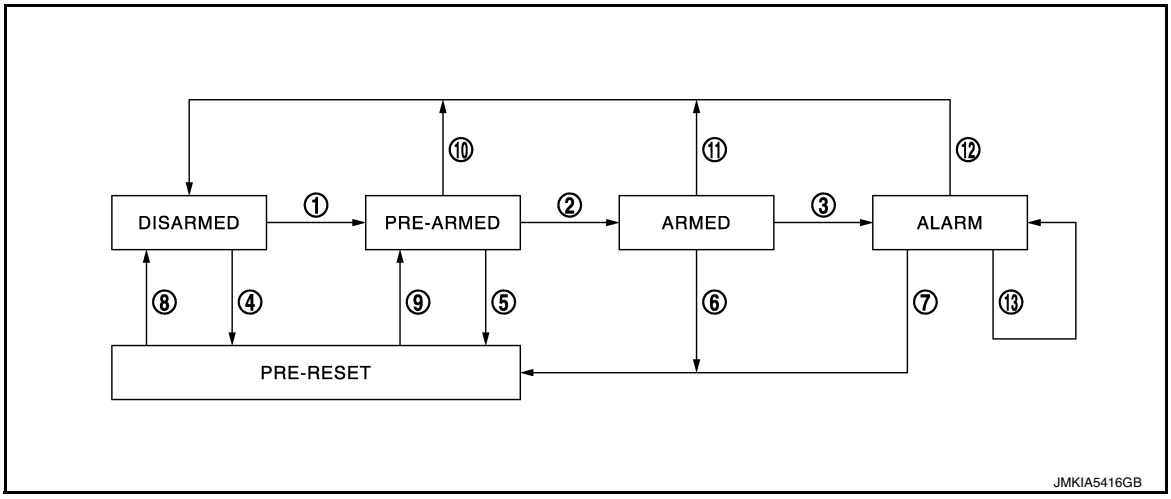
- The panic alarm does not start when the theft warning alarm is activating and the panic alarm stops when the theft warning alarm is activated.
  The priority of the functions are as per the following:

Priority	Function
1	Theft warning alarm
2	Panic alarm

THEFT WARNING ALARM

- The theft warning alarm function activates horns and headlamps intermittently when BCM detects that any door is opened by unauthorized means while the system is in the ARMED state.
- Security indicator lamp on combination meter always blinks when power supply position is any position other than ON. Security indicator lamp blinking warns that the vehicle is equipped with a vehicle security system.

Operation Flow



No.	System state	Switching condition		
1	DISARMED to PRE-ARMED	When all conditions of A and one condition of B is satisfied.	A	B
			• Power supply position: OFF/LOCK • All doors: Closed	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	• Power supply position: OFF/LOCK • All doors: Locked	
3	ARMED to ALARM	When one condition of A and one condition of B are satisfied.	A	B
			Intelligent Key: Not used	• Any door: Open
4	DISARMED to PRE-RESET	When all conditions of A and one condition of B is satisfied.	A	B
			• Power supply position: OFF/LOCK • All doors: Closed	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch
5	PRE-ARMED to PRE-RESET	No conditions.		
6	ARMED to PRE-RESET	No conditions.		
7	ALARM to PRE-RESET			

No.	System state	Switching condition	
8	PRE-RESET to DISARMED	When one of the following conditions is satisfied.	• Power supply position: ACC/ON/CRANKING/RUN • Door key cylinder UNLOCK switch: ON • UNLOCK button of Intelligent Key: ON • Door request switch: ON • Back door opener switch: ON • UNLOCK switch of door lock and unlock switch: ON • Any door: Open
9	PRE-RESET to PRE-ARMED	When all of the following conditions are satisfied.	• Power supply position: OFF/LOCK • All doors: Closed
10	PRE-ARMED to DISARMED	When one of the following conditions is satisfied.	• Power supply position: ACC/ON/CRANKING/RUN • Door key cylinder UNLOCK switch: ON • UNLOCK button of Intelligent Key: ON • AUTO BACK DOOR button of Intelligent Key: ON • Door request switch: ON • Back door opener switch: ON • Any door: Open
11	ARMED to DISARMED	When one of the following conditions is satisfied.	• Power supply position: ACC/ON/CRANKING/RUN • Door key cylinder UNLOCK switch: ON • UNLOCK button of Intelligent Key: ON • AUTO BACK DOOR button of Intelligent Key: ON • Door request switch: ON • Back door opener switch: ON
12	ALARM to DISARMED		
13	RE-ALARM	When one of the following conditions is satisfied after the ALARM operation is finished.	• Any door: Open

NOTE:

- BCM ignores the door key cylinder UNLOCK switch signal input for 1 second after the door key cylinder LOCK switch signal input.
- To lock/unlock all doors by operating remote controller button of Intelligent Key or door request switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to SEC-10, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".
- To open back door by operating back door opener switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to SEC-10, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".

DISARMED Phase

The vehicle security system is not set in the DISARMED phase. The vehicle security system stays in this phase while any door is open because it is assumed that the owner is inside or nearby the vehicle. Security indicator lamp blinks every 2.4 seconds.
When the vehicle security system is reset, each phase switches to the DISARMED phase directly.

PRE-ARMED Phase

The PRE-ARMED phase is the transient state between the DISARMED phase and the ARMED phase. This phase is maintained for 30 seconds so that the owner can reset the setting due to a mis-operation. This phase switches to the ARMED phase when vehicle conditions are not changed for 30 seconds. Security indicator lamp illuminates while being in this phase.
To reset the PRE-ARMED phase, refer to the switching condition of No. 10 in the table above.

ARMED Phase

The vehicle security system is set and BCM monitors all necessary inputs. If any door is opened without using Intelligent Key, vehicle security system switches to the ALARM phase. Security indicator lamp blinks every 2.4 seconds.
To reset the ARMED phase, refer to the switching condition of No. 11 in the table above.

ALARM Phase

BCM transmits “Theft Warning Horn Request” signal and “High Beam Request” signal intermittently to IPDM E/R via CAN communication. In this phase, horns and headlamps are activated intermittently for approximately 50 seconds to warn that the vehicle is accessed by unauthorized means. ON/OFF timing of horns and headlamps are synchronized. After 50 seconds, the vehicle security system returns to the ARMED phase. At this time, if BCM still detects unauthorized access to the vehicle, the system is switched to the ALARM phase again. This RE-ALARM operation is carried out a maximum of 2 times.
To cancel the ALARM operation, refer to the switching condition of No. 12 in the table above.

NOTE:
If a battery terminal is disconnected during the ALARM phase, theft warning alarm stops. But when the battery terminal is reconnected, theft warning alarm is activated again.

PANIC ALARM

- The panic alarm function activates horns and headlamps intermittently when the owner presses the PANIC ALARM button of Intelligent Key outside the vehicle while the power supply position is OFF or LOCK.
- When BCM receives panic alarm signal from Intelligent Key, BCM transmits “Theft Warning Horn Request” signal and “High Beam Request” signal intermittently to IPDM E/R via CAN communication. To prevent the activation due to mis-operation of Intelligent Key by owner, the panic alarm function is activated when BCM receives the signal for 0.4 - 0.6 seconds.
- Panic alarm operation is maintained for 25 seconds.
- Panic alarm operation is cancelled when BCM receives one of the following signals:

- LOCK button of Intelligent Key: ON
- UNLOCK button of Intelligent Key: ON
- PANIC ALARM button of Intelligent Key: Long pressed
- Any door request switch: ON

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000012567349

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION
BCM can perform the following functions.

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

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000012567350

SELF DIAGNOSTIC RESULT

Refer to BCS-48, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main	Description
REQ SW -DR [On/Off]	×	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	×	Indicates condition of door request switch RH.
REQ SW -BD/TR [On/Off]	×	Indicates condition of back door request switch.
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.
BRAKE SW 1 [On/Off]	×	Indicates condition of brake pedal position switch.
BRAKE SW 2 [On/Off]		Indicates condition of stop lamp switch.
DETE/CANCL SW [On/Off]	×	Indicates condition of park position switch.
PUSH SW -IPDM [On/Off]		Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line.
IGN RLY1 -F/B [On/Off]		Indicates condition of ignition relay 1 received from IPDM E/R on CAN communication line.
NEUTRAL SW -IPDM [On/Off]		Indicates condition of transmission range switch received from IPDM E/R on CAN communication line.
SFT PN -IPDM [On/Off]		Indicates condition of P (park) or N (neutral) position from TCM on CAN communication line.
STARTER RELAY -IPDM [On/Off]		Indicates condition of starter relay received from IPDM E/R on CAN communication line.
ENGINE STATE [STOP/START/CRANK/RUN]	×	Indicates condition of engine state from ECM on CAN communication line.
ST/INH RELAY - IPDM [On/Off]		Indicates condition of starter relay and starter control relay status signal from IPDM E/R.
REVERSE SIGNAL -IPDM [On/Off]		Indicates condition of transmission range switch received from IPDM E/R on CAN communication line.
CRANKING PERMIT -ECM [PERMIT]		Indicates condition of engine start possibility from ECM on CAN communication line.
IS STATUS -ECM [On/Off]		Indicates IS status from ECM on CAN communication line.
STARTER CUT RELAY -ECM [On/Off]		Indicates condition of starter cut relay from ECM on CAN communication line.
VEH SPEED 1 [mph/km/h]	×	Indicates condition of vehicle speed signal received from ABS on CAN communication line.
VEH SPEED 2 [mph/km/h]	×	Indicates condition of vehicle speed signal received from combination meter on CAN communication line.
IGN REQ -IPDM [On/Off]		Indicates condition of ignition request from IPDM E/R on CAN communication line.
STARTER REQ -IPDM [On/Off]		Indicates condition of starter request received from IPDM E/R on CAN communication line.
DOOR STAT -DR [LOCK/READY/UNLK]	×	Indicates condition of driver side door status.
DOOR STAT -AS [LOCK/READY/UNLK]	×	Indicates condition of passenger side door status.
DOOR STAT -RR [LOCK/READY/UNLK]	×	Indicates condition of rear right side door status.
DOOR STAT -RL [LOCK/READY/UNLK]	×	Indicates condition of rear left side door status.
BK DOOR STATE [LOCK/READY/UNLK]	×	Indicates condition of back door status.
ID OK FLAG [Set/Reset]		Indicates condition of Intelligent Key ID.
PRMT ENG STRT [Set/Reset]		Indicates condition of engine start possibility.
PRMT RKE STRT [Set/Reset]		Indicates condition of engine start possibility from Intelligent Key.

Monitor Item [Unit]	Main	Description
I-KEY OK FLAG [Key ON/Key OFF]	×	Indicates condition of Intelligent Key OK flag.
PRBT ENG STRT [Set/Reset]		Indicates condition of engine start prohibit.
ID AUTHENT CANCEL TIMER [STOP]		Indicates condition of Intelligent Key ID authentication.
ACC BATTERY SAVER [STOP]		Indicates condition of battery saver.
CRNK PRBT TMR [On/Off]		Indicates condition of crank prohibit timer.
AUT CRNK TMR [On/Off]		Indicates condition of automatic engine crank timer from Intelligent Key.
CRNK PRBT TME [sec]		Indicates condition of engine crank prohibit time.
AUTO CRNK TME [sec]		Indicates condition of automatic engine crank time from Intelligent Key.
CRANKING TME [sec]		Indicates condition of engine cranking time from Intelligent Key.
RKE OPE COUN1 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.
RKE OPE COUN2 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.
RKE-LOCK [On/Off]		Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]		Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]		Indicates condition of back door open signal from Intelligent Key.
RKE-PANIC [On/Off]		Indicates condition of panic signal from Intelligent Key.
RKE-MODE CHG [On/Off]		Indicates condition of mode change signal from Intelligent Key.
RKE PBD [On/Off]		Indicates condition of automatic back door signal from Intelligent Key.

ACTIVE TEST

Test Item	Description
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation [On/Off].
INSIDE BUZZER	This test is able to check combination meter warning chime operation [Take Out/Knob/Key/Off].
INDICATOR	This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off].
FLASHER	This test is able to check flasher operation [On/Off].
HORN	This test is able to check horn operation [On/Off].
IGN CONT2	This test is able to check ignition relay-2 control operation [On/Off].
ENGINE SW ILLUMI	This test is able to check push-button ignition switch START indicator operation [On/Off].
ENGINE START REQUEST	This test is able to check BCM starter request switch signal to IPDM E/R via CAN communication [MODE 1/MODE 2/MODE 3/OFF].
IGNITION RELAY	This test is able to check ignition relay operation [On/Off].
STARTER CUT RELAY	This test is able to check the starter control relay [On/Off].
AUTO ACC 2	This test is able to check BCM sends power supply to audio unit or NAVI control unit [On/Off].
AUTOMATIC BACK DOOR	This test is able to check automatic back door operation [On/Off].
AUTO ACC 1	This test is able to check BCM sends power supply to ACC relay [MODE 1/MODE 2/MODE 3/OFF].
TRUNK LUGGAGE LAMP TEST	This test is able to check luggage room lamp test operation [On/Off].

WORK SUPPORT

Support Item	Setting		Description
SHORT CRANKING OUTPUT	Start	70 msec	Starter motor operation duration times.
		100 msec	
		200 msec	
	End		—

Support Item	Setting		Description
INSIDE ANT DIAGNOSIS	—		This function allows inside key antenna self-diagnosis.
LOCK/UNLOCK BY I-KEY	On*		Door lock/unlock by I-Key ON.
	Off		Door lock/unlock by I-Key OFF.
AUTO LOCK SET	Mode 1	OFF	Auto door lock operation time can be changed in this mode.
	Mode 2	30 sec.	
	Mode 3*	1 min.	
	Mode 4	2 min.	
	Mode 5	3 min.	
	Mode 6	4 min.	
	Mode 7	5 min.	
IGN/ACC BATTERY SAVER	On*		Battery saver system ON.
	Off		Battery saver system OFF.
ENGINE START BY I-KEY	On*		Engine start function from Intelligent Key ON.
	Off		Engine start function from Intelligent Key OFF.
TRUNK/GLASS HATCH OPEN	On*		Buzzer reminder function by back door request switch ON.
	Off		Buzzer reminder function by back door request switch OFF.
ANSWER BACK	On		Horn chirp reminder when doors are locked with Intelligent Key.
	Off*		No horn chirp reminder when doors are locked with Intelligent Key.
ANSWER BACK I-KEY LOCK UN-LOCK	BUZZER*		Buzzer reminder function by door lock/unlock request switch ON.
	HORN		Horn chirp reminder function by door lock request switch ON.
	Off		No reminder function by door lock/unlock request switch.
	INVALID		This mode is not used.
ANSWERBACK KEYLESS LOCK UN-LOCK	On*		Buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key.
	Off		No buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key.

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000012567351

SELF DIAGNOSTIC RESULT

Refer to BCS-48, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
CONFIRM DONGLE ID	—	Dongle ID can be checked.

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT ALM)

INFOID:0000000012567352

DATA MONITOR

Monitored Item	Description
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.
REQ SW-BD/TR [On/Off]	Indicates condition of back door request switch.
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of back door switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
KEY CYL SW-TR	Indicates condition of key cylinder switch back door.
SEN CANCEL SW	Indicates condition of sensor cancel switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]	Indicates condition of back door open signal from Intelligent Key.

ACTIVE TEST

Test Item	Description
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].
HEAD LAMP	This test is able to check vehicle security lamp operation [MODE 1/MODE 2/MODE 3/OFF].

WORK SUPPORT

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

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:0000000012567353

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Direct Diagnostic Mode	Description
ECU Identification	The IPDM E/R part number is displayed.
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.
Active Test	The IPDM E/R activates outputs to test components.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-26, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
REVERSE SIGNAL [Open/Close]	Indicates condition of transmission range switch R (Reverse) position.
IGN RELAY [Open/Close]	Indicates condition of ignition relay-1.
PUSH SW [Open/Close]	Indicates condition of push-button ignition switch.
INTERLOCK/PNP SW [Open/Close]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
OIL PRESSURE SW [Open/Close]	Indicates condition of oil pressure switch.
HOOD SW [Open/Close]	Indicates condition of hood switch.
COMPRESSOR [OFF/ON]	Indicates condition of A/C compressor.
HORN RELAY [OFF/ ON]	Indicates condition of horn relay.
COOLING FAN [OFF/ON]	Indicates condition of cooling fan relay-1.
FRONT WIPER HI/LO RELAY [OFF/ON]	Indicates condition of front wiper high relay.
FRONT WIPER RELAY [OFF/ON]	Indicates condition of front wiper relay.
IGN RELAY OFF STATUS [OFF/ON]	Indicates condition of ignition relay-1 OFF status.
IGN RELAY ON STATUS [OFF/ON]	Indicates condition of ignition relay-1 ON status.
COOLING FAN RELAY 1 [OFF/ON]	Indicates condition of cooling fan relay-1.
STARTER RELAY [OFF/ON]	Indicates condition of starter relay.
COMP ECV DUTY [%]	Indicates condition of A/C compressor.
COOLING FAN RELAY 2 [%]	Indicates condition of cooling fan relay-2.
FR FOG LAMP LH [%]	Indicates condition of front fog lamp LH.
FR FOG LAMP RH [%]	Indicates condition of front fog lamp RH.
PARKING LAMP [%]	Indicates condition of parking lamp.
TAIL LAMP LH [%]	Indicates condition of tail lamp LH.
TAIL LAMP RH [%]	Indicates condition of tail lamp RH.
DAYTIME RUNNING LIGHT LH [%]	Indicates condition of daytime running light LH.
DAYTIME RUNNING LIGHT RH [%]	Indicates condition of daytime running light RH.
HEADLAMP (HI) LH [%]	Indicates condition of headlamp high beam LH.

Monitor Item [Unit]	Description
HEADLAMP (HI) RH [%]	Indicates condition of headlamp high beam RH.
HEADLAMP (LO) LH [%]	Indicates condition of headlamp low beam LH.
HEADLAMP (LO) RH [%]	Indicates condition of headlamp low beam RH.
A/C RELAY STUCK [NG/OK]	Indicates condition of A/C relay.
A/C RELAY [Off/On]	Indicates condition of A/C relay.
COMP ECV STATUS [NG/OK]	Indicates condition of A/C compressor.
VEHICLE SECURITY HORN [Off/On]	Indicates condition of horn relay.
BATTERY CURRENT SENSOR [NG/OK]	Indicates condition of battery current sensor.
FRONT FOG LAMP [Off/On]	Indicates condition of front fog lamps.
COMP ECV CURRENT [A]	Indicates condition of A/C compressor current.
BATTERY VOLTAGE [V]	Indicates condition of battery voltage.
COOLING FAN DUTY [%]	Indicates condition of cooling fans.
HOOD SW (CAN) [OPEN/CLOSE]	Indicates condition of hood switch.
FRONT WIPER [STOP/LOW/HIGH]	Indicates condition of front wiper motor.
FR WIPER STOP POSITION [STOP P/ACTIVE P]	Indicates condition of front wiper motor stop.
HEADLAMP (HI) [Off/On]	Indicates condition of headlamp high beams.
HEADLAMP (LO) [Off/On]	Indicates condition of headlamp low beams.
IGNITION RELAY STATUS [Off/On]	Indicates condition of ignition relay-1.
IGN RELAY MONITOR [Off/On]	Indicates condition of ignition relay-1 feedback.
IGNITION POWER SUPPLY [Off/On]	Indicates condition of ignition relay-1.
INTERLOCK/PNP SW (CAN) [Off/On]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
PUSH-BUTTON IGN SW (CAN) [Off/On]	Indicates condition of push-button ignition switch.
TAIL LAMP [Off/On]	Indicates condition of tail lamps.
REVERSE SIGNAL (CAN) [Off/On]	Indicates condition of transmission range switch R (Reverse) position.
ST&ST CONT RELAY STATUS [Off/ST R On]	Indicates condition of starter cut and starter relays.
STARTER MOTOR STATUS [Off/On]	Indicates condition of starter motor.
STARTER RELAY (CAN) [LOW/HIGH]	Indicates condition of starter relay.
IPDM NOT SLEEP [NO RDY/RDY]	Indicates condition of IPDM E/R sleep status.
AFTER COOLING TIME [No request/Request]	Indicates condition of cooling fan request.
AFTER COOLING SPEED [%]	Indicates condition of cooling fans.
COOLING FAN TYPE [NISSAN/RENAULT]	Indicates cooling fan type.
COMPRESSOR REQ1 [Off/On]	Indicates condition of A/C compressor request.
VHCL SECURITY HORN REQ [Off/On]	Indicates condition of horn relay request.
DTRL REQ [Off/On]	Indicates condition of daytime running light request.
SLEEP/WAKE UP [WAKEUP/SLEEP]	Indicates condition of IPDM E/R sleep/wake.
CRANKING ENABLE-TCM [NG/OK]	Indicates condition of crank enable from TCM.
CRANKING ENABLE-ECM [NG/OK]	Indicates condition of crank enable from ECM.
CAN DIAGNOSIS [NG/OK]	Indicates condition of CAN diagnosis.
FRONT FOG LAMP REQ [Off/On]	Indicates condition of front fog lamp request.
HIGH BEAM REQ [Off/On]	Indicates condition of headlamp high beam request.
HORN CHIRP [Off/On]	Indicates condition of horn relay request.
COOLING FAN REQ [%]	Indicates condition of cooling fan request.
ENGINE STATUS [STOP/RUN/IDLING]	Indicates condition of engine status.

Monitor Item [Unit]	Description
TURN SIGNAL REQ [Off/LH/RH]	Indicates condition of turn signal request.
FR WIPER REQ [RETURN/LOW/HIGH]	Indicates condition of front wiper motor request.
SHIFT POSITION [P/R/N/D/L]	Indicates condition of transmission range switch positions.
LOW BEAM REQ [Off/On]	Indicates condition of headlamp low beam request.
POSITION LIGHT REQ [Off/On]	Indicates condition of parking lamp request.
COMPRESSOR REQ2 [Off/On]	Indicates condition of A/C compressor request.
IGNITION SW [Off/On]	Indicates condition of ignition switch.
VEHICLE SPEED (METER) [mph/km/h]	Indicates vehicle speed.
STARTER OPERATION COUNT	Displays the number of times the starter motor is turned ON.
H/P F/PUMP OPERATN COUNT	Displays the number of times the high pressure fuel pump is turned ON.
BAT DISCHARGE COUNT [—]	Monitor the cumulative discharge value of the battery. **NOTE:** When 65,000 or more is counted, replace the battery.
P LAMP CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the parking lamp circuit. **NOTE:** When the number of parking lamp circuit retries count is 20, this item counts 1.
NMB P LAMP CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the parking lamp circuit. **NOTE:** When the number of short circuits in the parking lamp circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB P LAMP CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the parking lamp circuit.
DTRL LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (left) circuit. **NOTE:** When the number of daytime running light (left) circuit retries count is 20, this item counts 1.
NMB DTRL LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (left) circuit. **NOTE:** When the number of short circuits in the daytime running light (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (left) circuit.
DTRL RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (right) circuit. **NOTE:** When the number of daytime running light (right) circuit retries count is 20, this item counts 1.
NMB DTRL RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (right) circuit. **NOTE:** When the number of short circuits in the daytime running light (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (right) circuit.

Monitor Item [Unit]	Description
F FOG LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (left) circuit. **NOTE:** When the number of front fog lamp (left) circuit retries count is 20, this item counts 1.
NMB F FOG LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (left) circuit. **NOTE:** When the number of short circuits in the front fog lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (left) circuit.
F FOG RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (right) circuit. **NOTE:** When the number of front fog lamp (right) circuit retries count is 20, this item counts 1.
NMB F FOG RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (right) circuit. **NOTE:** When the number of short circuits in the front fog lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (right) circuit.
HL (HI) LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (left) circuit. **NOTE:** When the number of headlamp (HI) (left) circuit retries count is 20, this item counts 1.
NMB HL (HI) LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (left) circuit. **NOTE:** When the number of short circuits in the headlamp (HI) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (left) circuit.
HL (HI) RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (right) circuit. **NOTE:** When the number of headlamp (HI) (right) circuit retries count is 20, this item counts 1.
NMB HL (HI) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (right) circuit. **NOTE:** When the number of short circuits in the headlamp (HI) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (right) circuit.
HL (LO) LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (left) circuit. **NOTE:** When the number of headlamp (LO) (left) circuit retries count is 20, this item counts 1.

Monitor Item [Unit]	Description
NMB HL (LO) LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (left) circuit. **NOTE:** When the number of short circuits in the headlamp (LO) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (left) circuit.
HL (LO) RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (right) circuit. **NOTE:** When the number of headlamp (LO) (right) circuit retries count is 20, this item counts 1.
NMB HL (LO) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (right) circuit. **NOTE:** When the number of short circuits in the headlamp (LO) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (right) circuit.
T LAMP LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (left) circuit. **NOTE:** When the number of tail lamp (left) circuit retries count is 20, this item counts 1.
NMB T LAMP LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (left) circuit. **NOTE:** When the number of short circuits in the tail lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (left) circuit.
T LAMP RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (right) circuit. **NOTE:** When the number of tail lamp (right) circuit retries count is 20, this item counts 1.
NMB T LAMP RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (right) circuit. **NOTE:** When the number of short circuits in the tail lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (right) circuit.
BATTERY STATUS [OK/NG]	Monitor the battery status from the battery output.
BAT DISCHARGE COUNT [0-100]	Indicates condition of battery discharge.
BATTERY STATUS [NG/OK]	Indicates battery status.

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [Off/On].
FRONT WIPER	This test is able to check wiper motor operation [Off/Low/High].

Test item	Description
COMPRESSOR	This test is able to check A/C compressor operation [Off/On].
COOLING FAN (DUAL)	This test is able to check cooling fan operation [Off/LO/HI].
HEADLAMP (HI)	This test is able to check headlamp high beam operation [Off/3/5].
HEADLAMP (LO)	This test is able to check headlamp low beam operation [Off/3/5].
FRONT FOG LAMP	This test is able to check front fog lamp operation [Off/3/5].
DAYTIME RUNNING LAMP	This test is able to check daytime running lamp operation [Off/3/5].
PARKING LAMP	This test is able to check parking lamp operation [Off/3/5].
TAIL LAMP	This test is able to check tail lamp operation [Off/3/5].

CAN DIAG SUPPORT MNTR

Refer to LAN-17, "CAN Diagnostic Support Monitor".

WORK SUPPORT

Work item	Description
CML B/DCHRG CRNT CLEAR	In this mode, cumulative battery discharge current is cleared.

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:0000000012423944

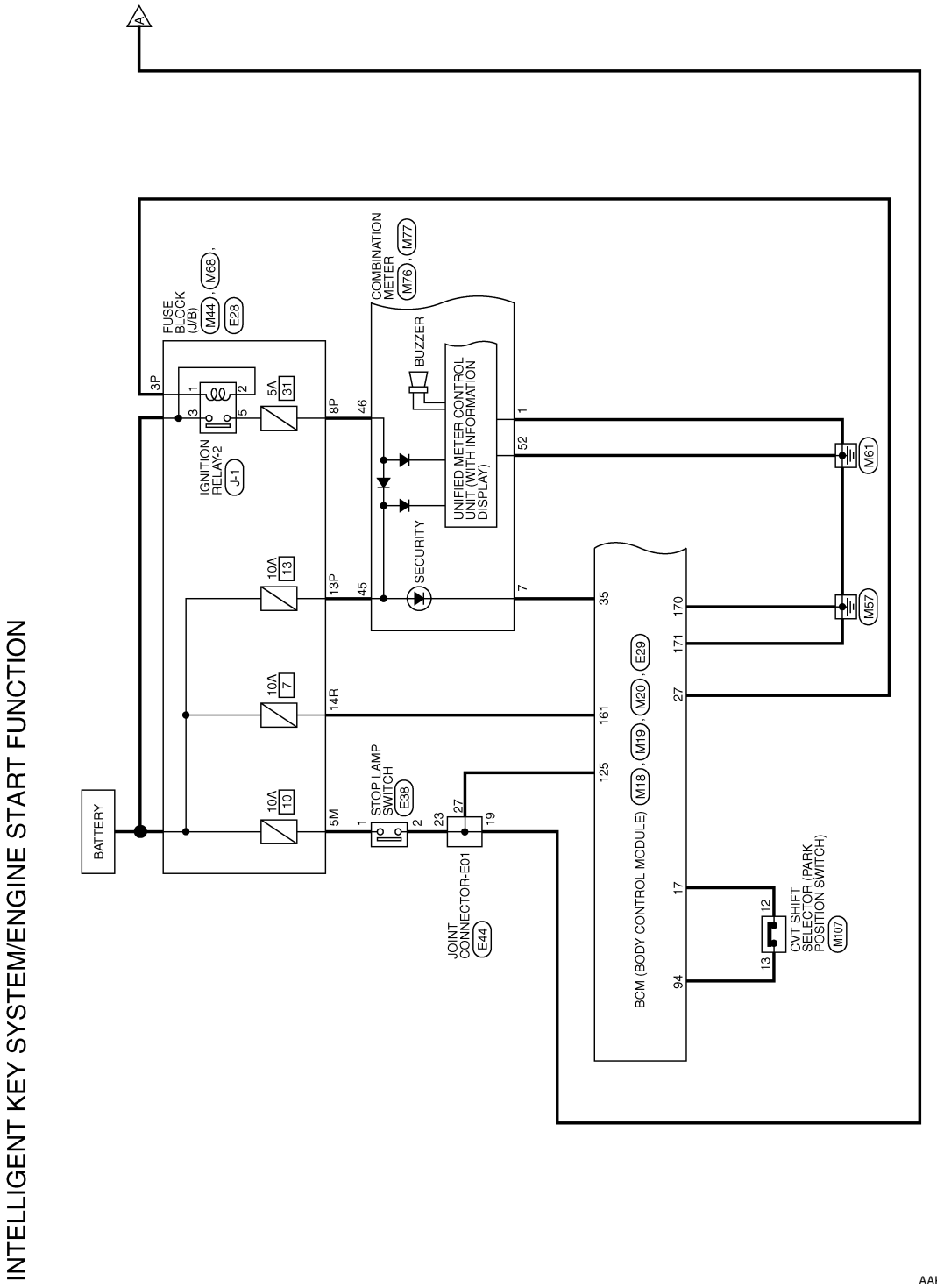
ECU	Reference
ECM	EC-80, "Reference Value"
	EC-92, "Fail Safe"
	EC-95, "DTC Inspection Priority Chart"
	EC-96, "DTC Index"
IPDM E/R	PCS-17, "Reference Value"
	PCS-25, "Fail-safe"
	PCS-26, "DTC Index"
BCM	BCS-29, "Reference Value"
	BCS-47, "Fail Safe"
	BCS-47, "DTC Inspection Priority Chart"
	BCS-48, "DTC Index"

WIRING DIAGRAM

ENGINE START FUNCTION

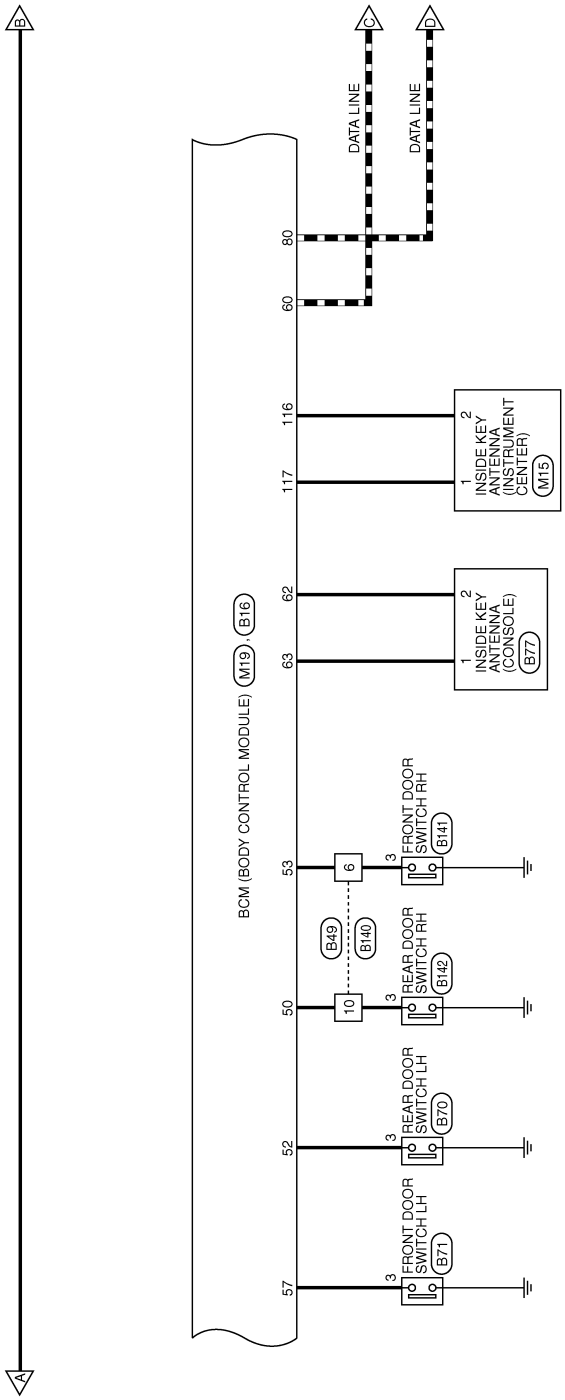
Wiring Diagram

INFOID:0000000012423945

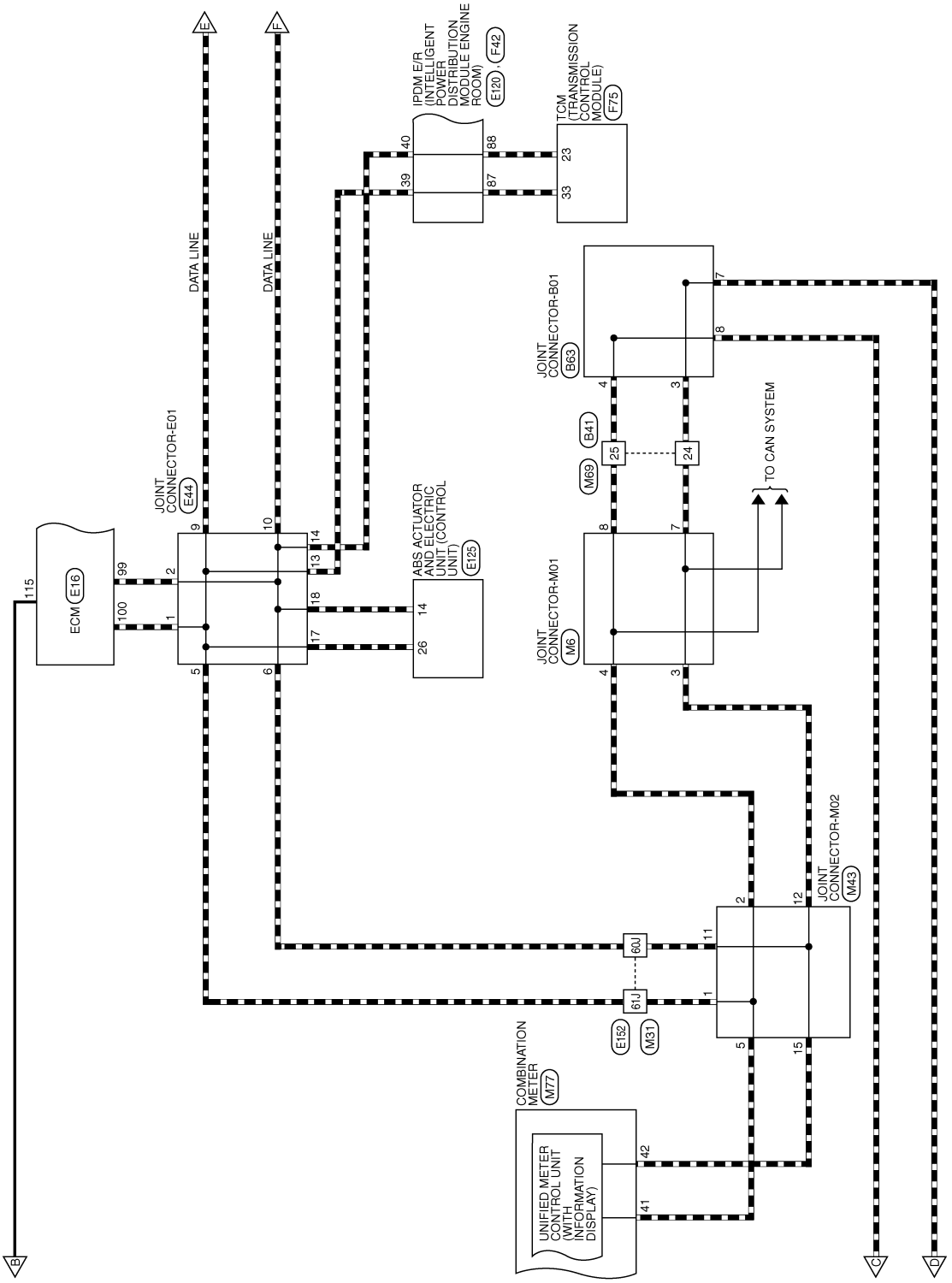


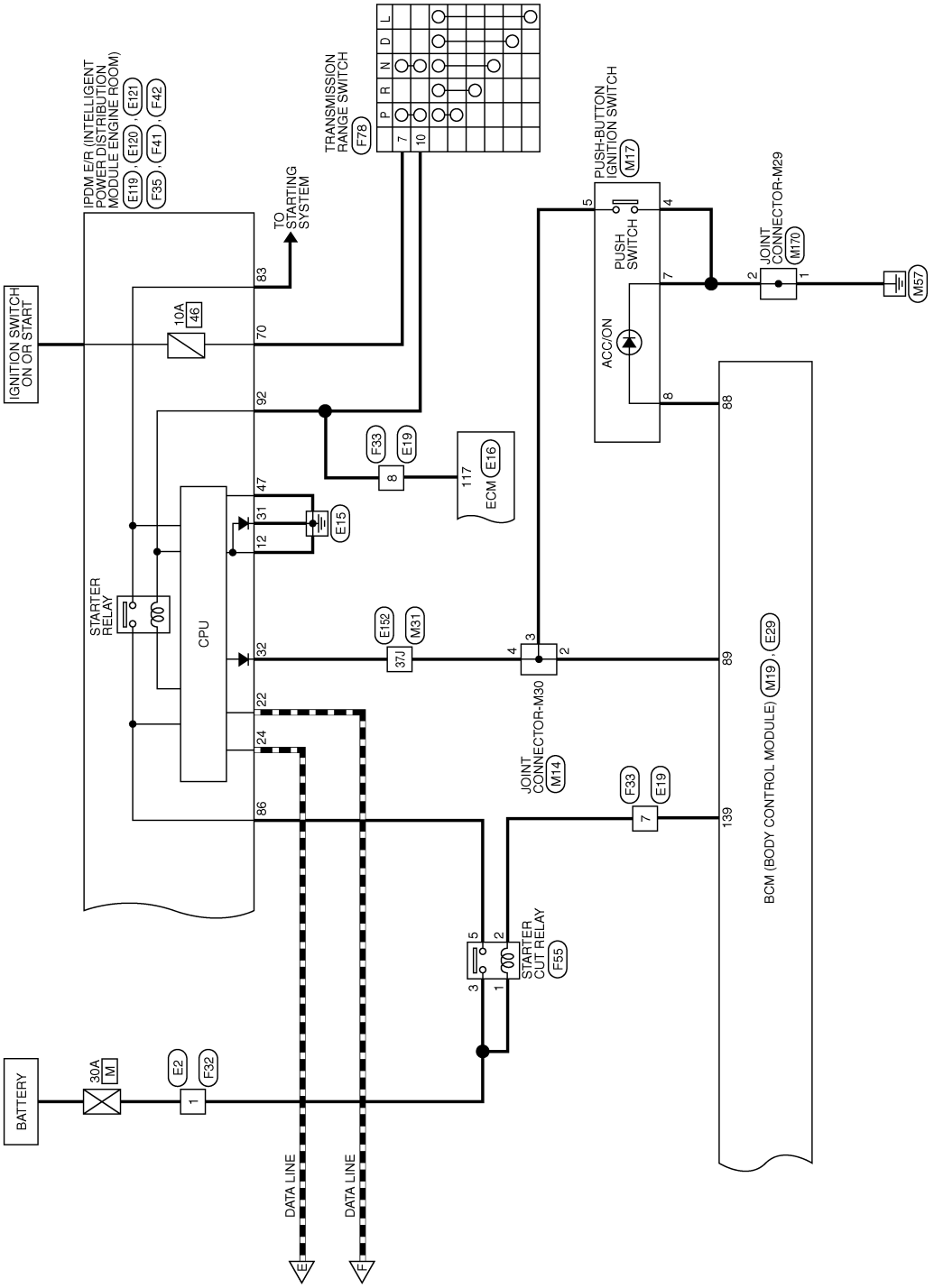
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

AAKWA1326GB



AAKWA1327GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E120, F42
TCM (TRANSMISSION CONTROL MODULE) F75
DATA LINE
DATA LINE
JOINT CONNECTOR-B01 B63
JOINT CONNECTOR-E01 E44
ECM E16
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) E125
B41
M69
TO CAN SYSTEM
JOINT CONNECTOR-M01 M6
JOINT CONNECTOR-M02 M43
60J
61J
E152
M31
COMBINATION METER M77
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
AAKWA1328GB

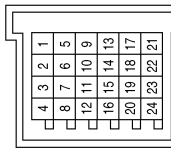


AAKWA1329GB

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M30
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	Y	–
3	Y	–
4	Y	–

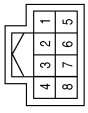
Connector No.	M15
Connector Name	INSIDE KEY ANTENNA (INSTRUMENT CENTER)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	–
2	BG	–

Connector No.	M17
Connector Name	PUSH BUTTON IGNITION SWITCH
Connector Color	WHITE

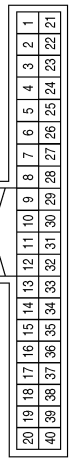
H.S.



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

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

H.S.



Terminal No.	Color of Wire	Signal Name
17	L	O PWR ATDVC
27	Y	O IGN1 RL
35	BG	O SECURITY LED

AAKIA2335GB

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

H.S.

100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81
120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101

Terminal No.	Color of Wire	Signal Name
88	W	O START SW BACKLIGHT LED (WITH INTELLIGENT KEY SYSTEM)

Terminal No.	Color of Wire	Signal Name
89	Y	I START WO ESCL SW (WITH INTELLIGENT KEY SYSTEM)
94	G	I AT LOCKED IN PARK SW
116	BG	SES INT FRONT ANTENNA B (WITH INTELLIGENT KEY SYSTEM)
117	GR	SES INT FRONT ANTENNA A (WITH INTELLIGENT KEY SYSTEM)

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

H.S.

		5J	4J	3J	2J	1J
		10J	9J	8J	7J	6J
21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J
	30J	29J	28J	27J	26J	25J	24J	23J	22J	
41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J
	50J	49J	48J	47J	46J	45J	44J	43J	42J	
61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J
	70J	69J	68J	67J	66J	65J	64J	63J	62J	
81J	80J	79J	78J	77J	76J	75J	74J	73J	72J	71J
	90J	89J	88J	87J	86J	85J	84J	83J	82J	
		95J	94J	93J	92J	91J				
		100J	99J	98J	97J	96J				

Terminal No.	Color of Wire	Signal Name
37J	Y	–
60J	P	–
61J	L	–

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

H.S.

167	166	165	164		163	162	161
176	175	174	173	172	171	170	169	168

Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
170	B	I GND1
171	B	I GND2

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
5	L	–
11	P	–
12	P	–
15	P	–

AAKIA3208GB

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
14R	W	–

Connector No.	M44
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
3P	Y	–
8P	LA/BR	–
13P	LA/G	–

Connector No.	M107
Connector Name	CVT SHIFT SELECTOR
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
12	L	–
13	G	–

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
45	LA/G	BAT
46	LA/BR	IGN
52	B	G1

Connector No.	M76
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	B	GND
7	BG	SECURITY

AAKIA2311GB

Connector No.	M170
Connector Name	JOINT CONNECTOR-M29
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1

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

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

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	L	–

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK

H.S.

97	101	105	109	113	117	121	125
98	102	106	110	114	118	122	126
99	103	107	111	115	119	123	127
100	104	108	112	116	120	124	128

Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H
115	V	STOP LAMP SWITCH
117	W	PNP SIGNAL

Connector No.	E19
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	G	–
8	W	–

Connector No.	E28
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5M	V	–

Connector No.	E29
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

132	131	130	129	128	127	126	125	124	123	122	121
144	143	142	141	140	139	138	137	136	135	134	133

Terminal No.	Color of Wire	Signal Name
125	LG	I BRAKE SW2
139	G	O STCUT RL

AAKIA2312GB

Terminal No.	Color of Wire	Signal Name
1	L	–
2	P	–
5	L	–
6	P	–
9	L	–
10	P	–
13	L	–
14	P	–
17	L	–
18	P	–
19	V	–
23	LG	–
27	LG	–

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE

H.S.

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

H.S.

Terminal No.	Color of Wire	Signal Name
47	B	POWER GROUND

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

H.S.

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

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

H.S.

Terminal No.	Color of Wire	Signal Name
22	P	CAN-L
24	L	CAN-H
31	B	2ND SIGNAL GROUND
32	GR	LI PUSH SW
39	L	CAN-H
40	P	CAN-L

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

H.S.

Terminal No.	Color of Wire	Signal Name
12	B	SIGNAL GROUND

AAKIA3209GB

Terminal No.	Color of Wire	Signal Name
37J	GR	–
60J	P	–
61J	L	–

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

H.S.

Connector No.	E125
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
14	P	CAN-L
26	L	CAN-H

Connector No.	F35
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
70	BG	O IGN AT LPG

Connector No.	F33
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
7	G	–
8	W	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–

AAKIA3210GB

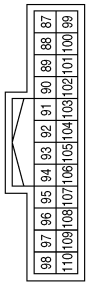
Connector No.	F55
Connector Name	STARTER CUT RELAY
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	G	–
3	L	–
5	GR	–

Connector No.	F42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
87	L	CAN-H
88	P	CAN-L
92	GR	LI NP SW

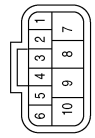
Connector No.	F41
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
83	G	O STARTER
86	GR	FL STARTER

Connector No.	F78
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK

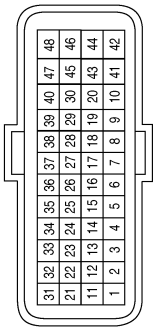
H.S.



Terminal No.	Color of Wire	Signal Name
7	BG	–
10	GR	–

Connector No.	F75
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
23	P	CAN-L
33	L	CAN-H

AAKIA3211GB

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
50	W	I RR DOOR SW
52	R	I RL DOOR SW
53	SB	I AS DOOR2 SW
57	SB	I DR DOOR2 SW

Terminal No.	Color of Wire	Signal Name
60	L	CAN-H
62	Y	SES INT MIDDLE ANTENNA B (WITH INTELLIGENT KEY SYSTEM)
63	L	SES INT MIDDLE ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
80	P	CAN-L

Connector No.	B41
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	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	B49
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
6	SB	–
10	W	–

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	B70
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

H.S.

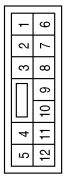
1	2	3	4

Terminal No.	Color of Wire	Signal Name
3	R	–

AAKIA3212GB

Connector No.	B140
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	v of Wire	Signal Name
6	GR	–
10	W	–

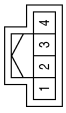
Connector No.	B77
Connector Name	INSIDE KEY ANTENNA (CONSOLE)
Connector Color	GRAY

H.S.

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

Connector No.	B71
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

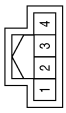
H.S.



Terminal No.	Color of Wire	Signal Name
3	SB	–

Connector No.	B142
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

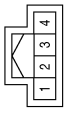
H.S.



Terminal No.	Color of Wire	Signal Name
3	W	–

Connector No.	B141
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3	GR	–

AAKIA3213GB

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram

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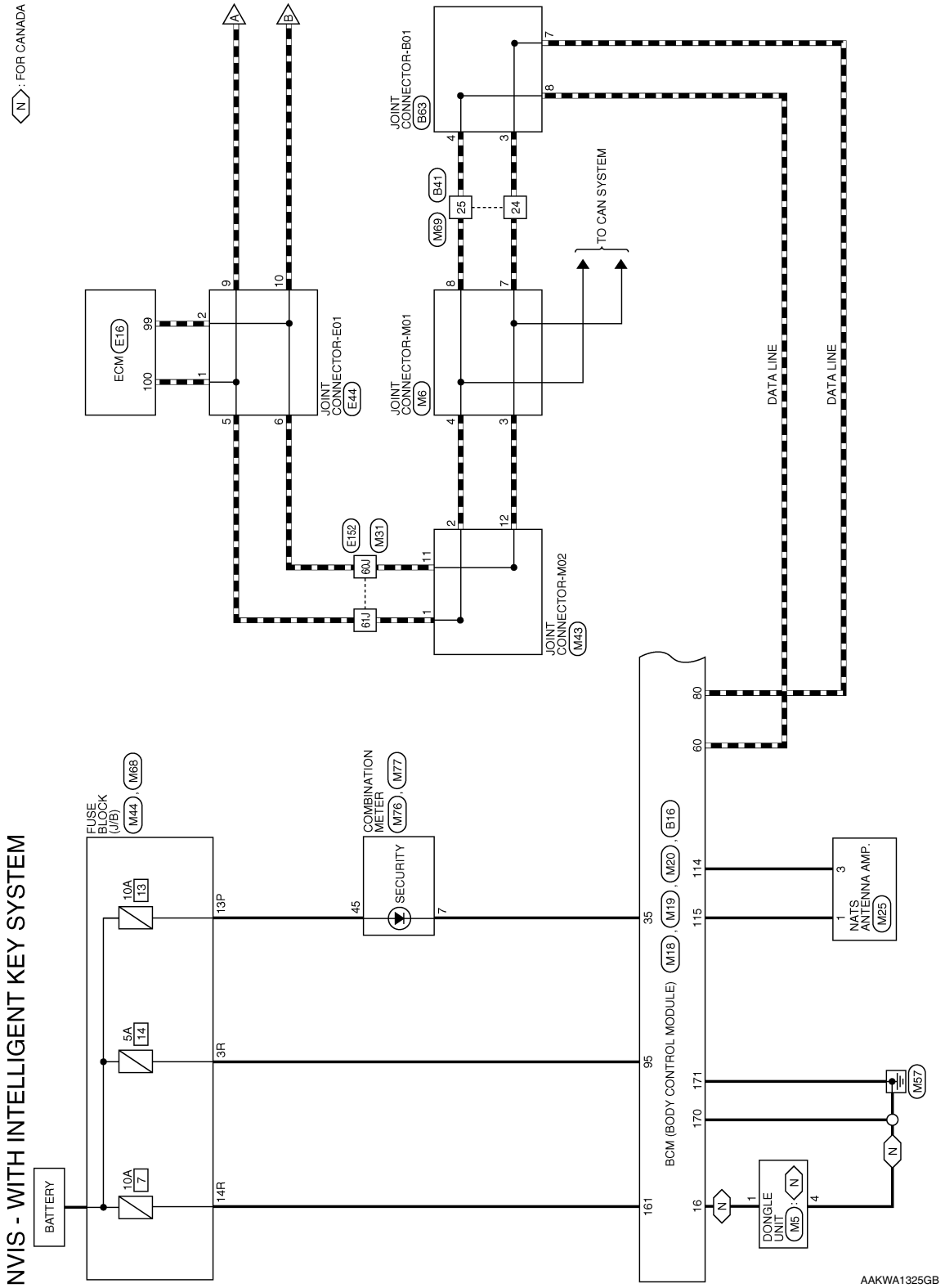
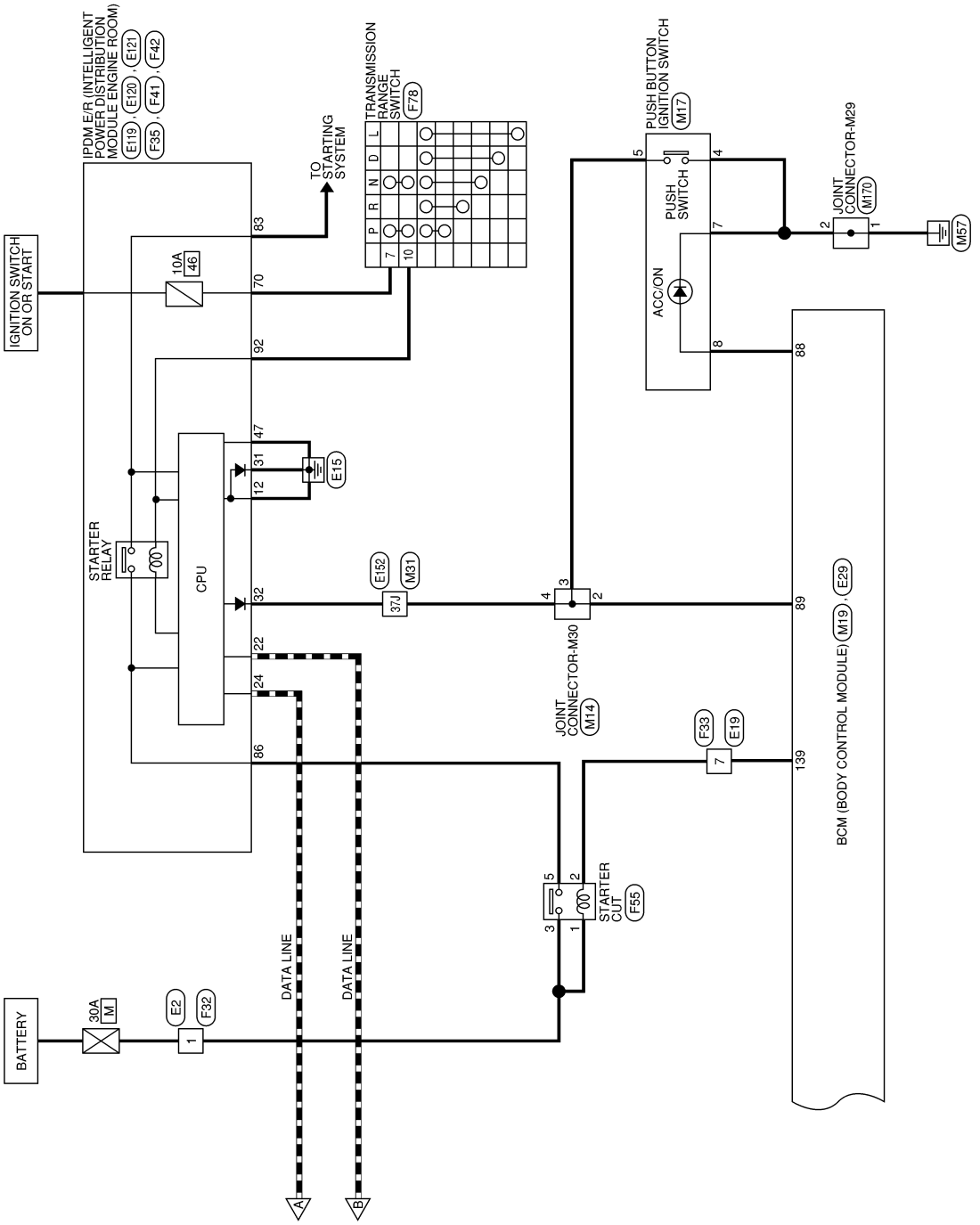




AAKWA1118GB

NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

Connector No.	M5
Connector Name	DONGLE UNIT
Connector Color	WHITE

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	P	–
4	B	–

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M30
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
2	Y	–
3	Y	–
4	Y	–

Connector No.	M17
Connector Name	PUSH BUTTON IGNITION SWITCH
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
16	P	DONGLE UART
35	BG	O SECURITY LED

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

H.S.

100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81
120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101

Terminal No.	Color of Wire	Signal Name
88	W	O START SW BACKLIGHT LED (WITH INTELLIGENT KEY SYSTEM)
89	Y	I START WO ESCL SW
95	V	I SHORTING PIN
114	Y	O IMMOBILIZER KAZASHI B (WITH INTELLIGENT KEY SYSTEM)
115	W	O IMMOBILIZER KAZASHI A (WITH INTELLIGENT KEY SYSTEM)

AAKIA3206GB

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

Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
170	B	I GND1
171	B	I GND2

Connector No.	M25
Connector Name	NATS ANTENNA AMP (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	W	–
3	Y	–

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

Terminal No.	Color of Wire	Signal Name
37J	Y	–
60J	P	–
61J	L	–

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

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

AAKIA2319GB

Connector No.	M44
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
13P	LA/G	–

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
3R	V	–
14R	W	–

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	M76
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
7	BG	SECURITY

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
45	LA/G	BAT

Connector No.	M170
Connector Name	JOINT CONNECTOR-M29
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1

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

AAKIA2320GB

Connector No.	E19
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	G	–

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK

H.S.

97	101	105	109	113	117	121	125
98	102	106	110	114	118	122	126
99	103	107	111	115	119	123	127
100	104	108	112	116	120	124	128

Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
12	B	SIGNAL GROUND

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE

H.S.

4	3	2	1	
8	7	6	5	
12	11	10	9	
16	15	14	13	
20	19	18	17	
24	23	22	21	
28	27	26	25	

Terminal No.	Color of Wire	Signal Name
1	L	–
2	P	–
5	L	–
6	P	–
9	L	–
10	P	–

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

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	L	–

Connector No.	E29
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

132	131	130	129	128	127	126	125	124	123	122	121
144	143	142	141	140	139	138	137	136	135	134	133

Terminal No.	Color of Wire	Signal Name
139	G	O STCUT RL

AAKIA3207GB

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

H.S.

30	29	28	27	26	25	24	23	22	21	20	19
42	41	40	39	38	37	36	35	34	33	32	31

Terminal No.	Color of Wire	Signal Name
22	P	CAN-L
24	L	CAN-H
31	B	2ND SIGNAL GROUND
32	GR	LI PUSH SW

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

H.S.

45	44	43
48	47	46

Terminal No.	Color of Wire	Signal Name
47	B	POWER GROUND

Connector No.	E152
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	100J			

Terminal No.	Color of Wire	Signal Name
37J	GR	–
60J	P	–
61J	L	–

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

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	L	–

AAKIA2322GB

Connector No.	F33
Connector Name	WIRE TO WIRE
Connector Color	BROWN

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
7	G	–

Connector No.	F35
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

71	70	69	68		67	66	65
80	79	78	77	76	75	74	73	72

Terminal No.	Color of Wire	Signal Name
70	BG	O IGN AT LPG

Connector No.	F41
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY

H.S.

83	82	81
86	85	84

Terminal No.	Color of Wire	Signal Name
83	G	O STARTER
86	GR	FL STARTER

Connector No.	F42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

98	97	96	95	94	93	92	91	90	89	88	87
110	109	108	107	106	105	104	103	102	101	100	99

Terminal No.	Color of Wire	Signal Name
92	GR	LI NP SW

Connector No.	F55
Connector Name	STARTER CUT RELAY
Connector Color	BLUE

H.S.

3		
2	5	1

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	G	–
3	L	–
5	GR	–

Connector No.	F78
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK

H.S.

6	5	4	3	2	1
10	9	8	7		

Terminal No.	Color of Wire	Signal Name
7	BG	–
10	GR	–

AAKIA2323GB

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	B41
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	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

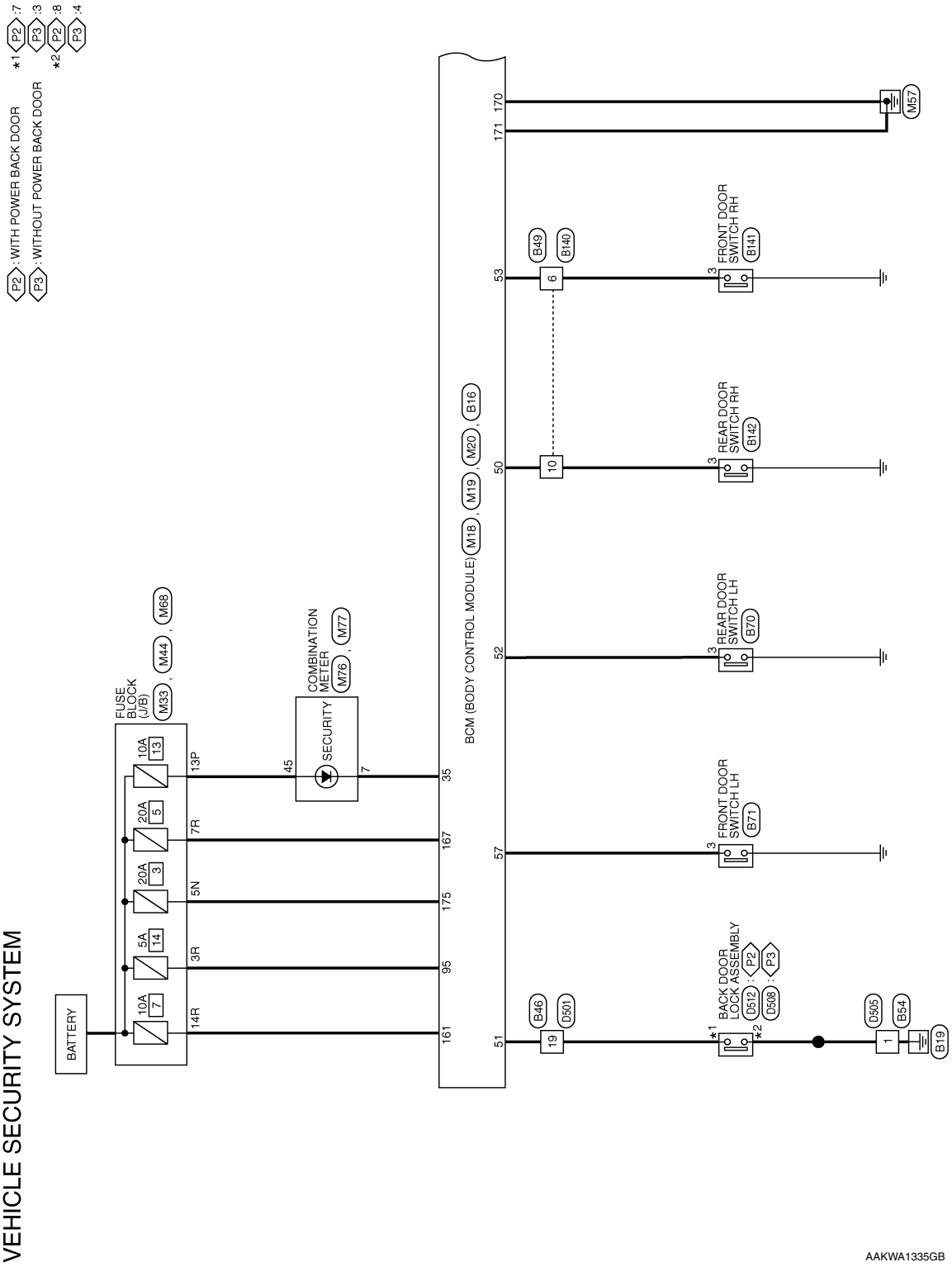
Terminal No.	Color of Wire	Signal Name
60	L	CAN-H
80	P	CAN-L

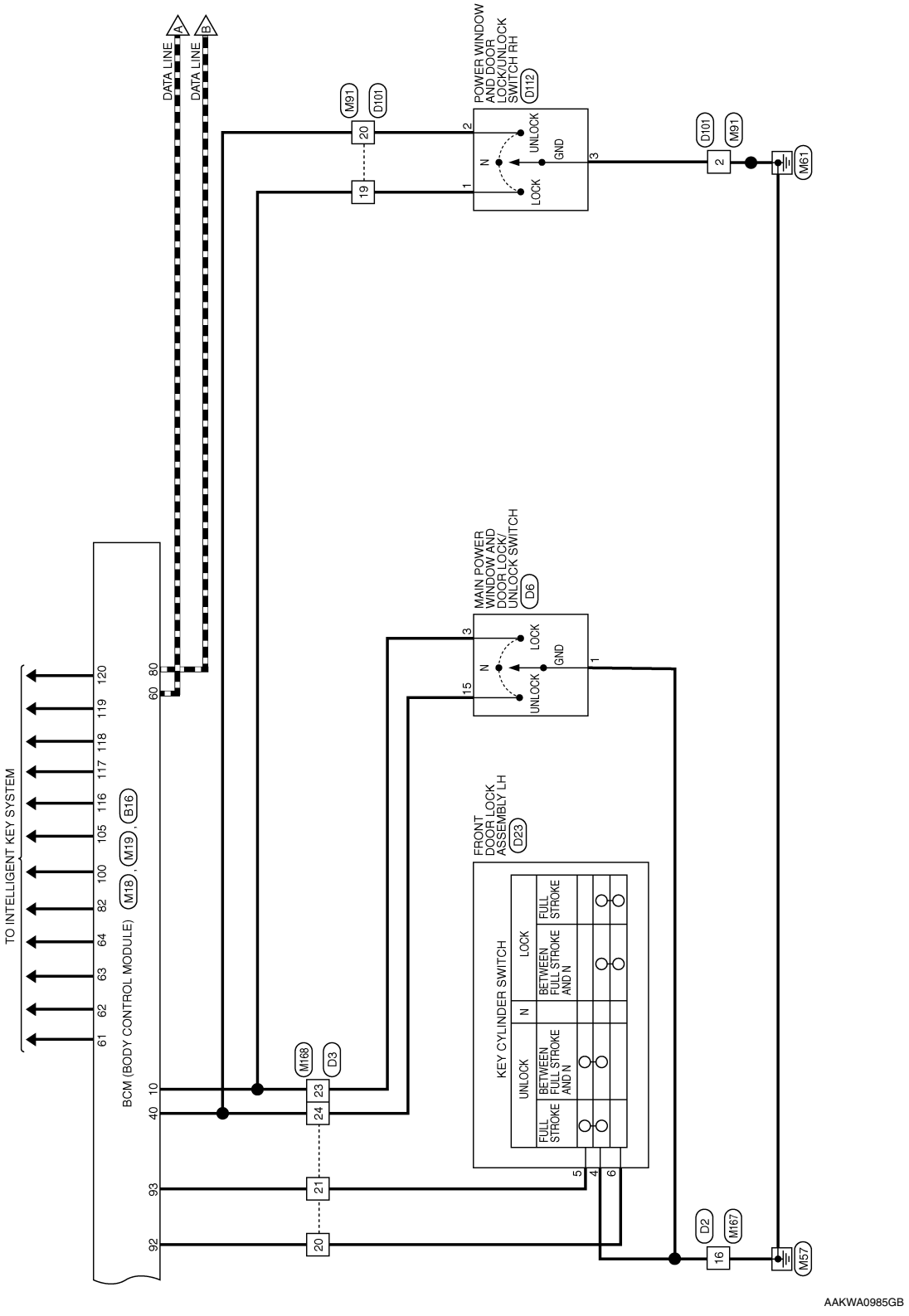
AAKIA2324GB

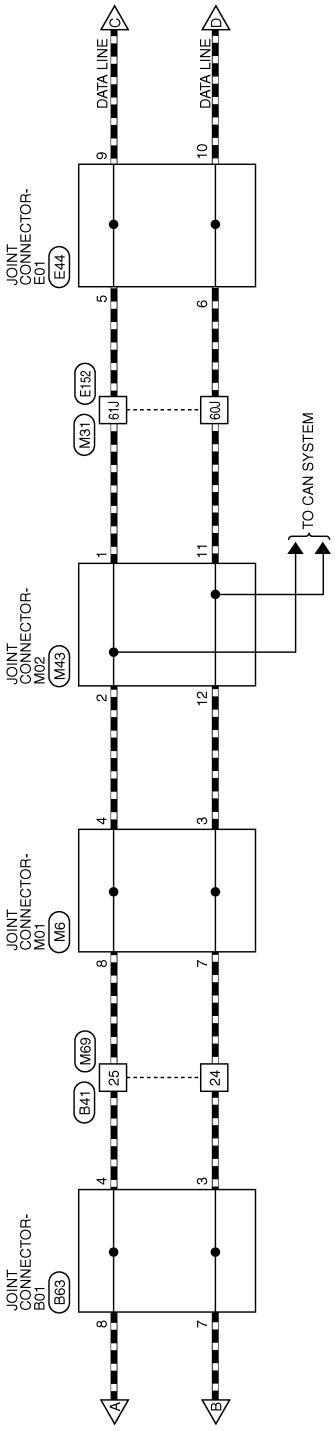
VEHICLE SECURITY SYSTEM

Wiring Diagram

INFOID:0000000012423947




DATA LINE A
DATA LINE B
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH D112
MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH D6
FRONT DOOR LOCK ASSEMBLY LH D23
KEY CYLINDER SWITCH
UNLOCK
LOCK
FULL STROKE
BETWEEN FULL STROKE AND N
N
TO INTELLIGENT KEY SYSTEM
BCM (BODY CONTROL MODULE) M18, M19, B16
M91
D101
M61
D2
M167
M57
M168
D3
AAKWA0985GB



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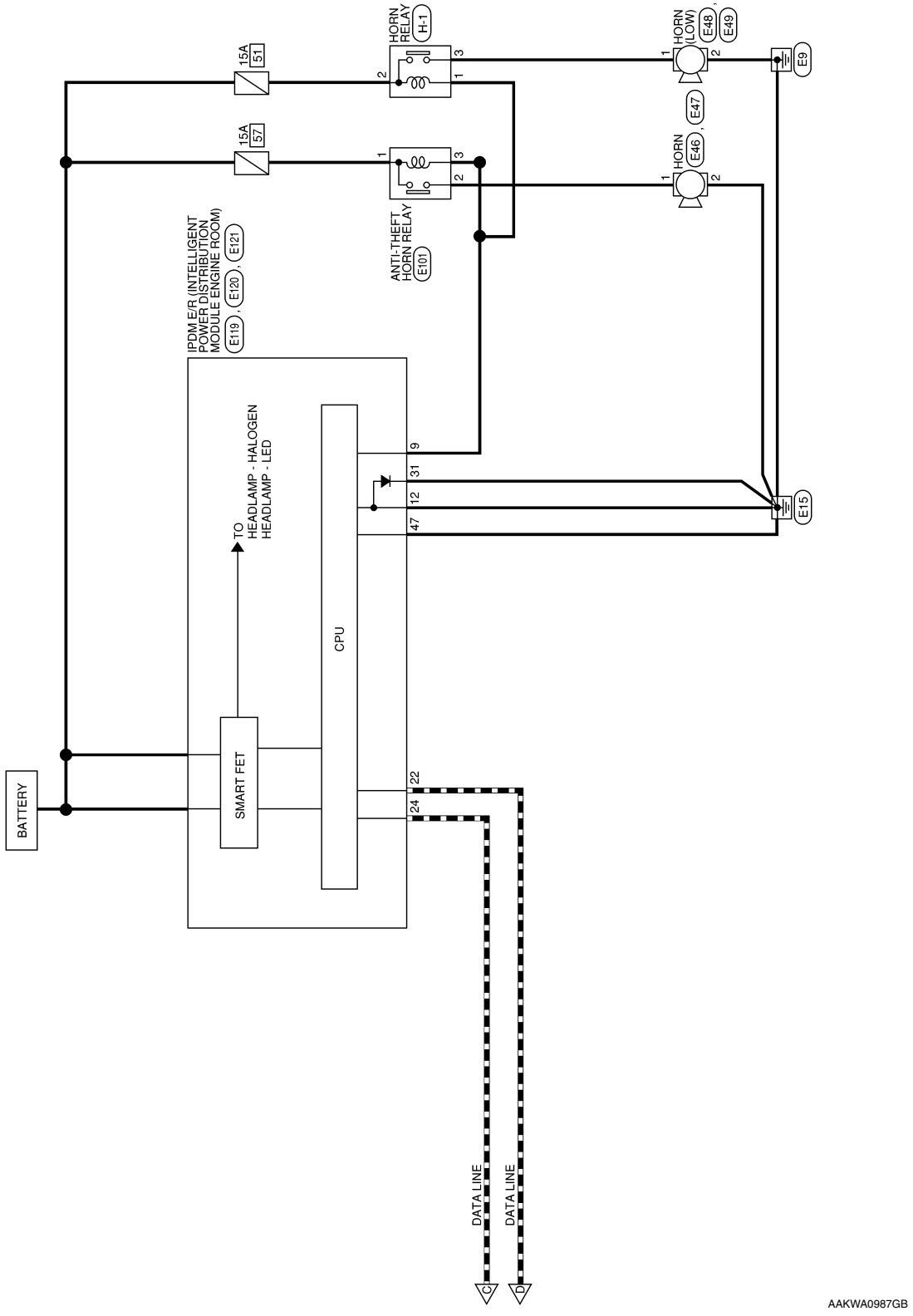

HORN RELAY
H-1
15A
51
15A
57
ANTI-THEFT HORN RELAY
E101
HORN (LOW)
E48
E49
E9
E47
HORN
E46
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119
E120
E121
TO
HEADLAMP - HALOGEN
HEADLAMP - LED
CPU
SMART FET
BATTERY
9
31
12
47
22
24
E15
DATA LINE
DATA LINE
C
D
AAKWA0987GB

VEHICLE SECURITY SYSTEM CONNECTORS

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	BG	I DOORLOCK SW
35	BG	O SECURITY LED
40	SB	I DOORUNLOCK SW

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

H.S.

100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81
120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101

Terminal No.	Color of Wire	Signal Name
82	W	I SES FR HANDLE BUTTON SW (WITH INTELLIGENT KEY SYSTEM)
92	BR	I-KEY CYLINDER LOCK SW
93	P	I-KEY CYLINDER UNLOCK SW
95	V	I SHORTING PIN
100	V	SES EXT DR ANTENNA A

Terminal No.	Color of Wire	Signal Name
105	Y	I SES FL HANDLE BUTTON (WITH INTELLIGENT KEY SYSTEM)
116	BG	SES INT FRONT ANTENNA B (WITH INTELLIGENT KEY SYSTEM)
117	GR	SES INT FRONT ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
118	SB	SES EXT RIGHT ANTENNA B (WITH INTELLIGENT KEY SYSTEM)
119	P	SES EXT RIGHT ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
120	BR	SES EXT LEFT ANTENNA B (WITH INTELLIGENT KEY SYSTEM)

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

H.S.

167	166	165	164									163	162	161
176	175	174	173	172	171	170	169	168						

Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
167	LA/V	I PWR DOORLOCK1
170	B	I GND1
171	B	I GND2
175	R	I PWR DOORLOCK2

AAKIA3203GB

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

H.S.

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

21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J
	30J	29J	28J	27J	26J	25J	24J	23J	22J	
41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J
	50J	49J	48J	47J	46J	45J	44J	43J	42J	
61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J
	70J	69J	68J	67J	66J	65J	64J	63J	62J	
81J	80J	79J	78J	77J	76J	75J	74J	73J	72J	71J
	90J	89J	88J	87J	86J	85J	84J	83J	82J	
		95J	94J	93J	92J		91J			
		100J	99J	98J	97J		96J			

Terminal No.	Color of Wire	Signal Name
60J	P	–
61J	L	–

Connector No.	M33
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5N	R	–

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

H.S.

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

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

Connector No.	M44
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
13P	LA/G	–

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.

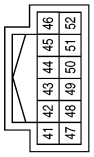
7R	6R	5R	4R		3R	2R	1R
16R	15R	14R	13R	12R	11R	10R	9R	8R

Terminal No.	Color of Wire	Signal Name
3R	V	–
7R	LA/V	–
14R	W	–

AAKIA2337GB

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE

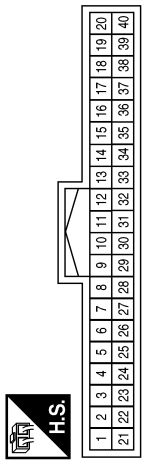
H.S.



Terminal No.	Color of Wire	Signal Name
45	LA/G	BAT

Connector No.	M76
Connector Name	COMBINATION METER
Connector Color	WHITE

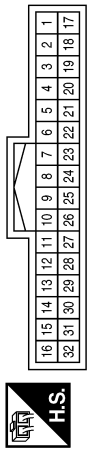
H.S.



Terminal No.	Color of Wire	Signal Name
7	BG	SECURITY

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

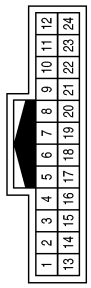
H.S.



Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	M168
Connector Name	WIRE TO WIRE
Connector Color	WHITE

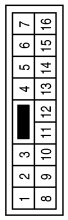
H.S.



Terminal No.	Color of Wire	Signal Name
20	BR	–
21	P	–
23	BG	–
24	SB	–

Connector No.	M167
Connector Name	WIRE TO WIRE
Connector Color	WHITE

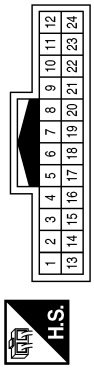
H.S.



Terminal No.	Color of Wire	Signal Name
16	B	–

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

H.S.

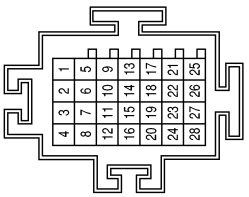


Terminal No.	Color of Wire	Signal Name
2	GR	–
19	LG	–
20	BR	–

AAKIA1807GB

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	L	–
6	P	–
9	L	–
10	P	–

Connector No.	E46
Connector Name	HORN
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–

Connector No.	E47
Connector Name	HORN
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–

Connector No.	E48
Connector Name	HORN (LOW)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–

Connector No.	E49
Connector Name	HORN (LOW)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–

Connector No.	E101
Connector Name	ANTI-THEFT HORN RELAY
Connector Color	WHITE

H.S.

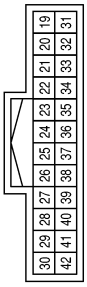
Terminal No.	Color of Wire	Signal Name
1	L	–
2	R	–
3	GR	–

AAKIA2448GB

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

Terminal No.	Color of Wire	Signal Name
47	B	POWER GROUND

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



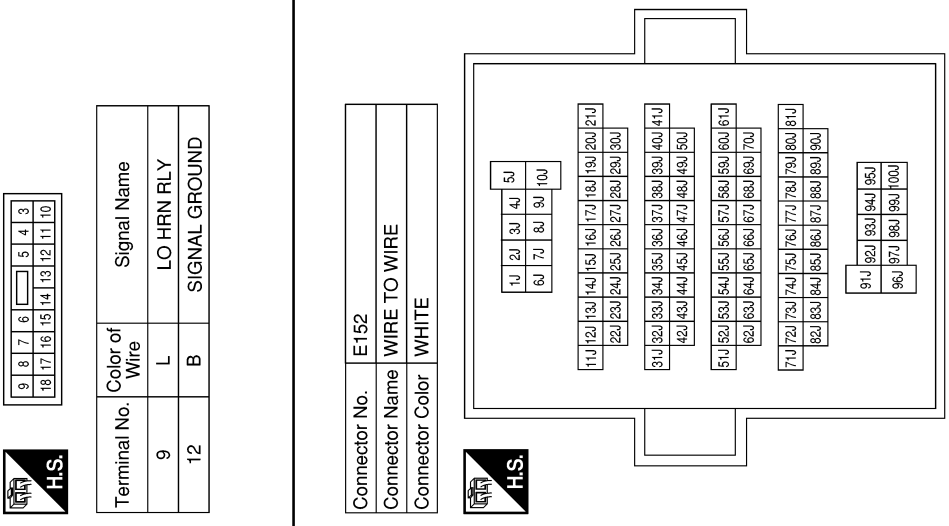
Terminal No.	Color of Wire	Signal Name
22	P	CAN-L
24	L	CAN-H
31	B	2ND SIGNAL GROUND

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

Terminal No.	Color of Wire	Signal Name
9	L	LO HRN RLY
12	B	SIGNAL GROUND

Terminal No.	Color of Wire	Signal Name
60J	P	–
61J	L	–

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



AAKIA2338GB

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
50	W	I RR DOOR SW
51	LG	I TGATESW
52	R	I RL DOOR SW
53	SB	I AS DOOR2 SW
57	SB	I DR DOOR2 SW
60	L	CAN-H

Connector No.	B46
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	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
19	LG	–

Terminal No.	Color of Wire	Signal Name
61	BR	SES EXT REAR ANTENNA B
62	Y	SES INT MIDDLE ANTENNA B (WITH INTELLIGENT KEY SYSTEM)
63	L	SES INT MIDDLE ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
64	G	SES EXT REAR ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
80	P	CAN-L

Connector No.	B49
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
6	SB	–
10	W	–

Connector No.	B41
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	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	B54
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

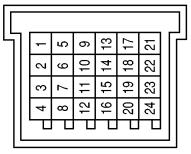
1
2

Terminal No.	Color of Wire	Signal Name
1	B	–

AAKIA3204GB

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY

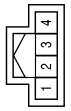
H.S.



Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	B70
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

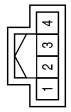
H.S.



Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	B71
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

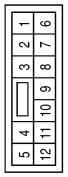
H.S.



Terminal No.	Color of Wire	Signal Name
3	SB	–

Connector No.	B140
Connector Name	WIRE TO WIRE
Connector Color	WHITE

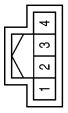
H.S.



Terminal No.	Color of Wire	Signal Name
6	GR	–
10	W	–

Connector No.	B141
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

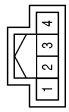
H.S.



Terminal No.	Color of Wire	Signal Name
3	GR	–

Connector No.	B142
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3	W	–

AAKIA2450GB

Connector No.	D2
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
16	B	–

Connector No.	D3
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
20	BR	–
21	P	–
23	L	–
24	BG	–

Connector No.	D6
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	GND
3	L	LOCK SW
15	BG	UNLOCK SW

Connector No.	D23
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	GRAY

H.S.

1	2	3	4	5	6

Terminal No.	Color of Wire	Signal Name
4	B	–
5	P	–
6	BR	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	B	–
19	LG	–
20	BR	–

Connector No.	D112
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	LG	–
2	BR	–
3	B	–

AAKIA3205GB

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
19	W	–

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

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	D508
Connector Name	BACK DOOR LOCK ASSEMBLY (WITHOUT AUTOMATIC BACK DOOR SYSTEM)
Connector Color	WHITE

H.S.

4	3	2	1

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

Connector No.	D512
Connector Name	BACK DOOR LOCK ASSEMBLY (WITH AUTOMATIC BACK DOOR SYSTEM)
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

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

AAKIA3218GB

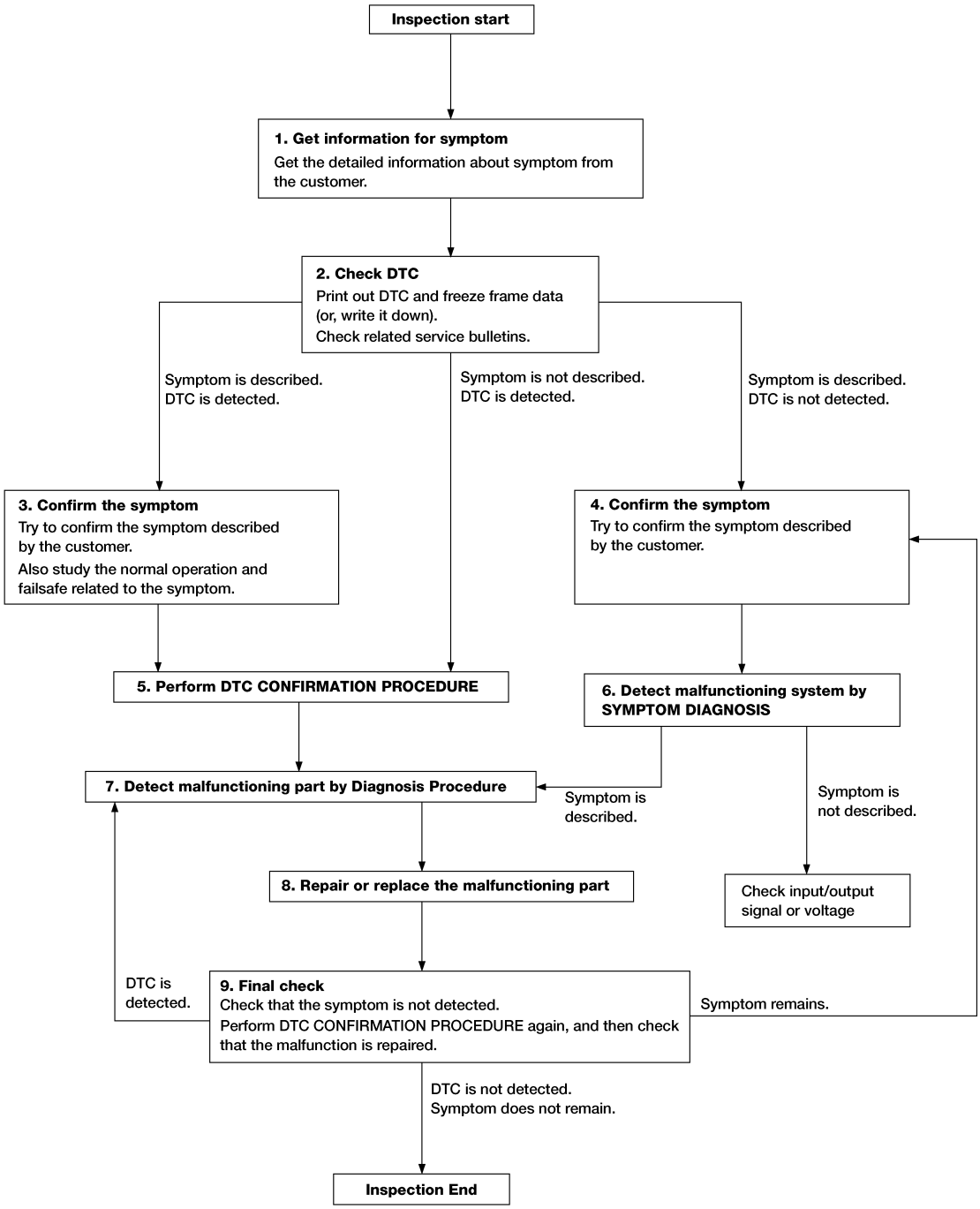
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000012423948

OVERALL SEQUENCE



ALAIA0158GB

DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

2.CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is detected.

- Record DTC and freeze frame data (Print them out using CONSULT.)
- 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.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Also study the normal operation and fail-safe related to the symptom.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-47, "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 on 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 7.
NO >> Check according to GI-45, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

YES >> GO TO 7.
NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-45, "Intermittent Incident".

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.
When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.
YES-2 >> Symptom remains: GO TO 4.
NO >> Before returning the vehicle to the customer, always erase DTC.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM

ECM : Description

INFOID:0000000012423949

Performing the following procedure can automatically activate recommunication of ECM and BCM, but only when the ECM is replaced with a new one*.
*: New one means an ECM that has never been energized on-board.
(In this step, initialization procedure by CONSULT is not necessary)
NOTE:
- **If multiple keys are attached to the key holder, separate them before beginning work.**
- **Distinguish keys with unregistered key IDs from those with registered IDs.**

ECM : Work Procedure

INFOID:0000000012423950

1.PERFORM ECM RECOMMUNICATING FUNCTION

1. Install ECM.
2. Contact backside of registered Intelligent Key* to push-button ignition switch, then turn ignition switch to ON.
   *: To perform this step, use the key that is used before performing ECM replacement.
3. Maintain ignition switch in the ON position for at least 5 seconds.
4. Turn ignition switch to OFF.
5. Check that the engine starts.

>> GO TO 2.

2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform EC-139, "Work Procedure".

>> Inspection End.

BCM

BCM : Description

INFOID:0000000012423951

BEFORE REPLACEMENT

When replacing BCM, save or print current vehicle specification with CONSULT configuration before replacement.
NOTE:
If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection” after replacing BCM.

AFTER REPLACEMENT

CAUTION:
When replacing BCM, always perform “WRITE CONFIGURATION” with CONSULT. Or not doing so, BCM control function does not operate normally.
- **Complete the procedure of “WRITE CONFIGURATION” in order.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **If you set incorrect “WRITE CONFIGURATION”, incidents might occur.**

NOTE:
When replacing BCM, perform the system initialization (NATS). Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

BCM : Work Procedure

INFOID:0000000012423952

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-62, "CONFIGURATION (BCM) : Description".

NOTE:
If “READ CONFIGURATION” can not be used, use the “WRITE CONFIGURATION - Manual selection” after replacing BCM.

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-76, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to BCS-62, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

4.INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS) Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

DTC/CIRCUIT DIAGNOSIS

P1610 LOCK MODE

Description

INFOID:0000000012423953

ECM forcibly switches to the mode that inhibits engine start, when engine start operation is performed 5 times or more while communication between ECM and BCM is not normal.

DTC Logic

INFOID:0000000012423954

DTC DETECTION LOGIC

NOTE:

- If DTC B1610 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B1610 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	When ECM detects a communication malfunction between ECM and BCM 5 times or more.	—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-71, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423955

1.CHECK ENGINE START FUNCTION

1. Check that there are no DTC’s except for DTC P1610 detected.
   If detected, erase the DTC after fixing.
2. Turn ignition switch OFF.
3. Contact the registered Intelligent Key backside to push-button ignition switch and wait 5 seconds.
4. Turn ignition switch ON.
5. Turn ignition switch OFF and wait 5 seconds.
6. Repeat steps 3 and 5 twice (a total of 3 times).
7. Check that engine can start.

>> Inspection End.

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000012423956

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1611	ID DISCORD, IMMU-ECM	The ID verification results between BCM and ECM are NG.	• 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.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-72, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423957

1.PERFORM INITIALIZATION

Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

Can the system be initialized and can the engine be started with reregistered Intelligent Key?

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

2.CHECK SELF DIAGNOSTIC RESULT

1. Select “Self Diagnostic Result” of “ENGINE” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-72, "DTC Logic".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

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

YES >> Inspection End.
NO >> GO TO 4.

4.REPLACE ECM

1. Replace ECM. Refer to EC-503, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”. Refer to EC-139, "Work Procedure".

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000012423958

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-73, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423959

NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to BCS-69, "Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK ECM POWER SUPPLY AND GROUND CIRCUIT.

Check ECM power supply and ground circuit. Refer to EC-168, "Diagnosis Procedure".

Is the inspection result normal?

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

3.PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-73, "DTC Logic".

Does the DTC return?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation"
NO >> Inspection End.

P161D IMMOBILIZER

DTC Logic

INFOID:0000000012423960

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161D	IMMOBILIZER	When immobilizer detects a malfunction, and prohibits the engine start.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012423961

1.REPLACE BCM

Replace BCM. Refer to BCS-76, "Removal and Installation".

>> Inspection End.

P161E IMMOBILIZER

DTC Logic

INFOID:0000000012423962

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161E	IMMOBILIZER	After replacing the ECM, when the ECM is not registered to the vehicle by using the CONSULT.	• BCM • ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012423963

1.PERFORM REGISTRATION OF ECM

Perform registration of ECM using CONSULT.

Is DTC detected?

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

2.REPLACE BCM

Replace BCM. Refer to BCS-76, "Removal and Installation".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.REPLACE ECM

Replace ECM. Refer to EC-503, "Removal and Installation".

>> Inspection End.

P161F IMMOBILIZER

DTC Logic

INFOID:0000000012423964

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161F	IMMOBILIZER	When immobilizer detects a malfunction, and prohibits the engine start.	ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012423965

1.REPLACE ECM

Replace ECM. Refer to EC-503, "Removal and Installation".

>> Inspection End.

B2190 NATS ANTENNA AMP.

Description

INFOID:0000000012423966

Performs ID verification through BCM and NATS antenna amplifier when ignition switch turned ON.
Prohibits the start of engine when an unregistered ID of ignition key is used.

DTC Logic

INFOID:0000000012423967

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-77, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423968

1.INTELLIGENT KEY REGISTRATION

Using CONSULT, register all Intelligent Keys again.

>> GO TO 2.

2.CHECK SELF DIAGNOSTIC RESULT

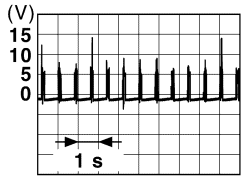
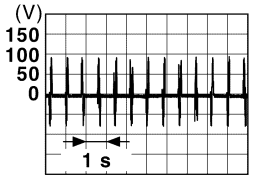
1. Select “Self Diagnostic Result” of “BCM” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for B2190. Refer to SEC-77, "Description".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.CHECK NATS ANTENNA COMMUNICATION SIGNAL

Check voltage signal between NATS antenna amp. harness connector and ground using an oscilloscope.

(+) NATS antenna amp. Connector	(+) NATS antenna amp. Terminal	(-)	Condition		Voltage (Approx.)
M25	1	Ground	Intelligent Key battery is removed and brake pedal is depressed.	Other than above.	 JMMIA1651GB
				When a registered Intelligent Key back-side is contacted to push-button ignition switch.	0 V
	3			Other than above.	 JMMIA1650GB
				When a registered Intelligent Key back-side is contacted to push-button ignition switch.	0 V

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to SEC-118, "Removal and Installation".
NO >> GO TO 4.

4. CHECK NATS ANTENNA COMMUNICATION SIGNAL CIRCUIT

1. Disconnect BCM connector and NATS antenna connector.
2. Check continuity between NATS antenna amp. harness connector and BCM harness connector.

NATS antenna amp. Connector	NATS antenna amp. Terminal	BCM Connector	BCM Terminal	Continuity
M25	1	M19	115	Yes
	3		114	

3. Check continuity between NATS antenna amp. connector and ground.

NATS antenna amp. Connector	NATS antenna amp. Terminal	Ground	Continuity
M25	1		No
	3		

Is the inspection result normal?

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

5. REPLACE BCM

Replace BCM. Refer to BCS-76, "Removal and Installation".

>> Inspection End.

B2191 DIFFERENCE OF KEY

DTC Logic

INFOID:0000000012423969

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2191	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. Turn ignition switch ON.
2. Check “Self Diagnostic Result” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-80, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423970

1.INTELLIGENT KEY REGISTRATION

Using CONSULT, register all Intelligent Keys again.

Can engine be started with the registered Intelligent Key?

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

2.REPLACE INTELLIGENT KEY

1. Prepare Intelligent Key that matches the vehicle.
2. Registration of all Intelligent Key using CONSULT.

Can engine be started with the registered Intelligent Key?

YES >> Inspection End.
NO >> GO TO 3.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> Inspection End.

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000012423971

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD BCM-ECM	The ID verification results between BCM and ECM are NG.	• 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.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-81, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423972

1.PERFORM INITIALIZATION

Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

Can the system be initialized and can the engine be started with reregistered Intelligent Key?

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

2.CHECK SELF-DIAGNOSTIC RESULT

1. Select “Self Diagnostic Result” of “BCM” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2192. Refer to SEC-81, "DTC Logic".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

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

YES >> Inspection End.
NO >> GO TO 4.

4.REPLACE ECM

1. Replace ECM. Refer to EC-503, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”. Refer to EC-139, "Work Procedure".

>> Inspection End.

B2193 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000012423973

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-82, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423974

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to BCS-69, "Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK ECM POWER SUPPLY AND GROUND CIRCUIT.

Check ECM power supply and ground circuit. Refer to EC-168, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace ECM. Refer to EC-503, "Removal and Installation". GO TO 3.
NO >> Repair or replace the harness.

3.PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-82, "DTC Logic".

Does the DTC return?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation"
NO >> Inspection End.

B2196 DONGLE UNIT

Description

INFOID:0000000012423975

BCM performs ID verification between BCM and dongle unit.
When verification result is OK, BCM permits cranking.

DTC Logic

INFOID:0000000012423976

DTC DETECTION LOGIC

NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2196	DONGLE NG	The ID verification results between BCM and dongle unit is NG.	• Harness or connectors (Dongle unit circuit is open or shorted.) • Dongle unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Turn ignition switch ON.
4. Check “Self Diagnostic Result” of “BCM” using CONSULT.

Is the DTC detected?

YES >> Refer to SEC-83, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423977

Regarding Wiring Diagram information, refer to SEC-44, "Wiring Diagram".

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.
2. Start the engine.

Dose the engine start?

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

2.CHECK DONGLE UNIT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and dongle unit connector.
3. Check continuity between BCM harness connector and dongle unit harness connector.

BCM		Dongle unit		Continuity
Connector	Terminal	Connector	Terminal	
M18	16	M5	1	Yes

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M18	16		No

Is the inspection result normal?

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

3.CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dongle unit		Ground	Continuity
Connector	Terminal		
M5	4		Yes

Is the inspection result normal?

YES >> Replace dongle unit.
NO >> Repair or replace harness.

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:0000000012423978

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2198	NATS ANTENNA AMP	Inactive communication between NATS antenna amp. and BCM.	• Harness or connectors (The NATS antenna amp. circuit is open or shorted) • NATS antenna amp. • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Contact Intelligent Key back side to push-button ignition switch.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-85, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Press the push-button ignition switch.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-85, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423979

Regarding Wiring Diagram information, refer to SEC-44, "Wiring Diagram".

1.CONNECTOR INSPECTION

1. Disconnect BCM and NATS antenna amp.
2. Check connectors and terminals for deformation, disconnection, looseness or damage.

Is the inspection result normal?

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

2.CHECK NATS ANTENNA AMP. CIRCUIT

1. Disconnect BCM connector and NATS antenna amp. connector.
2. Check continuity between BCM harness connector and NATS antenna amp. harness connector.

BCM		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M19	114	M25	3	Yes
	115		1	

3. Check continuity between BCM harness connector and ground.

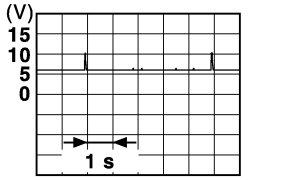
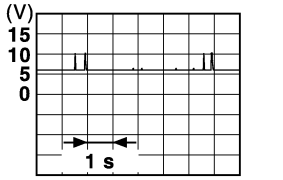
BCM		Ground	Continuity
Connector	Terminal		
M19	114		No
	115		

Is the inspection result normal?

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

3. CHECK NATS ANTENNA AMP INPUT SIGNAL 1

1. Turn ignition switch ON.
2. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM Connector	(+) BCM Terminal	(–)	Condition	Signal (Reference value)
M19	114, 115	Ground	When Intelligent Key is in the antenna detection area	 JMKIA3839GB
			When Intelligent Key is not in the antenna detection area	 JMKIA5951GB

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation".
NO >> Replace NATS antenna amp. Refer to SEC-118, "Removal and Installation".

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:0000000012423980

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following condition:
- Brake pedal: Not depressed
2. Release push-button ignition switch and wait 100 seconds or more.
3. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-87, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423981

Regarding Wiring Diagram information, refer to SEC-31, "Wiring Diagram".

1.CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

(+)		(–)	Voltage (V) (Approx.)
Push-button ignition switch			
Connector	Terminal		
M17	5	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 connector and IPDM E/R connector.
2. Check continuity between push-button ignition switch harness connector and BCM harness connector.

Push-button ignition switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M17	5	M19	89	Yes

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M17	5		No

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

4.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-88, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace push-button ignition switch. Refer to SEC-120, "Removal and Installation".

5.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000012423982

1.CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector.
3. Check continuity between push-button ignition switch terminals.

Push-button ignition switch		Condition		Continuity
Terminal				
4	5	Push-button ignition switch	Pressed	Yes
			Not pressed	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace push-button ignition switch. Refer to SEC-120, "Removal and Installation".

B2557 VEHICLE SPEED

DTC Logic

INFOID:0000000012423983

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	BCM detects one of the following conditions for 10 seconds continuously. • Vehicle speed signal from combination meter is 10 km/h (6.2 MPH) or more, and vehicle speed signal from ABS actuator and electric unit (control unit) is 4 km/h (2.5 MPH) or less. • Vehicle speed signal from combination meter is 4 km/h (2.5 MPH) or less, and vehicle speed signal from ABS actuator and electric unit (control unit) is 10 km/h (6.2 MPH) or more.	• Harness or connectors (The CAN communication line is open or shorted.) • Combination meter • ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine and wait 10 seconds or more.
2. Drive the vehicle at a vehicle speed of 10 km/h (6.2 MPH) or more for 10 seconds or more.
3. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-89, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423984

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

Check DTC in “Self Diagnostic Result” of “ABS” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BRC-57, "DTC Index".
NO >> GO TO 2.

2.CHECK DTC OF “COMBINATION METER”

Check DTC in “Self Diagnostic Result” of “METER/M&A” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to MWI-31, "DTC Index".
NO >> GO TO 3.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> Inspection End.

B2602 SHIFT POSITION

DTC Logic

INFOID:0000000012423985

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT POSITION	BCM detects the following status for 10 seconds. • Selector lever is in the P (Park) position • Vehicle speed is 4 km/h (2.5 MPH) or more • Ignition switch is in the ON position	• Harness or connectors (CAN communication line is open or shorted.) • Harness or connectors [CVT shift selector (park position switch) circuit is open or shorted.] • CVT shift selector (park position switch) • Combination meter • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.
2. Drive vehicle at a speed of 4 km/h (2.5 MPH) or more for 10 seconds or more.
3. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012423986

Regarding Wiring Diagram information, refer to SEC-31, "Wiring Diagram".

1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

1. Turn ignition switch ON.
2. Select “DETE/CANCEL SW” and “VEH SPEED 1” in “Data Monitor” with CONSULT.
3. Check “DETE/CANCEL SW” and “VEH SPEED 1” indication under the following conditions:

Monitor item	Condition		Indication
DETE/CANCEL SW	CVT Shift selector	In any position other than P (Park)	OFF
		P (Park)	ON
VEH SPEED 1	Vehicle not moving		0
	Vehicle moving		Varies

Is the inspection result normal?

YES >> Refer to GI-45, "Intermittent Incident".
NO-1 >> If “DETE/CANCEL SW” is incorrect. GO TO 4.
NO-2 >> If “VEH SPEED 1” is incorrect. GO TO 2.

2.CHECK DTC OF COMBINATION METER

Check DTC in “Self Diagnostic Result” of “METER/M&A” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to MWI-31, "DTC Index".
NO >> GO TO 3.

3. CHECK DTC OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Check DTC in “Self Diagnostic Result” of “ABS” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BRC-57, "DTC Index".
NO >> GO TO 6.

4. CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM connector and CVT shift selector connector.
2. Check continuity between CVT shift selector (park position switch) harness connector and BCM harness connector.

CVT shift selector (park position switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M107	13	M19	94	Yes

3. Check continuity between CVT shift selector (park position switch) harness connector and ground.

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M107	13		No

Is the inspection result normal?

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

5. CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM connector and CVT shift selector connector.
2. Check continuity between CVT shift selector (park position switch) harness connector and BCM harness connector.

CVT shift selector (park position switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M107	12	M18	17	Yes

3. Check continuity between CVT shift selector (park position switch) harness connector and ground.

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M107	12		No

Is the inspection result normal?

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

6. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to SEC-92, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace CVT shift selector. Refer to TM-193, "Removal and Installation".

7. CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000012423987

1. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

1. Turn ignition switch OFF.
2. Disconnect CVT shift selector connector.
3. Check continuity between CVT shift selector (park position switch) terminals.

CVT shift selector (park position switch)		Condition		Continuity
Terminal				
12	13	Selector lever	P (Park) position	No
			Other than above	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace CVT shift selector. Refer to TM-193, "Removal and Installation".

B2604 SHIFT POSITION

DTC Logic

INFOID:0000000012423988

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2604	SHIFT PN DIAG CAN	The following states are detected for 5 seconds while ignition switch is ON: • P/N position signal is sent from transmission range switch but shift position signal input (CAN) from TCM is other than P and N. • P/N position signal is not sent from transmission range switch but shift position signal input (CAN) from TCM is P or N.	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connectors (Transmission range switch circuit is open or shorted.) • TCM • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Shift the selector lever to the P position.
2. Turn ignition switch ON and wait 5 seconds or more.
3. Shift the selector lever to the N position and wait 5 seconds or more.
4. Shift the selector lever to any position other than P and N, and wait 5 seconds or more.
5. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-93, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423989

Regarding Wiring Diagram information, refer to SEC-44, "Wiring Diagram".

1.CHECK DTC OF TCM

Check DTC in “Self Diagnostic Result” of “TCM” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to TM-63, "DTC Index".
NO >> GO TO 2.

2.CHECK FUSE

1. Turn power switch OFF.
2. Check that the following fuse in IPDM E/R is not blown.

Signal name	Fuse No.
Ignition power supply	46 (10 A)

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace the blown fuse after repairing the cause of blowing.

3.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

1. Disconnect transmission range switch connector.
2. Turn ignition switch ON.

3. Check voltage between transmission range switch harness connector and ground.

(+)		(–)	Voltage (V) (Approx.)
Transmission range switch			
Connector	Terminal		
F78	7	Ground	Battery voltage

Is the inspection result normal?

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

4. CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT

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

Transmission range switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
F78	7	F35	70	Yes

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-44, "Removal and Installation".
NO >> Repair or replace harness.

5. CHECK BCM INPUT SIGNAL

1. Turn ignition switch OFF.
2. Reconnect transmission range switch connector.
3. Turn ignition switch ON.
4. Check voltage between BCM harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
M19	89	Ground	Selector lever	P or N position	Battery voltage
				Other than above	0

Is the inspection result normal?

YES >> GO TO 9.
NO >> GO TO 6.

6. CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect transmission range switch connector.
3. Disconnect BCM connector.
4. Check continuity between transmission range switch harness connector and BCM harness connector.

Transmission range switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
F78	10	M19	89	Yes

5. Check continuity between transmission range switch harness connector and ground.

Transmission range switch		Ground	Continuity
Connector	Terminal		
F78	10		No

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK TRANSMISSION RANGE SWITCH

Refer to SEC-95, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.
NO >> Replace transmission range switch.

8.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> Inspection End.

9.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

Component Inspection

INFOID:0000000012423990

1.CHECK TRANSMISSION RANGE SWITCH

1. Turn ignition switch OFF.
2. Disconnect transmission range switch connector.
3. Check continuity between transmission range switch terminals.

Transmission range switch		Condition	Continuity
Terminal			
7	10	P or N position	Yes
		Other than above	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace transmission range switch.

B2608 STARTER RELAY

DTC Logic

INFOID:0000000012423991

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".
- If DTC B2608 is displayed with other DTC (BCM), first perform the trouble diagnosis for other DTC detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2608	STARTER RELAY	BCM outputs starter relay OFF signal but BCM receives starter relay ON signal from IPDM E/R (CAN).	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connectors (Starter relay circuit is open or shorted.) • IPDM E/R • Starter relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine:
- Selector lever: In the P position
- Brake pedal: Depressed
2. Wait 1 second after engine started.
3. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-96, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423992

1.CHECK DTC OF IPDM E/R

Select “Self Diagnostic Result” of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to PCS-26, "DTC Index".
NO >> GO TO 2.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace BCM. Refer to BCS-76, "Removal and Installation".

B260F ENGINE STATUS

Description

INFOID:0000000012423993

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

DTC Description

INFOID:0000000012423994

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition
B260F	ENG STATE SIG LOST (Engine state signal lost)	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.

POSSIBLE CAUSE

- Harness or connectors
  (The CAN communication line is open or shorted.)
- ECM

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC B260F is displayed with DTC U1000 or U1010, first perform the trouble diagnosis for DTC U1000 or U1010.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1000: Refer to BCS-65, "DTC Logic". U1010: Refer to BCS-66, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 2 seconds or more.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-97, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000012423995

1.CHECK DTC PRIORITY

If DTC B260F is displayed with DTC U1000 or U1010, first perform the trouble diagnosis for DTC U1000 or U1010.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1000: Refer to BCS-65, "DTC Logic". U1010: Refer to BCS-66, "DTC Logic".
NO >> GO TO 2.

2.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to SEC-97, "DTC Description".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.REPLACE ECM

Replace ECM. Refer EC-503, "Removal and Installation".

>> Inspection End

B261E VEHICLE TYPE

Description

INFOID:0000000012423996

There are two types of vehicles.
- HEV
- Conventional

DTC Logic

INFOID:0000000012423997

DTC DETECTION LOGIC

NOTE:
- If DTC B261E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B261E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261E	VEHICLE TYPE	Difference of BCM configuration.	• BCM mis-configuration • Wrong ECM installed

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions.
- Shift selector lever is in the P (Park) or N (Neutral) position
- Do not depress brake pedal
2. Check “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-99, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012423998

1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure. Refer to SEC-99, "DTC Logic".

Is the 1st trip DTC B261E displayed again?

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

2.PERFORM BCM CONFIGURATION.

Perform the BCM configuration. Refer to BCS-62, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 3.

3.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure.
   Refer to SEC-99, "DTC Logic".

Is the 1st trip DTC B261E displayed again?

YES >> GO TO 4.
NO >> Inspection End.

4. CONFIRM ECM PART NUMBER.

Confirm the part number of the installed ECM is correct.

Is the ECM part number correct?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation".
NO >> Replace ECM. Refer to EC-503, "Removal and Installation".

B26FC KEY REGISTRATION

DTC Logic

INFOID:0000000012423999

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26FC	KEY REGISTRATION	Intelligent Key that does not match the vehicle is registered.	• Improper registration operation • Intelligent Key • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-101, "Diagnosis Procedure"
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424000

1.REPLACE INTELLIGENT KEY

1. Prepare Intelligent Key that matches the vehicle.
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.
3. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

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

2.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

B27D1 START CUT RELAY OFF

DTC Logic

INFOID:0000000012424001

DTC DETECTION LOGIC

NOTE:

- If DTC B27D1 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B27D1 is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B27D1	STARTER CUT RELAY OFF	When comparing the starter cut relay signal (CAN) from IPDM E/R, BCM detects that starter cut relay is stuck in the OFF position for 1 second or more.	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connector (Starter cut relay circuit is open or shorted.) • IPDM E/R • BCM • Starter cut relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine, and wait 1 second or more.

- Selector lever: In the P position
- Brake pedal: Depressed

2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-102, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424002

Regarding Wiring Diagram information, refer to SEC-31, "Wiring Diagram".

1.CHECK STARTER CUT RELAY POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V) (Approx.)
Starter cut relay			
Connector	Terminal		
F55	1	Ground	Battery voltage
	3		

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 30 A fusible link [M, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between starter cut relay and fusible link.

2.CHECK STARTER CUT RELAY CONTROL

1. Reconnect starter cut relay.

2. Check voltage between BCM harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
E29	139	Ground	CVT shift selector lever	N or P position	Battery voltage
				Other than above	0

Is the inspection result normal?

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

3. CHECK STARTER CUT RELAY CONTROL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Disconnect starter cut relay.
4. Check continuity between BCM harness connector and starter cut relay harness connector.

BCM		Starter cut relay		Continuity
Connector	Terminal	Connector	Terminal	
E29	139	F55	2	Yes

Is the inspection result normal?

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

4. CHECK STARTER CUT RELAY CIRCUIT

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

IPDM E/R		Starter cut relay		Continuity
Connector	Terminal	Connector	Terminal	
F41	86	F55	5	Yes

4. Check continuity between BCM harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
F41	86		No

Is the inspection result normal?

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

5. CHECK STARTER CUT RELAY

Refer to SEC-104, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace starter cut relay.

6. REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B27D1. Refer to SEC-102, "DTC Logic".

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace IPDM E/R. Refer to PCS-44, "Removal and Installation".

Component Inspection

INFOID:0000000012424003

1. CHECK STARTER CUT RELAY

1. Turn ignition switch OFF.
2. Disconnect starter cut relay.
3. Check continuity between starter cut relay terminals.

Starter cut relay		Condition	Continuity
Terminal			
3	5	12 V direct current supply between terminals 1 and 2	Yes
		No current supply	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace starter cut relay.

B27D2 START CUT RELAY ON

DTC Logic

INFOID:0000000012424004

DTC DETECTION LOGIC

NOTE:

- If DTC B27D2 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B27D2	STARTER CUT RELAY ON	When comparing the starter cut relay signal (CAN) from IPDM E/R, BCM detects that starter cut relay is stuck in the ON position for 1 second or more.	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connector (Starter cut relay circuit is open or shorted.) • IPDM E/R • BCM • Starter cut relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine, and wait 1 second or more.

- Selector lever: In the P position
- Brake pedal: Depressed

2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-105, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424005

Regarding Wiring Diagram information, refer to SEC-31, "Wiring Diagram".

1.CHECK STARTER CUT RELAY POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V) (Approx.)
Starter cut relay			
Connector	Terminal		
F55	1	Ground	Battery voltage
	3		

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 30 A fusible link [M, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between starter cut relay and fusible link.

2.CHECK STARTER CUT RELAY CONTROL

1. Reconnect starter cut relay.
2. Check voltage between BCM harness connector and ground.

(+) BCM Connector	(+) BCM Terminal	(–)	Condition		Voltage (V) (Approx.)
E29	139	Ground	CVT shift selector lever	N or P position	Battery voltage
				Other than above	0

Is the inspection result normal?

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

3.CHECK STARTER CUT RELAY CONTROL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Disconnect starter cut relay.
4. Check continuity between BCM harness connector and starter cut relay harness connector.

BCM		Starter cut relay		Continuity
Connector	Terminal	Connector	Terminal	
E29	139	F55	2	Yes

Is the inspection result normal?

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

4.CHECK STARTER CUT RELAY CIRCUIT

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

IPDM E/R		Starter cut relay		Continuity
Connector	Terminal	Connector	Terminal	
F41	86	F55	5	Yes

4. Check continuity between BCM harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
F41	86		No

Is the inspection result normal?

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

5.CHECK STARTER CUT RELAY

Refer to SEC-107, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace starter cut relay.

6.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B27D2. Refer to SEC-105, "DTC Logic".

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace IPDM E/R. Refer to PCS-44, "Removal and Installation".

Component Inspection

INFOID:0000000012424006

1. CHECK STARTER CUT RELAY

1. Turn ignition switch OFF.
2. Disconnect starter cut relay.
3. Check continuity between starter cut relay terminals.

Starter cut relay		Condition	Continuity
Terminal			
3	5	12 V direct current supply between terminals 1 and 2	Yes
		No current supply	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace starter cut relay.

HEADLAMP FUNCTION

Component Function Check

INFOID:0000000012424007

1.CHECK FUNCTION

1. Perform “HEAD LAMP(HI)” in “Active Test” of “THEFT ALM” of “BCM” using CONSULT.
2. Check headlamps operation.

Test item		Description	
HEAD LAMP (HI)	ON	Headlamps (Hi)	Light
	OFF		Does not light

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to SEC-108, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012424008

1.CHECK HEADLAMP FUNCTION

Refer to SEC-108, "Component Function Check".

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> Inspection End.

HORN FUNCTION

Component Function Check

INFOID:0000000012424009

1.CHECK FUNCTION 1

1. Perform “VEHICLE SECURITY HORN” in “Active Test” of “THEFT ALM” of “BCM” using CONSULT.
2. Check the horn operation.

Test item		Description	
VEHICLE SECURITY HORN	ON	Horn	Sounds (for 0.5 sec)

Is the operation normal?

YES >> Inspection End.
NO >> Go to SEC-53, "Wiring Diagram".

Component Inspection

INFOID:0000000012424010

1.CHECK ANTI-THEFT HORN RELAY

1. Turn ignition switch OFF.
2. Disconnect anti-theft horn relay.
3. Check voltage between anti-theft horn relay connector E101 terminal 3 and ground under the following conditions:

(+) Anti-theft horn relay Terminal	(–)	Condition	Voltage (V) (Approx.)
3	Ground	12 V direct current supply between terminals 1 and 3	12
		No current supply	0

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace anti-theft horn relay.

SECURITY INDICATOR LAMP

Component Function Check

INFOID:0000000012424011

1.CHECK FUNCTION

1. Perform “THEFT IND” in “Active Test” of “IMMU” of “BCM” using CONSULT.
2. Check security indicator lamp operation.

Test item		Description	
THEFT IND	ON	Security indicator lamp	Illuminates
	OFF		Does not illuminate

Is the inspection result normal?

YES >> Inspection End.
NO >> Go to SEC-110, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012424012

Regarding Wiring Diagram information, refer to SEC-53, "Wiring Diagram".

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V) (Approx.)
Combination meter			
Connector	Terminal		
M77	45	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No. 13, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between combination meter and fuse.

2.CHECK SECURITY INDICATOR LAMP SIGNAL

1. Connect combination meter connector.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (V) (Approx.)
BCM			
Connector	Terminal		
M18	35	Ground	Battery voltage

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

4. CHECK SECURITY INDICATOR LAMP CIRCUIT

1. Disconnect combination meter connector.
2. Check continuity between combination meter harness connector and BCM harness connector.

Combination meter		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M76	7	M18	35	Yes

3. Check continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M76	7		No

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-84, "Removal and Installation".
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:0000000012424013

Engine does not start when push-button ignition switch is pressed while carrying Intelligent Key.

NOTE:

- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- The engine start function, door lock function, power distribution system, and NATS-NVIS in the Intelligent Key system are closely related to each other regarding control. The vehicle security function can operate only when the door lock and power distribution system are operating normally.

Conditions of Vehicle (Operating Conditions)

- “ENGINE START BY I-KEY” in “Work support” is “ON” when setting on CONSULT.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:0000000012424014

1.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” on “Work support” in “INTELLIGENT KEY”.
Refer to BCS-22, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)".

>> GO TO 2.

2.PERFORM SELF-DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” in “BCM”, and check whether or not DTC of inside key antenna is detected.

Is DTC detected?

YES >> Refer to BCS-48, "DTC Index".
NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.
Refer to SEC-88, "Component Inspection".

Is the operation normal?

YES >> GO TO 4.
NO >> Repair or replace malfunctioning parts.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:0000000012424015

Security indicator lamp does not blink when ignition switch is in a position other than ON

NOTE:

- Before performing the diagnosis, check “Work Flow”. Refer to SEC-66, "Work Flow".
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

Conditions of Vehicle (Operating Conditions)

Ignition switch is not in the ON position.

Diagnosis Procedure

INFOID:0000000012424016

1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.

Refer to SEC-110, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".

NO >> GO TO 1.

VEHICLE SECURITY SYSTEM CANNOT BE SET

INTELLIGENT KEY

INTELLIGENT KEY : Description

INFOID:0000000012424017

ARMED phase is not activated when door is locked using Intelligent Key.

NOTE:

Check that vehicle is under the condition shown in Conditions of vehicle before starting diagnosis and check each symptom.

CONDITION OF VEHICLE (OPERATING CONDITION)

Confirm the setting of “SECURITY ALARM SET” is “ON” in “Work support” of “THEFT ALM” of “BCM” using CONSULT.

INTELLIGENT KEY : Diagnosis Procedure

INFOID:0000000012424018

1.CHECK INTELLIGENT KEY SYSTEM (REMOTE KEYLESS ENTRY FUNCTION)

Lock/unlock door with Intelligent Key.

Refer to SEC-10, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check Intelligent Key system (remote keyless entry function).

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".

NO >> GO TO 1.

DOOR REQUEST SWITCH

DOOR REQUEST SWITCH : Description

INFOID:0000000012424019

ARMED phase is not activated when door is locked using door request switch.

NOTE:

Check that vehicle is under the condition shown in Conditions of vehicle before starting diagnosis, and check each symptom.

CONDITION OF VEHICLE (OPERATING CONDITION)

Confirm the setting of “SECURITY ALARM SET” is “ON” in “Work support” of “THEFT ALM” of “BCM” using CONSULT.

DOOR REQUEST SWITCH : Diagnosis Procedure

INFOID:0000000012424020

1.CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)

Lock/unlock door with door request switch.

Refer to SEC-10, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check Intelligent Key system (door lock function).

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".

NO >> GO TO 1.

DOOR KEY CYLINDER

DOOR KEY CYLINDER : Description

INFOID:0000000012424021

ARMED phase is not activated when door is locked using mechanical key.

NOTE:

Check that vehicle is under the condition shown in Conditions of vehicle before starting diagnosis, and check each symptom.

CONDITION OF VEHICLE (OPERATING CONDITION)

Confirm the setting of “SECURITY ALARM SET” is “ON” in “Work support” of “THEFT ALM” of “BCM” using CONSULT.

DOOR KEY CYLINDER : Diagnosis Procedure

INFOID:0000000012424022

1.CHECK POWER DOOR LOCK SYSTEM

Lock/unlock door with mechanical key.

Refer to SEC-15, "VEHICLE SECURITY SYSTEM : System Description".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check power door lock system.

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".

NO >> GO TO 1.

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description

INFOID:0000000012424023

Alarm does not operate when alarm operating condition is satisfied.

NOTE:

Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis and check each symptom.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

Confirm the setting of “SECURITY ALARM SET” is “ON” in “Work support” of “THEFT ALM” of “BCM” using CONSULT.

Diagnosis Procedure

INFOID:0000000012424024

1.CHECK DOOR SWITCH

Check door switch.

Refer to DLK-160, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the malfunctioning door switch.

2.CHECK HORN FUNCTION

Check horn function.

Refer to SEC-109, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK HEADLAMP FUNCTION

Check headlamp function.

Refer to SEC-108, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".

NO >> GO TO 1.

PANIC ALARM FUNCTION DOES NOT OPERATE

Description

INFOID:0000000012424025

NOTE:
- Before performing the diagnosis following procedure, check “Work Flow”. Refer to SEC-66, "Work Flow".
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis and check each symptom.

CONDITIONS OF VEHICLE (OPERATION CONDITIONS)
- Ignition switch is in OFF or LOCK position.
- Intelligent Key is removed.

Diagnosis Procedure

INFOID:0000000012424026

1.CHECK REMOTE KEYLESS ENTRY FUNCTION

Check remote keyless entry function.

Does door lock/unlock with Intelligent Key button?

YES >> GO TO 2.
NO >> Go to DLK-187, "Diagnosis Procedure".

2.CHECK VEHICLE SECURITY ALARM OPERATION

Check vehicle security alarm operation.

Does alarm (headlamps and horns) active?

YES >> GO TO 3.
NO >> Go to SEC-15, "VEHICLE SECURITY SYSTEM : System Description".

3.CHECK “PANIC ALARM SET” SETTING IN “WORK SUPPORT”

Check “PANIC ALARM SET” setting in “Work support”.
Refer to BCS-22, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Set “PANIC ALARM SET” setting in “Work support”.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

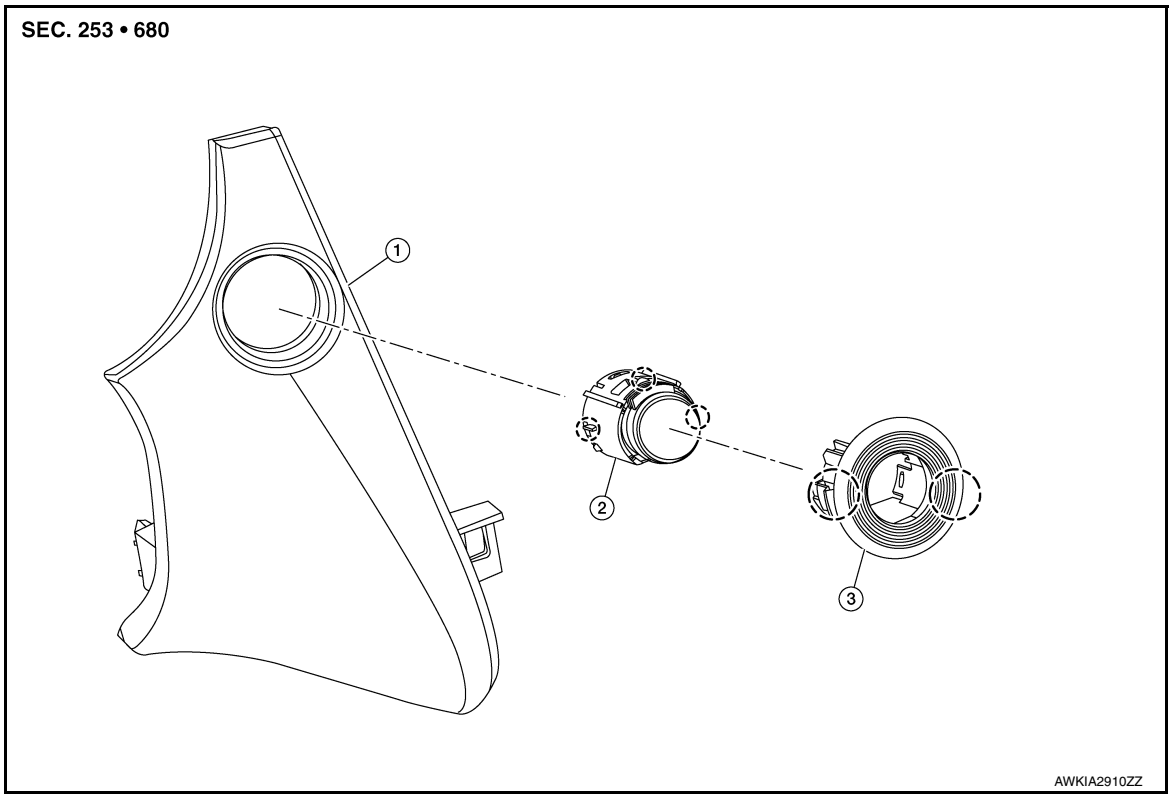
YES >> Check intermittent incident. Refer to GI-45, "Intermittent Incident".
NO >> GO TO 1.

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Exploded View

INFOID:0000000012424027



1. Instrument finisher B
2. Push button ignition switch
3. NATS antenna amp.

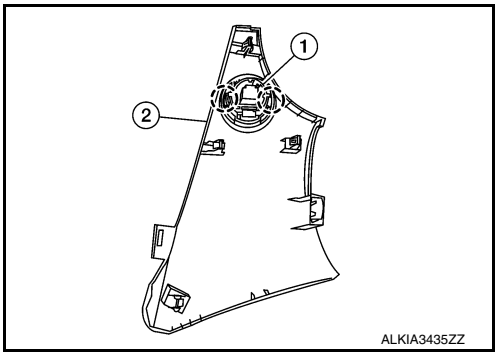
Pawl

Removal and Installation

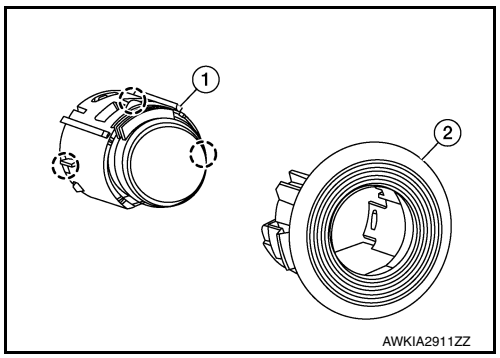
INFOID:0000000012424028

REMOVAL

1. Remove the instrument finisher B. Refer to IP-16, "INSTRUMENT FINISHER B : Removal and Installation".
2. Release pawls using suitable tool and remove NATS antenna amp. (1) from instrument finisher B (2).
   : Pawl



3. Release pawls using suitable tool and remove NATS antenna amp. (2) from push button ignition switch (1).
   ◌: Pawl



INSTALLATION

Installation is in the reverse order of removal.

PUSH-BUTTON IGNITION SWITCH

Removal and Installation

INFOID:0000000012424030

For the removal and installation procedures for the push-button ignition switch, refer to PCS-92, "Exploded View".

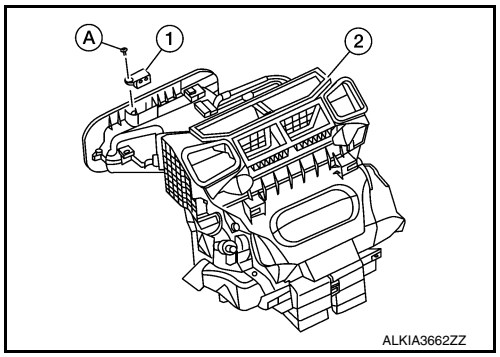
DONGLE UNIT

Removal and Installation

INFOID:0000000012424031

REMOVAL

1. Remove instrument panel assembly. Refer to IP-14, "INSTRUMENT PANEL ASSEMBLY : Removal and Installation".
2. Disconnect the harness connector from the dongle unit (1).
3. Remove screw (A) and dongle unit (1) from the heating and cooling unit assembly (2).



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012424032

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.**

Precaution for Work

INFOID:0000000012424033

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

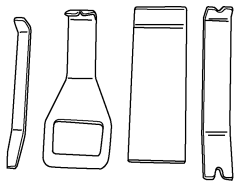
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000012424034

The actual shape of the tools may differ from those illustrated here.

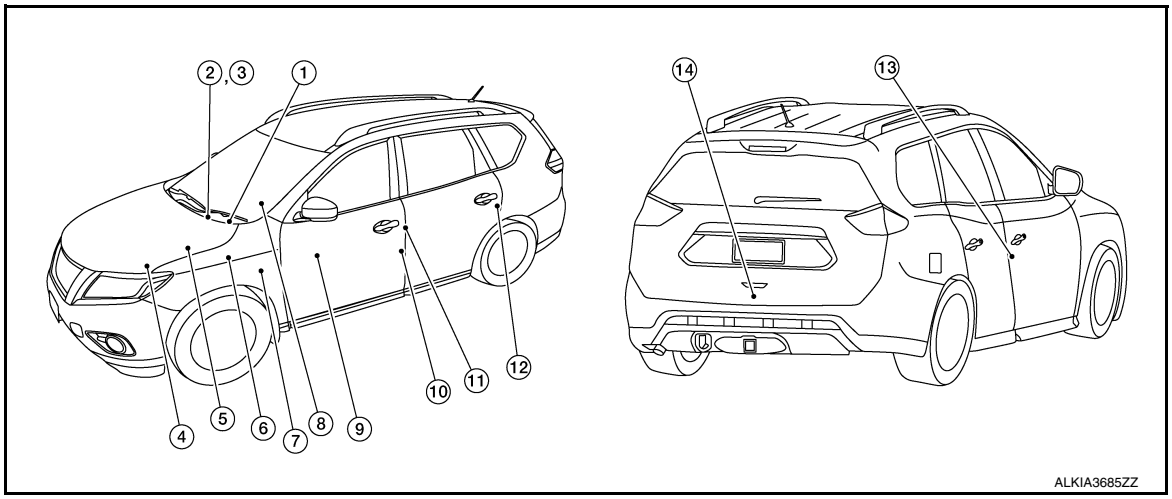
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012424035



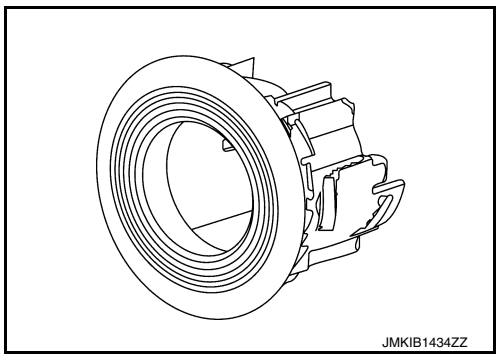
No.	Component	Function
1.	Combination meter	Combination meter transmits the vehicle speed signal to BCM via CAN communication. BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM compares both signals to detect the vehicle speed. Security indicator lamp is located on combination meter. Security indicator lamp blinks when ignition switch is in any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] is on board. Refer to MWI-6, "METER SYSTEM : Component Parts Location".
2.	Ignition switch	Ignition switch transmits ON/OFF signal to BCM. BCM changes the ignition switch position with the operation of ignition switch.
3.	NATS antenna amp.	Refer to SEC-125, "NATS Antenna Amp.".
4.	Transmission range switch	Refer to TM-14, "CVT CONTROL SYSTEM : Transmission Range Switch".
5.	IPDM E/R	Refer to PCS-6, "Component Parts Location".
6.	Stop lamp switch	Refer to BRC-12, "Stop Lamp Switch".
7.	BCM	BCM controls NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] and VEHICLE SECURITY SYSTEM. Then, when the ignition switch is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine. Refer to BCS-80, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
8.	CVT shift selector	Refer to TM-20, "SHIFT LOCK SYSTEM : Component Parts Location".
9.	Main power window and door lock/unlock switch	Door lock and unlock switch is integrated into the main power window and door lock/unlock switch. Door lock and unlock switch transmits door lock/unlock operation signal to BCM. Refer to PWC-7, "Main Power Window And Door Lock/Unlock Switch".
10.	Front door lock assembly LH	Door key cylinder switch is integrated into front door lock assembly (driver side). Door key cylinder switch detects door LOCK/UNLOCK operation using mechanical key, and then transmits the operation signal to BCM. Refer to DLK-296, "Front Door Lock Assembly (Driver Side)".

No.	Component	Function
11.	Front door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
12.	Rear door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
13.	Front door switch RH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
14.	Back door lock assembly	Back door lock actuator locks/unlocks the back door latch assembly.

NATS Antenna Amp.

INFOID:0000000012424036

The ID verification is performed between BCM and transponder integrated into key via NATS antenna amp. when key backside is contacted to ignition switch in case that key battery is discharged. If the ID verification result is OK, the operation of ignition switch is available.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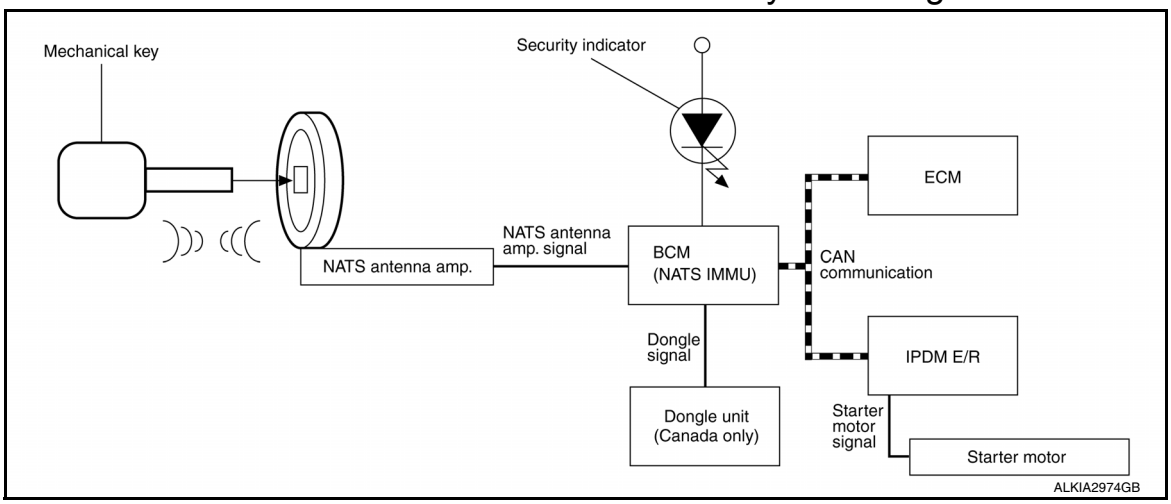
SYSTEM

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:0000000012424037



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:0000000012424038

INPUT/OUTPUT SIGNAL CHART

BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal
NATS antenna amp.	Key ID	NATS	• Security indicator lamp • Starter request
ECM	Engine status signal		

SYSTEM DESCRIPTION

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

- Engine immobilizer shows high anti-theft performance to prevent engine from starting by anyone other than the owner.
- Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- Security indicator always flashes with mechanical key removed condition (key switch: OFF) and ignition knob released condition on LOCK position (ignition knob switch: OFF).
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- If system detects malfunction, security indicator illuminates when ignition switch is turned to ON position.
- If the owner requires, ignition key ID or mechanical key ID can be registered for up to 4 keys.
- During trouble diagnosis or when the following parts have been replaced, and if ignition key is added, registration[*1] is required:

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

- ECM
- BCM
- Ignition key
- Remote keyless entry receiver

- NATS trouble diagnosis, system initialization and additional registration of other mechanical key IDs must be carried out using CONSULT.
  When NATS initialization has been completed, the ID of the inserted mechanical key or mechanical key IDs can be carried out.
- Possible symptom of NATS malfunction is “Engine cannot start”. Identify the possible causes according to “Work Flow”, Refer to SEC-162, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-165, "ECM RE-COMMUNICATING FUNCTION : Description".

PRECAUTIONS FOR KEY REGISTRATION

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

SECURITY INDICATOR

- Always flashes with ignition key in the OFF position.

MAINTENANCE INFORMATION

CAUTION:

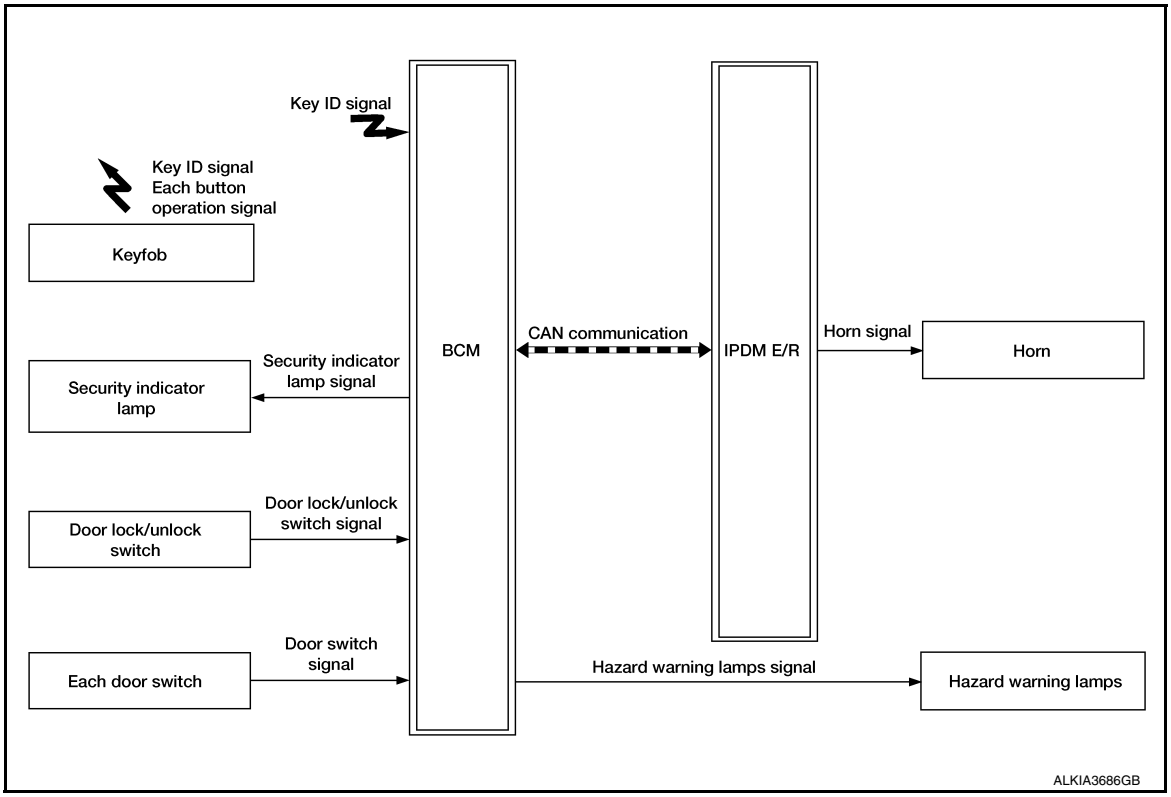
It is necessary to perform NATS ID registration when replacing any of the following parts:
If ID registration is not performed, the electrical system may not operate properly.

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

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Diagram

INFOID:0000000012424039



VEHICLE SECURITY SYSTEM : System Description

INFOID:0000000012424040

- The vehicle security system has two alarm functions (theft warning alarm and panic alarm), and reduces the possibility of a theft or mischief by activating horns (and hazard warning lamps) intermittently.
- The panic alarm does not start when the theft warning alarm is activating, and the panic alarm stops when the theft warning alarm is activated.

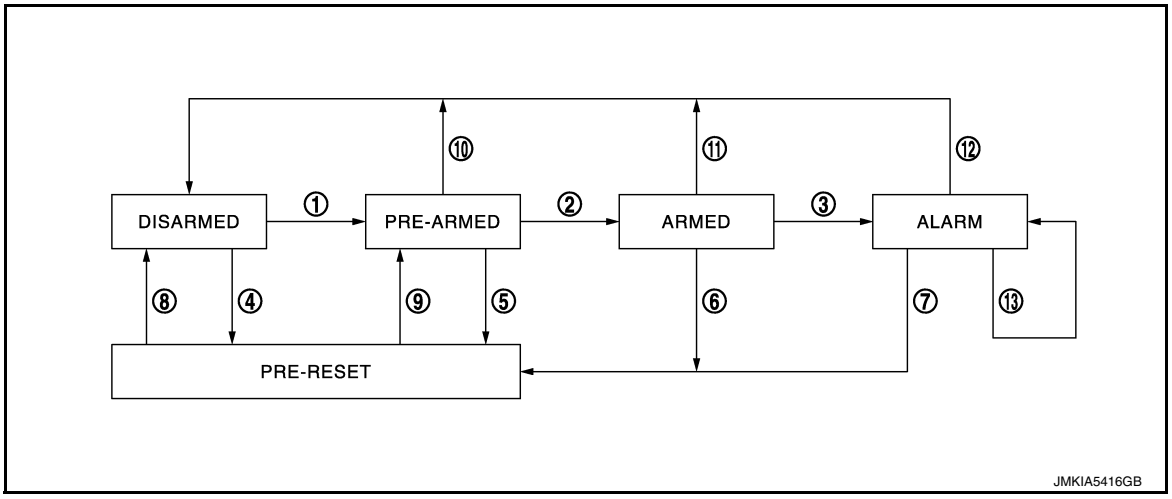
The priority of the functions are as per the following.

Priority	Function
1	Theft warning alarm
2	Panic alarm

THEFT WARNING ALARM

- The theft warning alarm function activates horns and hazard warning lamps intermittently when BCM detects that any door is opened by unauthorized means, while the system is in the ARMED state.
- Security indicator lamp on combination meter always blinks when ignition switch is in any position other than ON. Security indicator lamp blinking warns that the vehicle is equipped with a vehicle security system.

Operation Flow



No.	System state	Switching condition		
1	DISARMED to PRE-ARMED	When all conditions of A and one condition of B are satisfied.	A	B
			• Ignition switch: OFF • All doors: Closed	All doors are locked by: • Door lock and unlock switch • LOCK button of Keyfob
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	• Ignition switch: OFF • All doors: Locked	
3	ARMED to ALARM	When condition of A and one condition of B are satisfied.	A	B
			Keyfob: Not used	• Any door: Open
4	DISARMED to PRE-RESET	When all conditions of A and one condition of B are satisfied.	A	B
			• Ignition switch: OFF • All doors: Closed	All doors are locked by: • Door lock and unlock switch • LOCK button of Keyfob
5	PRE-ARMED to PRE-RESET	No conditions.		
6	ARMED to PRE-RESET	No conditions.		
7	ALARM to PRE-RESET			
8	PRE-RESET to DISARMED	When one of the following conditions is satisfied.	• Ignition switch: ACC/ON • UNLOCK button of Keyfob: ON • UNLOCK switch of door lock and unlock switch: ON • Any door: Open	
9	PRE-RESET to PRE-ARMED	When all of the following conditions are satisfied.	• Ignition switch: OFF • All doors: Locked	

No.	System state	Switching condition	
10	PRE-ARMED to DISARMED	When one of the following conditions is satisfied.	• Ignition switch: ACC/ON • UNLOCK button of Keyfob: ON • UNLOCK switch of door lock and unlock switch: ON • Any door: Open
11	ARMED to DISARMED	When the following condition is satisfied.	• UNLOCK button of Keyfob: ON
12	ALARM to DISARMED		
13	RE-ALARM	When one of the following condition is satisfied after the ALARM operation is finished.	• Any door: Open

NOTE:

- To lock/unlock all doors by operating remote controller button of keyfob, the keyfob must be within the detection area of BCM. For details, refer to DLK-299, "REMOTE KEYLESS ENTRY SYSTEM : System Description".

DISARMED Phase

The vehicle security system is not set in the DISARMED phase. The vehicle security system stays in this phase while any door is open, because it is assumed that the owner is inside or nearby the vehicle. Security indicator lamp blinks every 2.4 seconds.
When the vehicle security system is reset, each phase switches to the DISARMED phase directly.

PRE-ARMED Phase

The PRE-ARMED phase is the transient state between the DISARMED phase and the ARMED phase. This phase is maintained for 30 seconds, so that the owner can reset the setting due to a mis-operation. This phase switches to the ARMED phase when vehicle conditions are not changed for 30 seconds. Security indicator lamp illuminates while being in this phase.
To reset the PRE-ARMED phase, refer to the switching condition of No. 10 in the table above.

ARMED Phase

The vehicle security system is set, and BCM monitors all necessary inputs. If any door or hood is opened without using Keyfob, vehicle security system switches to the ALARM phase. Security indicator lamp blinks every 2.4 seconds.
To reset the ARMED phase, refer to the switching condition of No. 11 in the table above.

ALARM Phase

BCM transmits “Theft Warning Horn Request” signal intermittently to IPDM E/R via CAN communication, and blinks hazard warning lamps. In this phase, horns and hazard warning lamps are activated intermittently for approximately 27.5 seconds to warn that the vehicle is accessed by unauthorized means. After 27.5 seconds, the vehicle security system returns to the ARMED phase. At this time, if BCM still detects unauthorized access to the vehicle, the system is switched to the ALARM phase again. This RE-ALARM operation is carried out a maximum of 3 times.
To cancel the ALARM operation, refer to the switching condition of No. 12 in the table above.

NOTE:

If a battery terminal is disconnected during the ALARM phase, theft warning alarm stops. But when the battery terminal is reconnected, theft warning alarm is activated again.

PANIC ALARM

The panic alarm function activates horns intermittently when the owner presses PANIC ALARM button of Keyfob outside the vehicle while ignition switch is OFF.
For details, refer to SEC-127, "VEHICLE SECURITY SYSTEM : System Description".

DIAGNOSIS SYSTEM (BCM)
COMMON ITEM
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000012567359

APPLICATION ITEM
CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION
BCM can perform the following functions.

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

IMMU
IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000012567360

SELF DIAGNOSTIC RESULT

Refer to BCS-109, "DTC Index".

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description
CONFIRM DONGLE ID	—	Dongle ID can be checked.

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT ALM)

INFOID:0000000012567361

DATA MONITOR

Monitored Item	Description
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of back door switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.

ACTIVE TEST

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

WORK SUPPORT

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

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:0000000012567362

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Direct Diagnostic Mode	Description
ECU Identification	The IPDM E/R part number is displayed.
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.
Active Test	The IPDM E/R activates outputs to test components.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-26, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
REVERSE SIGNAL [Open/Close]	Indicates condition of transmission range switch R (Reverse) position.
IGN RELAY [Open/Close]	Indicates condition of ignition relay-1.
PUSH SW [Open/Close]	Indicates condition of push-button ignition switch.
INTERLOCK/PNP SW [Open/Close]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
OIL PRESSURE SW [Open/Close]	Indicates condition of oil pressure switch.
HOOD SW [Open/Close]	Indicates condition of hood switch.
COMPRESSOR [OFF/ON]	Indicates condition of A/C compressor.
HORN RELAY [OFF/ ON]	Indicates condition of horn relay.
COOLING FAN [OFF/ON]	Indicates condition of cooling fan relay-1.
FRONT WIPER HI/LO RELAY [OFF/ON]	Indicates condition of front wiper high relay.
FRONT WIPER RELAY [OFF/ON]	Indicates condition of front wiper relay.
IGN RELAY OFF STATUS [OFF/ON]	Indicates condition of ignition relay-1 OFF status.
IGN RELAY ON STATUS [OFF/ON]	Indicates condition of ignition relay-1 ON status.
COOLING FAN RELAY 1 [OFF/ON]	Indicates condition of cooling fan relay-1.
STARTER RELAY [OFF/ON]	Indicates condition of starter relay.
COMP ECV DUTY [%]	Indicates condition of A/C compressor.
COOLING FAN RELAY 2 [%]	Indicates condition of cooling fan relay-2.
FR FOG LAMP LH [%]	Indicates condition of front fog lamp LH.
FR FOG LAMP RH [%]	Indicates condition of front fog lamp RH.
PARKING LAMP [%]	Indicates condition of parking lamp.
TAIL LAMP LH [%]	Indicates condition of tail lamp LH.
TAIL LAMP RH [%]	Indicates condition of tail lamp RH.
DAYTIME RUNNING LIGHT LH [%]	Indicates condition of daytime running light LH.
DAYTIME RUNNING LIGHT RH [%]	Indicates condition of daytime running light RH.
HEADLAMP (HI) LH [%]	Indicates condition of headlamp high beam LH.

Monitor Item [Unit]	Description
HEADLAMP (HI) RH [%]	Indicates condition of headlamp high beam RH.
HEADLAMP (LO) LH [%]	Indicates condition of headlamp low beam LH.
HEADLAMP (LO) RH [%]	Indicates condition of headlamp low beam RH.
A/C RELAY STUCK [NG/OK]	Indicates condition of A/C relay.
A/C RELAY [Off/On]	Indicates condition of A/C relay.
COMP ECV STATUS [NG/OK]	Indicates condition of A/C compressor.
VEHICLE SECURITY HORN [Off/On]	Indicates condition of horn relay.
BATTERY CURRENT SENSOR [NG/OK]	Indicates condition of battery current sensor.
FRONT FOG LAMP [Off/On]	Indicates condition of front fog lamps.
COMP ECV CURRENT [A]	Indicates condition of A/C compressor current.
BATTERY VOLTAGE [V]	Indicates condition of battery voltage.
COOLING FAN DUTY [%]	Indicates condition of cooling fans.
HOOD SW (CAN) [OPEN/CLOSE]	Indicates condition of hood switch.
FRONT WIPER [STOP/LOW/HIGH]	Indicates condition of front wiper motor.
FR WIPER STOP POSITION [STOP P/ACTIVE P]	Indicates condition of front wiper motor stop.
HEADLAMP (HI) [Off/On]	Indicates condition of headlamp high beams.
HEADLAMP (LO) [Off/On]	Indicates condition of headlamp low beams.
IGNITION RELAY STATUS [Off/On]	Indicates condition of ignition relay-1.
IGN RELAY MONITOR [Off/On]	Indicates condition of ignition relay-1 feedback.
IGNITION POWER SUPPLY [Off/On]	Indicates condition of ignition relay-1.
INTERLOCK/PNP SW (CAN) [Off/On]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
PUSH-BUTTON IGN SW (CAN) [Off/On]	Indicates condition of push-button ignition switch.
TAIL LAMP [Off/On]	Indicates condition of tail lamps.
REVERSE SIGNAL (CAN) [Off/On]	Indicates condition of transmission range switch R (Reverse) position.
ST&ST CONT RELAY STATUS [Off/ST R On]	Indicates condition of starter cut and starter relays.
STARTER MOTOR STATUS [Off/On]	Indicates condition of starter motor.
STARTER RELAY (CAN) [LOW/HIGH]	Indicates condition of starter relay.
IPDM NOT SLEEP [NO RDY/RDY]	Indicates condition of IPDM E/R sleep status.
AFTER COOLING TIME [No request/Request]	Indicates condition of cooling fan request.
AFTER COOLING SPEED [%]	Indicates condition of cooling fans.
COOLING FAN TYPE [NISSAN/RENAULT]	Indicates cooling fan type.
COMPRESSOR REQ1 [Off/On]	Indicates condition of A/C compressor request.
VHCL SECURITY HORN REQ [Off/On]	Indicates condition of horn relay request.
DTRL REQ [Off/On]	Indicates condition of daytime running light request.
SLEEP/WAKE UP [WAKEUP/SLEEP]	Indicates condition of IPDM E/R sleep/wake.
CRANKING ENABLE-TCM [NG/OK]	Indicates condition of crank enable from TCM.
CRANKING ENABLE-ECM [NG/OK]	Indicates condition of crank enable from ECM.
CAN DIAGNOSIS [NG/OK]	Indicates condition of CAN diagnosis.
FRONT FOG LAMP REQ [Off/On]	Indicates condition of front fog lamp request.
HIGH BEAM REQ [Off/On]	Indicates condition of headlamp high beam request.
HORN CHIRP [Off/On]	Indicates condition of horn relay request.
COOLING FAN REQ [%]	Indicates condition of cooling fan request.
ENGINE STATUS [STOP/RUN/IDLING]	Indicates condition of engine status.

Monitor Item [Unit]	Description
TURN SIGNAL REQ [Off/LH/RH]	Indicates condition of turn signal request.
FR WIPER REQ [RETURN/LOW/HIGH]	Indicates condition of front wiper motor request.
SHIFT POSITION [P/R/N/D/L]	Indicates condition of transmission range switch positions.
LOW BEAM REQ [Off/On]	Indicates condition of headlamp low beam request.
POSITION LIGHT REQ [Off/On]	Indicates condition of parking lamp request.
COMPRESSOR REQ2 [Off/On]	Indicates condition of A/C compressor request.
IGNITION SW [Off/On]	Indicates condition of ignition switch.
VEHICLE SPEED (METER) [mph/km/h]	Indicates vehicle speed.
STARTER OPERATION COUNT	Displays the number of times the starter motor is turned ON.
H/P F/PUMP OPERATN COUNT	Displays the number of times the high pressure fuel pump is turned ON.
BAT DISCHARGE COUNT [—]	Monitor the cumulative discharge value of the battery. **NOTE:** When 65,000 or more is counted, replace the battery.
P LAMP CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the parking lamp circuit. **NOTE:** When the number of parking lamp circuit retries count is 20, this item counts 1.
NMB P LAMP CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the parking lamp circuit. **NOTE:** When the number of short circuits in the parking lamp circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB P LAMP CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the parking lamp circuit.
DTRL LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (left) circuit. **NOTE:** When the number of daytime running light (left) circuit retries count is 20, this item counts 1.
NMB DTRL LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (left) circuit. **NOTE:** When the number of short circuits in the daytime running light (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (left) circuit.
DTRL RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (right) circuit. **NOTE:** When the number of daytime running light (right) circuit retries count is 20, this item counts 1.
NMB DTRL RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (right) circuit. **NOTE:** When the number of short circuits in the daytime running light (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (right) circuit.

Monitor Item [Unit]	Description
F FOG LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (left) circuit. **NOTE:** When the number of front fog lamp (left) circuit retries count is 20, this item counts 1.
NMB F FOG LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (left) circuit. **NOTE:** When the number of short circuits in the front fog lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (left) circuit.
F FOG RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (right) circuit. **NOTE:** When the number of front fog lamp (right) circuit retries count is 20, this item counts 1.
NMB F FOG RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (right) circuit. **NOTE:** When the number of short circuits in the front fog lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (right) circuit.
HL (HI) LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (left) circuit. **NOTE:** When the number of headlamp (HI) (left) circuit retries count is 20, this item counts 1.
NMB HL (HI) LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (left) circuit. **NOTE:** When the number of short circuits in the headlamp (HI) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (left) circuit.
HL (HI) RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (right) circuit. **NOTE:** When the number of headlamp (HI) (right) circuit retries count is 20, this item counts 1.
NMB HL (HI) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (right) circuit. **NOTE:** When the number of short circuits in the headlamp (HI) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (right) circuit.
HL (LO) LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (left) circuit. **NOTE:** When the number of headlamp (LO) (left) circuit retries count is 20, this item counts 1.

Monitor Item [Unit]	Description
NMB HL (LO) LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (left) circuit. **NOTE:** When the number of short circuits in the headlamp (LO) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (left) circuit.
HL (LO) RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (right) circuit. **NOTE:** When the number of headlamp (LO) (right) circuit retries count is 20, this item counts 1.
NMB HL (LO) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (right) circuit. **NOTE:** When the number of short circuits in the headlamp (LO) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (right) circuit.
T LAMP LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (left) circuit. **NOTE:** When the number of tail lamp (left) circuit retries count is 20, this item counts 1.
NMB T LAMP LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (left) circuit. **NOTE:** When the number of short circuits in the tail lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (left) circuit.
T LAMP RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (right) circuit. **NOTE:** When the number of tail lamp (right) circuit retries count is 20, this item counts 1.
NMB T LAMP RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (right) circuit. **NOTE:** When the number of short circuits in the tail lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (right) circuit.
BATTERY STATUS [OK/NG]	Monitor the battery status from the battery output.
BAT DISCHARGE COUNT [0-100]	Indicates condition of battery discharge.
BATTERY STATUS [NG/OK]	Indicates battery status.

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [Off/On].
FRONT WIPER	This test is able to check wiper motor operation [Off/Low/High].

Test item	Description
COMPRESSOR	This test is able to check A/C compressor operation [Off/On].
COOLING FAN (DUAL)	This test is able to check cooling fan operation [Off/LO/HI].
HEADLAMP (HI)	This test is able to check headlamp high beam operation [Off/3/5].
HEADLAMP (LO)	This test is able to check headlamp low beam operation [Off/3/5].
FRONT FOG LAMP	This test is able to check front fog lamp operation [Off/3/5].
DAYTIME RUNNING LAMP	This test is able to check daytime running lamp operation [Off/3/5].
PARKING LAMP	This test is able to check parking lamp operation [Off/3/5].
TAIL LAMP	This test is able to check tail lamp operation [Off/3/5].

CAN DIAG SUPPORT MNTR

Refer to LAN-17, "CAN Diagnostic Support Monitor".

WORK SUPPORT

Work item	Description
CML B/DCHRG CRNT CLEAR	In this mode, cumulative battery discharge current is cleared.

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:0000000012424045

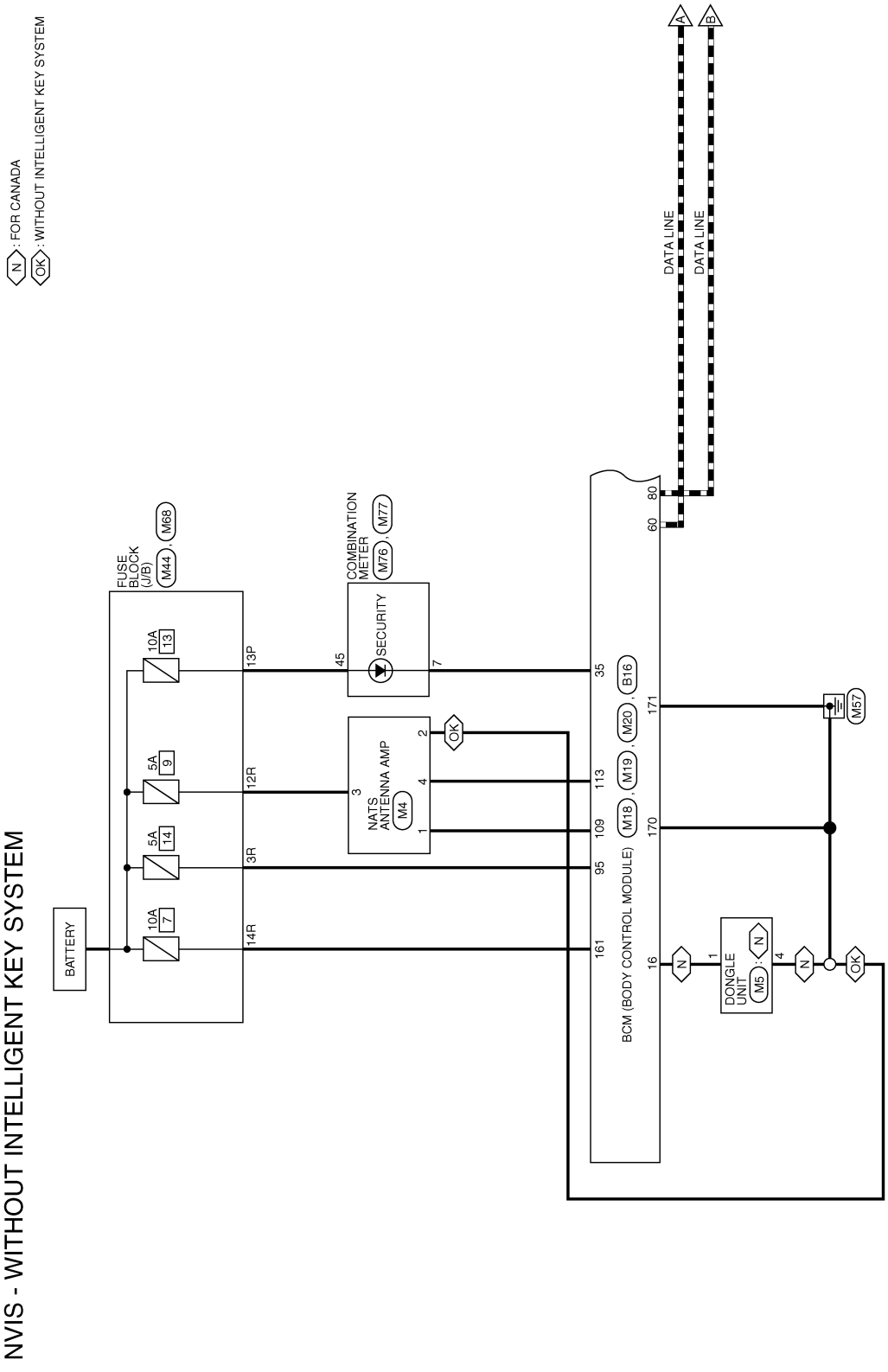
ECU	Reference
ECM	EC-80, "Reference Value"
	EC-92, "Fail Safe"
	EC-95, "DTC Inspection Priority Chart"
	EC-96, "DTC Index"
IPDM E/R	PCS-17, "Reference Value"
	PCS-25, "Fail-safe"
	PCS-26, "DTC Index"
BCM	BCS-97, "Reference Value"
	BCS-108, "Fail Safe"
	BCS-109, "DTC Inspection Priority Chart"
	BCS-109, "DTC Index"

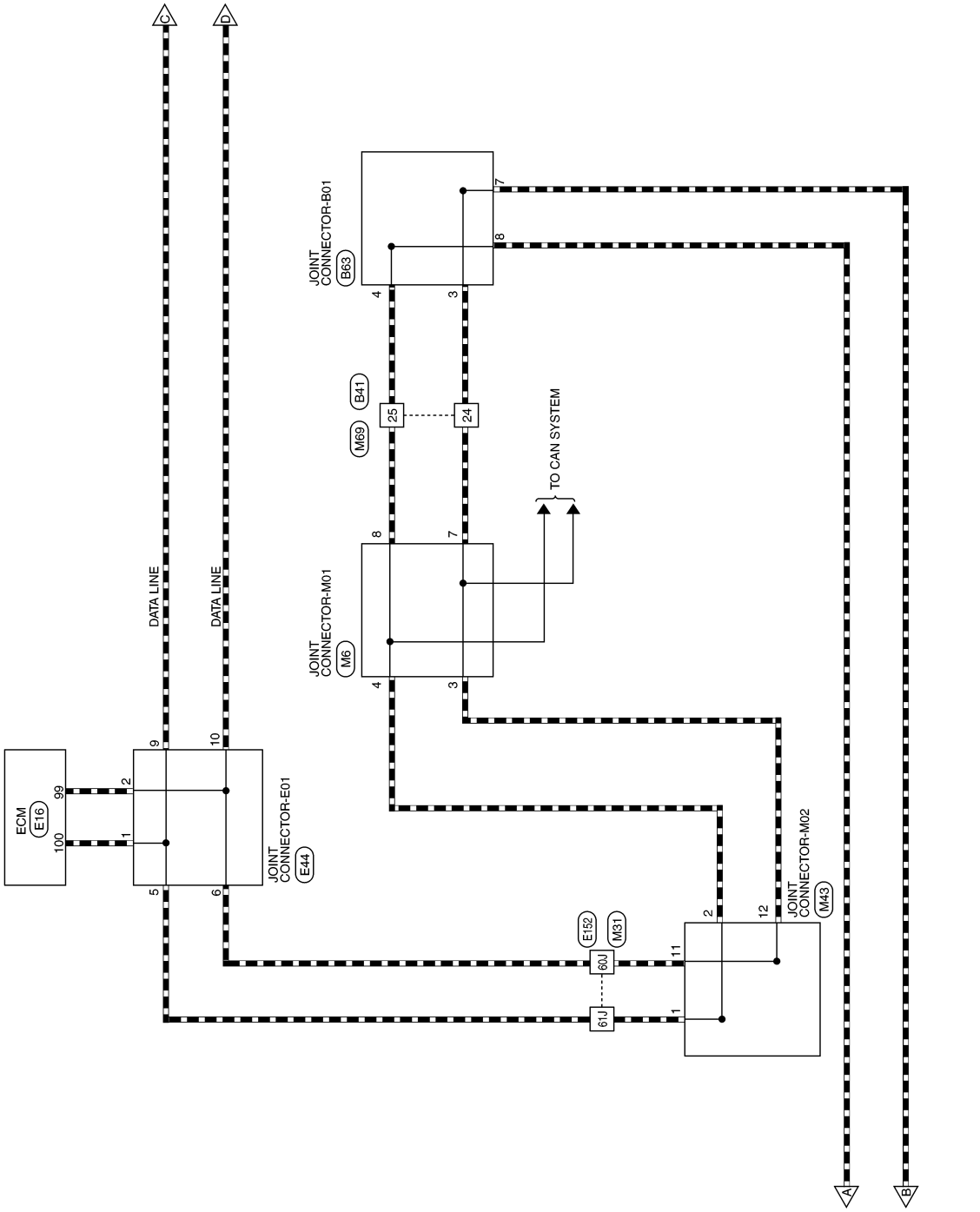
WIRING DIAGRAM

NVIS

Wiring Diagram

INFOID:0000000012424046





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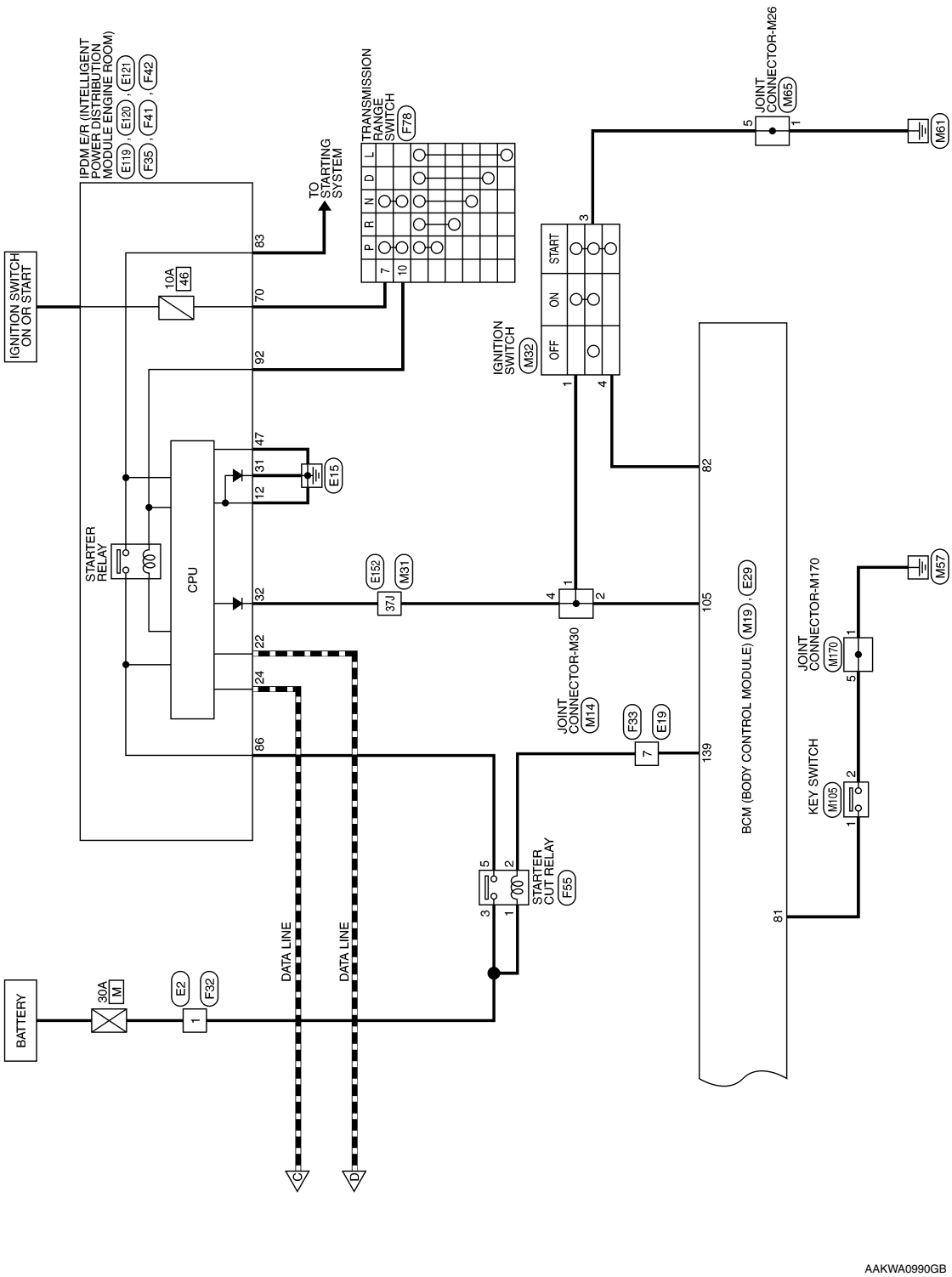

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119, E120, E121, F35, F41, F42
TO STARTING SYSTEM
TRANSMISSION RANGE SWITCH
F78
P R N D L
7 10
JOINT CONNECTOR-M26
JOINT CONNECTOR-M65
M61
IGNITION SWITCH ON OR START
10A 46
83
70
92
47
31
12
E15
IGNITION SWITCH
M32
OFF ON START
1 3 4
STARTER RELAY
CPU
32
22
24
86
E152
37J
M31
4 1 2
JOINT CONNECTOR-M30
82
105
BCM (BODY CONTROL MODULE)
M19, E29
JOINT CONNECTOR-M14
F33
E19
7
139
81
JOINT CONNECTOR-M170
M170
M57
KEY SWITCH
M105
STARTER CUT RELAY
F55
5 2 3 1
DATA LINE
DATA LINE
C
D
BATTERY
30A M
E2
F32
1
AAKWA0990GB

NVIS CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

Connector No.	M4
Connector Name	NATS ANTENNA AMP. (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	–
2	GR	–
3	BR	–
4	LG	–

Connector No.	M5
Connector Name	DONGLE UNIT
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	–
4	B	–

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	M14
Connector Name	JOINT CONNECTOR-M30
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
2	Y	–
4	Y	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
16	P	DONGLE UART
35	BG	O SECURITY LED

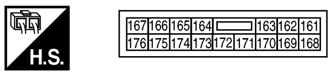
Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
81	L	I KEY SW (WITHOUT INTELLIGENT KEY SYSTEM)
82	LA/R	I STARTER SW (WITHOUT INTELLIGENT KEY SYSTEM)
95	V	I SHORTING PIN
105	Y	I IGN SW (WITHOUT INTELLIGENT KEY SYSTEM)
109	P	O CLK IMMOBILIZER
113	LG	O DATA IMMOBILIZER

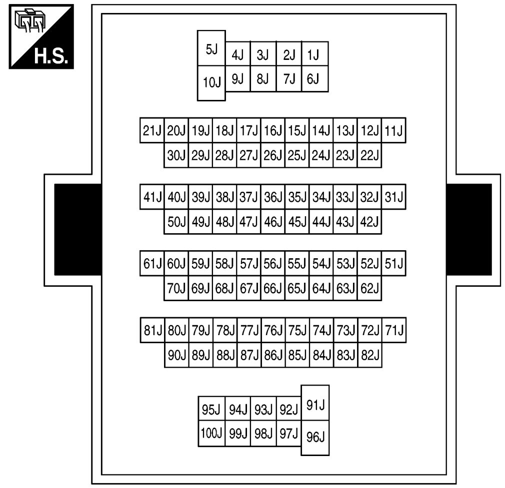
AAKIA3201GB

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



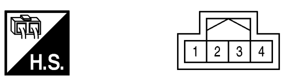
Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
170	B	I GND1
171	B	I GND2

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



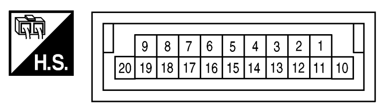
Terminal No.	Color of Wire	Signal Name
37J	Y	–
60J	P	–
61J	L	–

Connector No.	M32
Connector Name	IGNITION SWITCH
Connector Color	WHITE



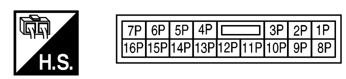
Terminal No.	Color of Wire	Signal Name
1	Y	–
3	B	–
4	LA/R	–

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE



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

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
13P	LA/G	–

AAKIA2342GB

Connector No.	M65
Connector Name	JOINT CONNECTOR-M26
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
5	B	–

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
3R	V	–
12R	BR	–
14R	W	–

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	M76
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
7	BG	SECURITY

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
45	LA/G	BAT

Connector No.	M105
Connector Name	KEY SWITCH
Connector Color	WHITE

H.S.

1	2

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

AAKIA2343GB

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK

H.S.

97	101	105	109	113	117	121	125
98	102	106	110	114	118	122	126
99	103	107	111	115	119	123	127
100	104	108	112	116	120	124	128

Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5
12	11	10	9
16	15	14	13
20	19	18	17
24	23	22	21
28	27	26	25

Terminal No.	Color of Wire	Signal Name
1	L	–
2	P	–
5	L	–
6	P	–
9	L	–
10	P	–

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

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	L	–

Connector No.	E29
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

132	131	130	129	128	127	126	125	124	123	122	121
144	143	142	141	140	139	138	137	136	135	134	133

Terminal No.	Color of Wire	Signal Name
139	G	O STCUT RL

Connector No.	M170
Connector Name	JOINT CONNECTOR-M29
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
5	B	–

Connector No.	E19
Connector Name	WIRE TO WIRE
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	G	–

AAKIA3202GB

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
12	B	SIGNAL GROUND

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

H.S.

30	29	28	27	26	25	24	23	22	21	20	19
42	41	40	39	38	37	36	35	34	33	32	31

Terminal No.	Color of Wire	Signal Name
22	P	CAN-L
24	L	CAN-H
31	B	2ND SIGNAL GROUND
32	GR	LI PUSH SW

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

H.S.

45	44	43
48	47	46

Terminal No.	Color of Wire	Signal Name
47	B	POWER GROUND

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

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	L	–

Connector No.	E152
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	100J

Terminal No.	Color of Wire	Signal Name
37J	GR	–
60J	P	–
61J	L	–

AAKIA2345GB

Connector No.	F33
Connector Name	WIRE TO WIRE
Connector Color	BROWN

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
7	G	–

Connector No.	F35
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

71	70	69	68		67	66	65
80	79	78	77	76	75	74	73	72

Terminal No.	Color of Wire	Signal Name
70	BG	O IGN AT LPG

Connector No.	F41
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY

H.S.

83	82	81
86	85	84

Terminal No.	Color of Wire	Signal Name
83	G	O STARTER
86	GR	FL STARTER

Connector No.	F42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

98	97	96	95	94	93	92	91	90	89	88	87
110	109	108	107	106	105	104	103	102	101	100	99

Terminal No.	Color of Wire	Signal Name
92	GR	LI NP SW

Connector No.	F55
Connector Name	STARTER CUT RELAY
Connector Color	BLUE

H.S.

3	
5	
2	1

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	G	–
3	L	–
5	GR	–

Connector No.	F78
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK

H.S.

6	5	4	3	2	1
10	9	8	7		

Terminal No.	Color of Wire	Signal Name
7	BG	–
10	GR	–

AAKIA2346GB

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	B41
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	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
60	L	CAN-H
80	P	CAN-L

AAKIA2347GB

VEHICLE SECURITY SYSTEM

Wiring Diagram

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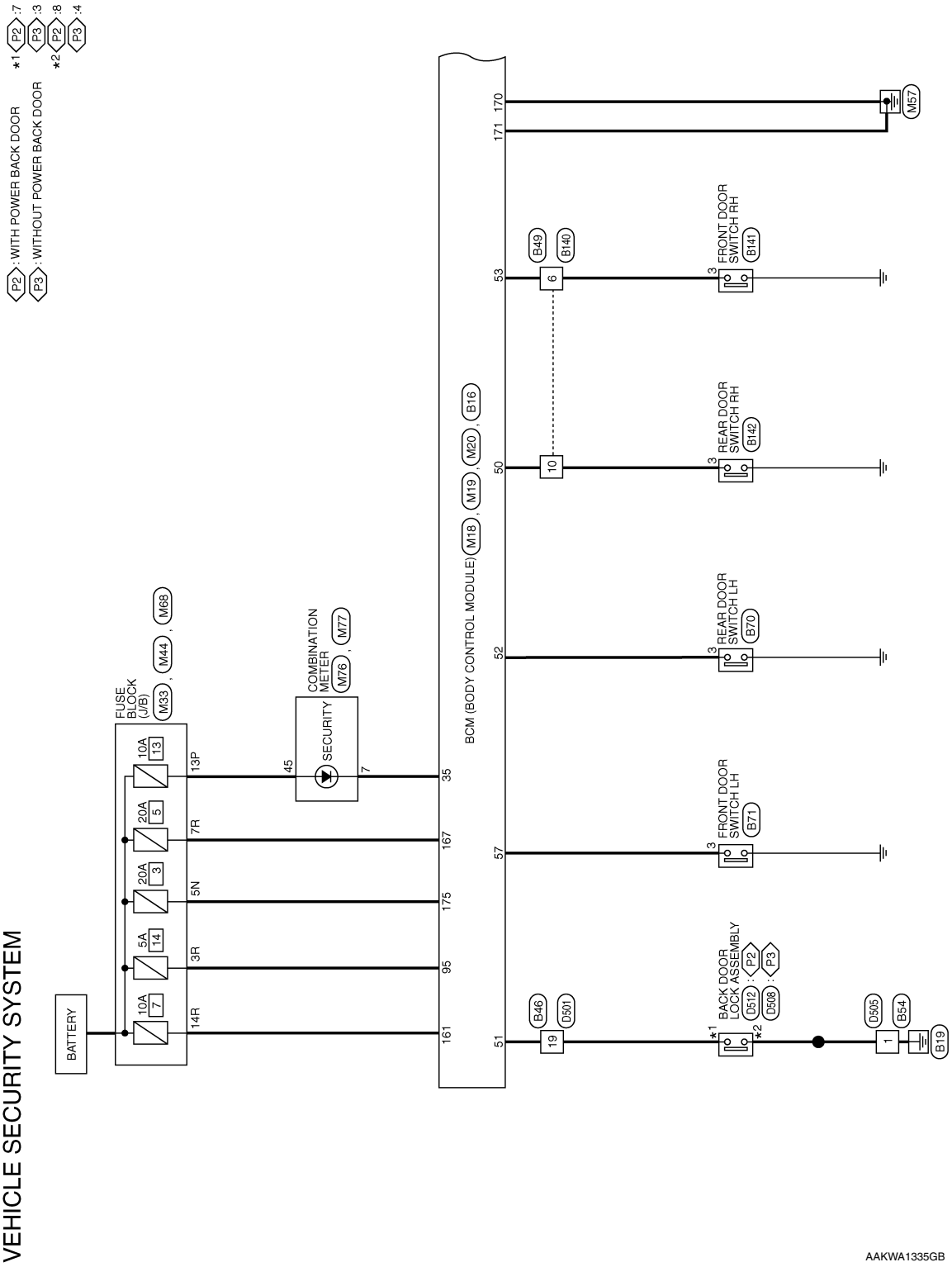

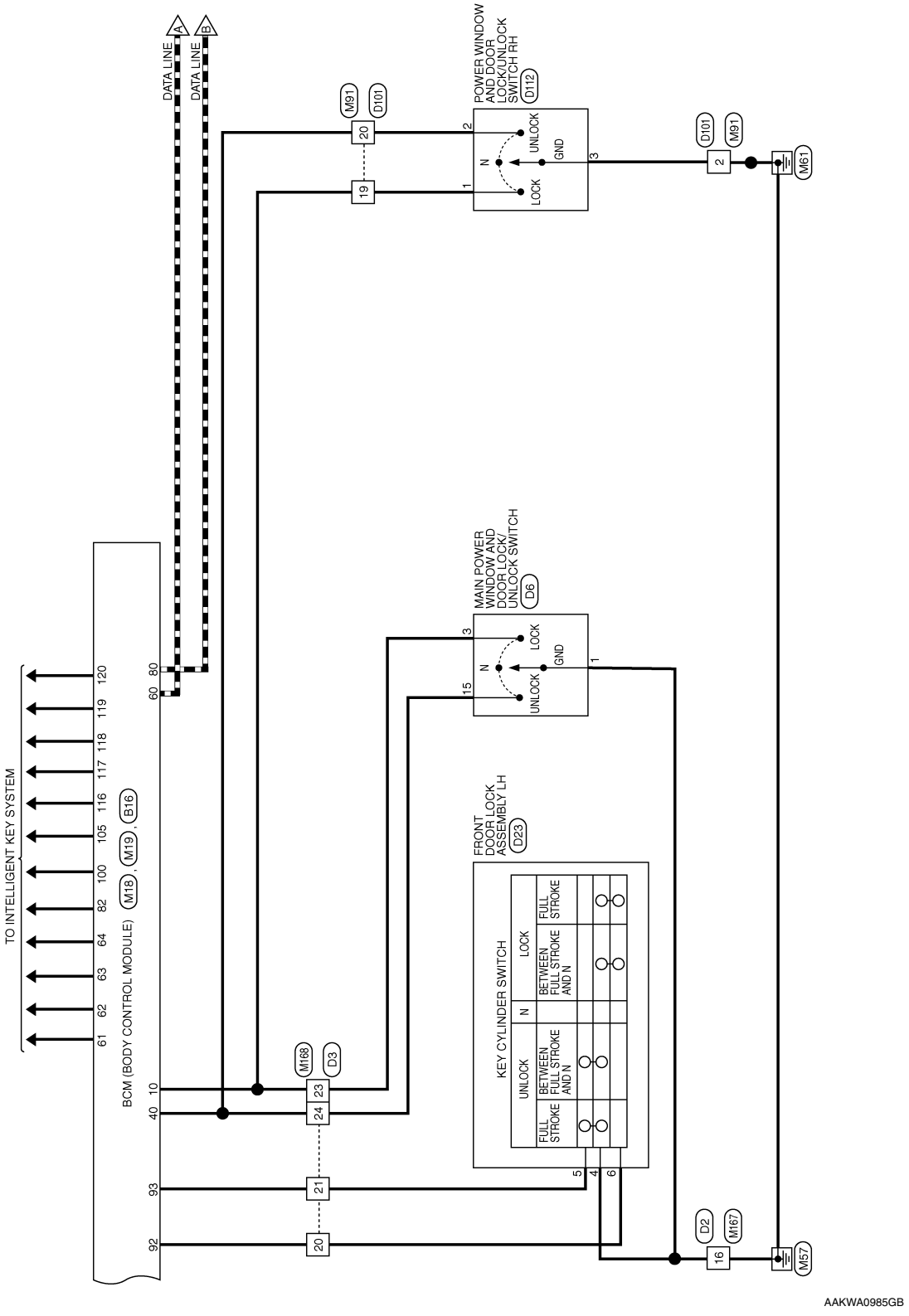

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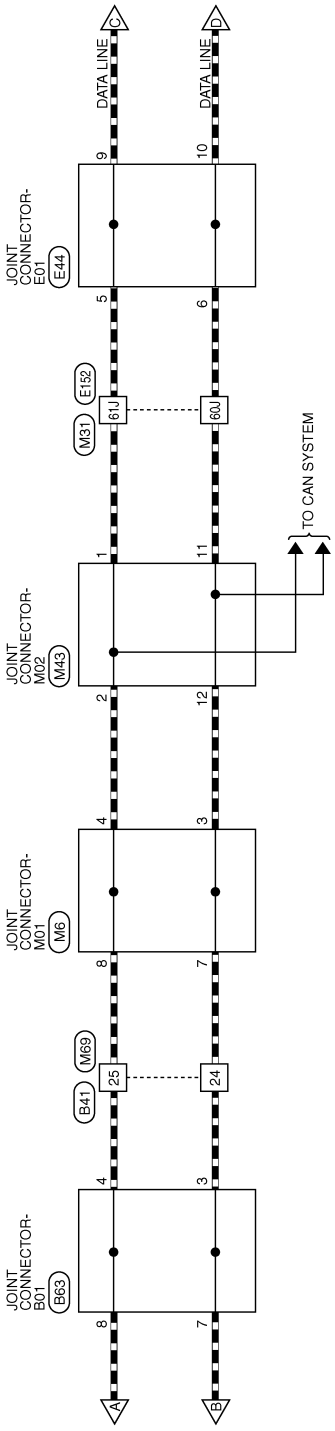

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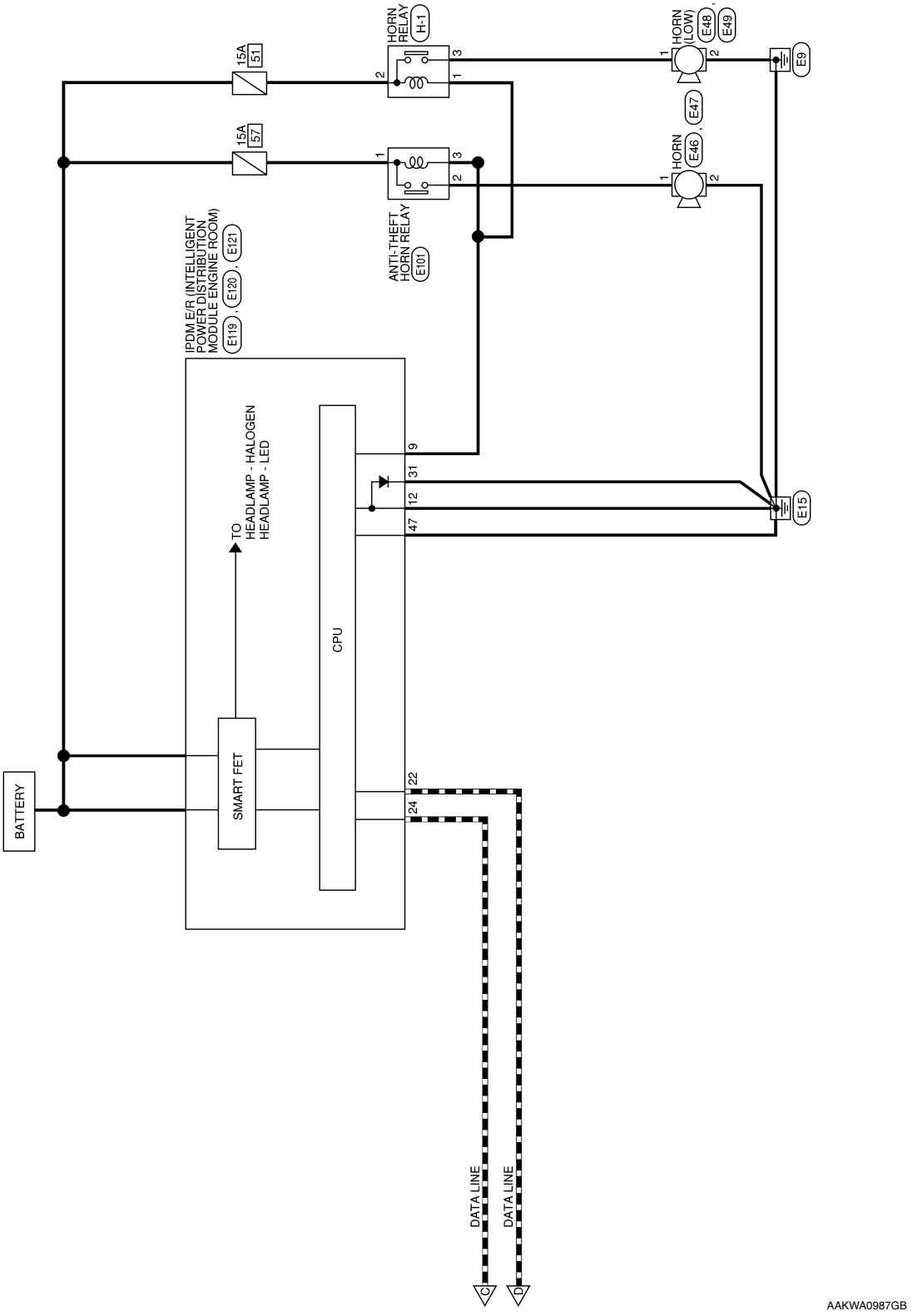


AAKWA0987GB

VEHICLE SECURITY SYSTEM CONNECTORS

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	BG	I DOORLOCK SW
35	BG	O SECURITY LED
40	SB	I DOORUNLOCK SW

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

H.S.

100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81
120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101

Terminal No.	Color of Wire	Signal Name
82	W	I SES FR HANDLE BUTTON SW (WITH INTELLIGENT KEY SYSTEM)
92	BR	I-KEY CYLINDER LOCK SW
93	P	I-KEY CYLINDER UNLOCK SW
95	V	I SHORTING PIN
100	V	SES EXT DR ANTENNA A

Terminal No.	Color of Wire	Signal Name
105	Y	I SES FL HANDLE BUTTON (WITH INTELLIGENT KEY SYSTEM)
116	BG	SES INT FRONT ANTENNA B (WITH INTELLIGENT KEY SYSTEM)
117	GR	SES INT FRONT ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
118	SB	SES EXT RIGHT ANTENNA B (WITH INTELLIGENT KEY SYSTEM)
119	P	SES EXT RIGHT ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
120	BR	SES EXT LEFT ANTENNA B (WITH INTELLIGENT KEY SYSTEM)

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

H.S.

167	166	165	164	163	162	161
176	175	174	173	172	171	170	169	168

Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
167	LA/V	I PWR DOORLOCK1
170	B	I GND1
171	B	I GND2
175	R	I PWR DOORLOCK2

AAKIA3203GB

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

H.S.

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

21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J
	30J	29J	28J	27J	26J	25J	24J	23J	22J	
41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J
	50J	49J	48J	47J	46J	45J	44J	43J	42J	
61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J
	70J	69J	68J	67J	66J	65J	64J	63J	62J	
81J	80J	79J	78J	77J	76J	75J	74J	73J	72J	71J
	90J	89J	88J	87J	86J	85J	84J	83J	82J	
		95J	94J	93J	92J		91J			
		100J	99J	98J	97J		96J			

Terminal No.	Color of Wire	Signal Name
60J	P	–
61J	L	–

Connector No.	M33
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5N	R	–

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

H.S.

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

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

Connector No.	M44
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
13P	LA/G	–

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.

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

Terminal No.	Color of Wire	Signal Name
3R	V	–
7R	LA/V	–
14R	W	–

AAKIA2337GB

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
45	LA/G	BAT

Connector No.	M76
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
7	BG	SECURITY

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	M168
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
20	BR	–
21	P	–
23	BG	–
24	SB	–

Connector No.	M167
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
16	B	–

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

H.S.

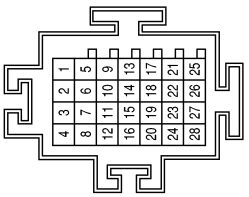
1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
2	GR	–
19	LG	–
20	BR	–

AAKIA1807GB

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	L	–
6	P	–
9	L	–
10	P	–

Connector No.	E46
Connector Name	HORN
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–

Connector No.	E47
Connector Name	HORN
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–

Connector No.	E48
Connector Name	HORN (LOW)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
2	B	–

Connector No.	E49
Connector Name	HORN (LOW)
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–

Connector No.	E101
Connector Name	ANTI-THEFT HORN RELAY
Connector Color	WHITE

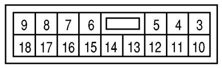
H.S.

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

AAKIA2448GB

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

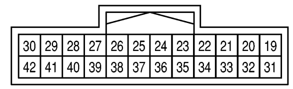
H.S.



Terminal No.	Color of Wire	Signal Name
9	L	LO HRN RLY
12	B	SIGNAL GROUND

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

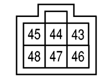
H.S.



Terminal No.	Color of Wire	Signal Name
22	P	CAN-L
24	L	CAN-H
31	B	2ND SIGNAL GROUND

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

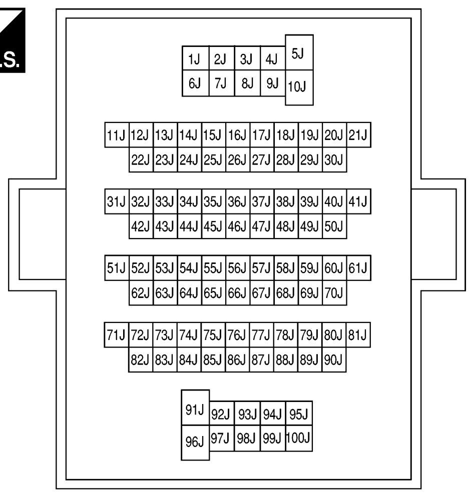
H.S.



Terminal No.	Color of Wire	Signal Name
47	B	POWER GROUND

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

H.S.



Terminal No.	Color of Wire	Signal Name
60J	P	–
61J	L	–

AAKIA2338GB

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
50	W	I RR DOOR SW
51	LG	I TGATESW
52	R	I RL DOOR SW
53	SB	I AS DOOR2 SW
57	SB	I DR DOOR2 SW
60	L	CAN-H

Connector No.	B46
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	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
19	LG	–

Terminal No.	Color of Wire	Signal Name
61	BR	SES EXT REAR ANTENNA B
62	Y	SES INT MIDDLE ANTENNA B (WITH INTELLIGENT KEY SYSTEM)
63	L	SES INT MIDDLE ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
64	G	SES EXT REAR ANTENNA A (WITH INTELLIGENT KEY SYSTEM)
80	P	CAN-L

Connector No.	B49
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
6	SB	–
10	W	–

Connector No.	B41
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	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	B54
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

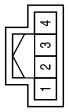
1
2

Terminal No.	Color of Wire	Signal Name
1	B	–

AAKIA3204GB

Connector No.	B71
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

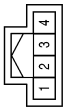
H.S.



Terminal No.	Color of Wire	Signal Name
3	SB	–

Connector No.	B70
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

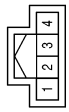
H.S.



Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	B142
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

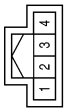
H.S.



Terminal No.	Color of Wire	Signal Name
3	W	–

Connector No.	B141
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

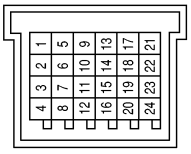
H.S.



Terminal No.	Color of Wire	Signal Name
3	GR	–

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY

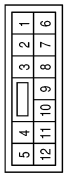
H.S.



Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Connector No.	B140
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
6	GR	–
10	W	–

AAKIA2450GB

Connector No.	D6
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	B	GND
3	L	LOCK SW
15	BG	UNLOCK SW

Connector No.	D3
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
20	BR	–
21	P	–
23	L	–
24	BG	–

Connector No.	D2
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
16	B	–

Connector No.	D112
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	LG	–
2	BR	–
3	B	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	B	–
19	LG	–
20	BR	–

Connector No.	D23
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	GRAY

H.S.

1	2	3	4	5	6

Terminal No.	Color of Wire	Signal Name
4	B	–
5	P	–
6	BR	–

AAKIA3205GB

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
19	W	–

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

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	B	–

Connector No.	D508
Connector Name	BACK DOOR LOCK ASSEMBLY (WITHOUT AUTOMATIC BACK DOOR SYSTEM)
Connector Color	WHITE

H.S.

4	3	2	1

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

Connector No.	D512
Connector Name	BACK DOOR LOCK ASSEMBLY (WITH AUTOMATIC BACK DOOR SYSTEM)
Connector Color	WHITE

H.S.

1	2	3
4	5	6	7	8

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

AAKIA3218GB

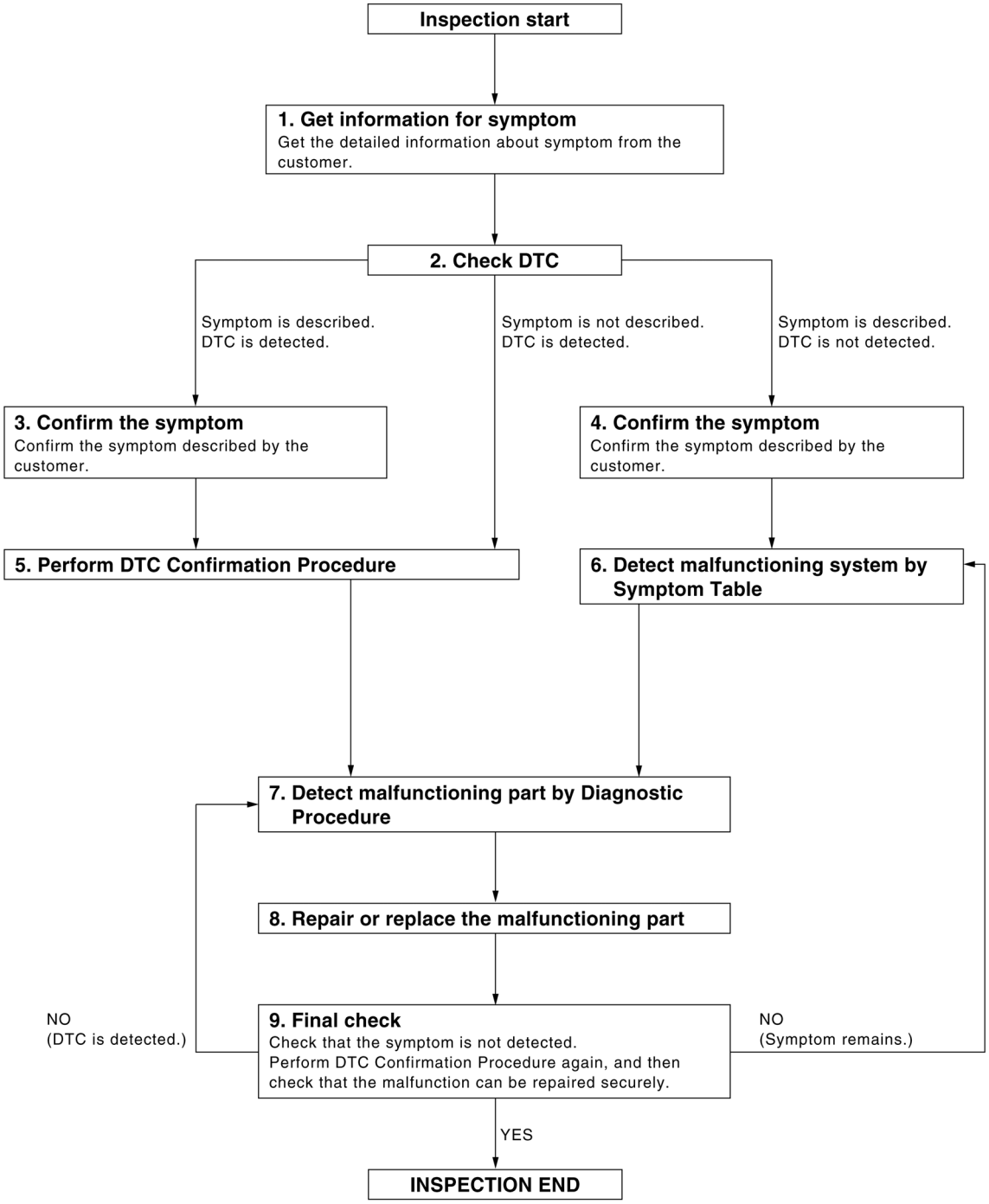
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012424048

OVERALL SEQUENCE



ALKIA2308GB

DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

1. Check DTC for BCM.
2. Perform the following procedure if DTC is displayed.

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

3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.
If two or more DTCs are detected, refer to BCS-109, "DTC Inspection Priority Chart" (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 7.
NO >> Refer to GI-45, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

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

>> GO TO 7.

7.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

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

>> GO TO 8.

8.REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.

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

>> GO TO 9.

9.FINAL CHECK

When DTC was detected in step 8, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunctions have been fully repaired.
When symptom was described by the customer, refer to the confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

YES (DTC is detected)>>GO TO 7.
YES (Symptom remains)>>GO TO 6.
NO >> Inspection End.

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

INFOID:0000000012424049

Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION : Description

INFOID:0000000012424050

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 is not necessary)
NOTE:
- **When registering new Key IDs or replacing the ECM that is not brand new, refer to CONSULT** Immobilizer mode and follow the on-screen instructions.
- **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:0000000012424051

1.PERFORM ECM RE-COMMUNICATING FUNCTION

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

Can engine be started?

YES >> Procedure is completed.
NO >> Initialize control unit. Refer to CONSULT Immobilizer mode and follow the on-screen instructions.

KEYFOB ID REGISTRATION

Description

INFOID:0000000012424052

Perform system initialization when replacing BCM, replacing keyfob or registering an additional keyfob. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

DTC/CIRCUIT DIAGNOSIS

P1610 LOCK MODE

Description

INFOID:0000000012424053

ECM forcibly switches to the mode that inhibits engine start, when engine start operation is performed 5 times or more while communication between ECM and BCM is not normal.

DTC Logic

INFOID:0000000012424054

DTC DETECTION LOGIC

NOTE:

- If DTC B1610 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC B1610 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	When ECM detects a communication malfunction between ECM and BCM 5 times or more.	—

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-167, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424055

1. CHECK ENGINE START FUNCTION

1. Check that there are no DTC’s except for DTC P1610 detected.
   If detected, erase the DTC after fixing.
2. Turn ignition switch OFF.
3. Insert the registered key into the ignition switch and wait 5 seconds.
4. Turn ignition switch ON.
5. Turn ignition switch OFF and wait 5 seconds.
6. Repeat steps 3 and 5 twice (a total of 3 times).
7. Check that engine can start.

>> Inspection End.

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000012424056

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1611	ID DISCORD, IMMU-ECM	The ID verification results between BCM and ECM are NG.	• 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.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Go to SEC-168, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424057

1.PERFORM INITIALIZATION

Perform initialization of BCM and reregistration of all keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

Can the system be initialized and can the engine be started with reregistered key?

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

2.CHECK SELF DIAGNOSTIC RESULT

1. Select “Self Diagnostic Result” of “ENGINE” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-168, "DTC Logic".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.REPLACE BCM

1. Replace BCM. Refer to BCS-137, "Removal and Installation".
2. Perform initialization of BCM and registration of all keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

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

YES >> Inspection End.
NO >> GO TO 4.

4.REPLACE ECM

1. Replace ECM. Refer to EC-503, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”. Refer to EC-139, "Work Procedure".

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000012424058

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-169, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424059

NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to BCS-130, "Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK ECM POWER SUPPLY AND GROUND CIRCUIT.

Check ECM power supply and ground circuit. Refer to EC-168, "Diagnosis Procedure".

Is the inspection result normal?

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

3.PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-169, "DTC Logic".

Does the DTC return?

YES >> Replace BCM. Refer to BCS-137, "Removal and Installation"
NO >> Inspection End.

P161D IMMOBILIZER

DTC Logic

INFOID:0000000012424060

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161D	IMMOBILIZER	When immobilizer detects a malfunction, and prohibits the engine start.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-172, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424061

1.REPLACE BCM

Replace BCM. Refer to BCS-137, "Removal and Installation".

>> Inspection End.

P161E IMMOBILIZER

DTC Logic

INFOID:0000000012424062

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161E	IMMOBILIZER	After replacing the ECM, when the ECM is not registered to the vehicle by using the CONSULT.	• BCM • ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-172, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424063

1.PERFORM REGISTRATION OF ECM

Perform registration of ECM using CONSULT.

Is DTC detected?

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

2.REPLACE BCM

Replace BCM. Refer to BCS-137, "Removal and Installation".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.REPLACE ECM

Replace ECM. Refer to EC-503, "Removal and Installation".

>> Inspection End.

P161F IMMOBILIZER

DTC Logic

INFOID:0000000012424064

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P161F	IMMOBILIZER	When immobilizer detects a malfunction, and prohibits the engine start.	ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-172, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424065

1.REPLACE ECM

Replace ECM. Refer to EC-503, "Removal and Installation".

>> Inspection End.

B2190 NATS ANTENNA AMP.

Description

INFOID:0000000012424066

Performs ID verification through BCM and NATS antenna amplifier when ignition switch turned ON.
Prohibits the start of engine when an unregistered ID of ignition key is used.

DTC Logic

INFOID:0000000012424067

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-173, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424068

1.IGNITION KEY REGISTRATION

Using CONSULT, register all Ignition Keys again.

>> GO TO 2.

2.CHECK SELF DIAGNOSIS RESULT

1. Select “Self Diagnosis Result” of “BCM” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for B2190. Refer to SEC-173, "Description".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.CHECK FUSE

1. Turn ignition switch OFF.
2. Check that the following fuse block (J/B) fuse is not blown.

Signal name	Fuse No.
Battery power supply	9 (5A)

Is the fuse fusing?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.
NO >> GO TO 4.

4.CHECK NATS ANTENNA AMP. POWER SUPPLY

1. Disconnect NATS antenna amp. connector.
2. Check voltage between NATS antenna amp. harness connector and ground.

(+)		(-)	Voltage (Approx.)
NATS antenna amp.			
Connector	Terminal		
M4	3	Ground	Battery voltage

Is the inspection result normal?

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

5. CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

1. Disconnect fuse block (J/B) connector.
2. Check continuity between NATS antenna amp. harness connector and fuse block (J/B) harness connector.

NATS antenna amp.		Fuse block (J/B)		Continuity
Connector	Terminal	Connector	Terminal	
M4	3	M68	12R	Yes

3. Check continuity between NATS antenna amp. harness connector and ground.

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M4	3		No

Is the inspection result normal?

YES >> Replace fuse block (J/B).
NO >> Repair or replace harness.

6. CHECK NATS ANTENNA AMP. GROUND CIRCUIT

Check continuity between NATS antenna amp. harness connector and ground.

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M4	2		Yes

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7. CHECK NATS ANTENNA COMMUNICATION SIGNAL

Check voltage between NATS antenna amp. harness connector and ground.

(+)		(-)	Condition	Voltage (Approx.)
NATS antenna amp.				
Connector	Terminal			
M4	1	Ground	Just after inserting ignition key into key cylinder	Pointer of tester should move
			Other than above	0 V
	4		Just after inserting ignition key into key cylinder	Pointer of tester should move
			Other than above	0 V

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to SEC-201, "Removal and Installation".
NO >> GO TO 8.

8. CHECK NATS ANTENNA COMMUNICATION SIGNAL CIRCUIT

1. Disconnect BCM connector and NATS antenna connector.
2. Check continuity between NATS antenna amp. harness connector and BCM harness connector.

NATS antenna amp.		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M4	1	M19	109	Yes
	4		113	

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M19	109		No
	113		

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair or replace harness.

9. REPLACE BCM

Replace BCM. Refer to BCS-137, "Removal and Installation".

>> Inspection End.

B2191 DIFFERENCE OF KEY

DTC Logic

INFOID:0000000012424069

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-176, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424070

1.KEY REGISTRATION

Using CONSULT, register all keys again.

Can engine be started with the registered key?

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

2.REPLACE KEY

1. Prepare key that matches the vehicle.
2. Registration of all keys using CONSULT.

Can engine be started with the registered keys?

YES >> Inspection End.
NO >> GO TO 3.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> Inspection End.

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000012424071

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD BCM-ECM	The ID verification results between BCM and ECM are NG.	• 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.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-177, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424072

1.PERFORM INITIALIZATION

Perform initialization of BCM and reregistration of all keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

Can the system be initialized and can the engine be started with reregistered key?

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

2.CHECK SELF-DIAGNOSTIC RESULT

1. Select “Self Diagnostic Result” of “BCM” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2192. Refer to SEC-177, "DTC Logic".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.REPLACE BCM

1. Replace BCM. Refer to BCS-137, "Removal and Installation".
2. Perform initialization of BCM and reregistration of all keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

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

YES >> Inspection End.
NO >> GO TO 4.

4.REPLACE ECM

1. Replace ECM. Refer to EC-503, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”. Refer to EC-139, "Work Procedure".

>> Inspection End.

B2193 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000012424073

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-178, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424074

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to BCS-130, "Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK ECM POWER SUPPLY AND GROUND CIRCUIT.

Check ECM power supply and ground circuit. Refer to EC-168, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace ECM. Refer toEC-503, "Removal and Installation". GO TO 3.
NO >> Repair or replace the harness.

3.PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-178, "DTC Logic".

Does the DTC return?

YES >> Replace BCM. Refer to BCS-137, "Removal and Installation"
NO >> Inspection End.

B2196 DONGLE UNIT

Description

INFOID:0000000012424075

BCM performs ID verification between BCM and dongle unit.
When verification result is OK, BCM permits cranking.

DTC Logic

INFOID:0000000012424076

DTC DETECTION LOGIC

NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2196	DONGLE NG	The ID verification results between BCM and dongle unit is NG.	• Harness or connectors (Dongle unit circuit is open or shorted.) • Dongle unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Turn ignition switch ON.
4. Check “Self Diagnostic Result” of “BCM” using CONSULT.

Is the DTC detected?

YES >> Refer to SEC-179, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424077

Regarding Wiring Diagram information, refer to SEC-139, "Wiring Diagram".

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and reregistration of all keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.
2. Start the engine.

Dose the engine start?

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

2.CHECK DONGLE UNIT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and dongle unit connector.
3. Check continuity between BCM harness connector and dongle unit harness connector.

BCM		Dongle unit		Continuity
Connector	Terminal	Connector	Terminal	
M18	16	M5	1	Yes

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M18	16		No

Is the inspection result normal?

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

3.CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dongle unit		Ground	Continuity
Connector	Terminal		
M5	4		Yes

Is the inspection result normal?

YES >> Replace dongle unit.
NO >> Repair or replace harness.

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:0000000012424078

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2198	NATS ANTENNA AMP	Inactive communication between NATS antenna amp. and BCM is detected when BCM enters in the low power consumption mode. (BCM sleep condition)	• Harness or connectors (NATS antenna amp. circuit is open or shorted.) • NATS antenna amp. • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Make the conditions that BCM enters in the low power consumption mode (BCM sleep condition). Refer to BCS-85, "POWER CONSUMPTION CONTROL SYSTEM : System Description".
2. Turn ignition switch ON.
3. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-181, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424079

Regarding Wiring Diagram information, refer to SEC-139, "Wiring Diagram".

1.CHECK FUSE

1. Turn power switch OFF.
2. Check that the following fuse in fuse block (J/B) is not blown.

Signal name	Fuse No.
Battery power supply	9 (5 A)

Is the inspection result normal?

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

2.CHECK NATS ANTENNA AMP. POWER SUPPLY

1. Disconnect NATS antenna amp. connector.
2. Check voltage between NATS antenna amp. harness connector and ground.

(+)		(–)	Voltage (V) (Approx.)
NATS antenna amp.			
Connector	Terminal		
M4	3	Ground	Battery voltage

Is the inspection result normal?

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

3.CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

1. Disconnect fuse block (J/B) connector.
2. Check continuity between fuse block (J/B) harness connector and NATS antenna amp. connector.

Fuse block (J/B)		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
M44	12 R	M4	3	Yes

Is the inspection result normal?

YES >> Replace fuse block (J/B).
NO >> Repair or replace harness.

4. CHECK NATS ANTENNA AMP. GROUND CIRCUIT

Check continuity between NATS antenna amp. harness connector and ground.

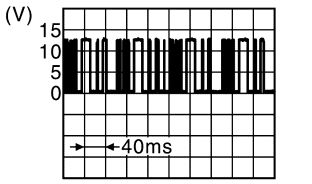
NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M4	2		Yes

Is the inspection result normal?

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

5. CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 1

Check voltage signal between NATS antenna amp. harness connector and ground using an oscilloscope.

(+) NATS antenna amp. Connector	(+) NATS antenna amp. Terminal	(–)	Condition		Voltage (V) (Approx.)
M4	1	Ground	Key: Key battery is removed	Brake pedal: Depressed **NOTE:** Waveform varies each time when brake pedal is depressed.	 JMKIA6232JP
				Brake pedal: Not depressed	Battery voltage

Is the inspection result normal?

YES >> GO TO 7.
NO >> GO TO 6.

6. CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 1

1. Disconnect BCM connector.
2. Check continuity between NATS antenna amp. harness connector and BCM connector.

NATS antenna amp.		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M4	1	M19	109	Yes

3. Check continuity between NATS antenna amp. harness connector and ground.

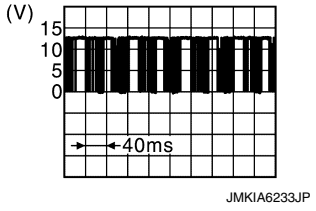
NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M4	1		No

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair or replace harness.

7. CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 2

Check voltage signal between NATS antenna amp. harness connector and ground using an oscilloscope.

(+) NATS antenna amp. Connector	(+) NATS antenna amp. Terminal	(–)	Condition		Voltage (V) (Approx.)
M4	4	Ground	Key: Key battery is removed	Brake pedal: Depressed **NOTE:** Waveform varies each time when brake pedal is depressed.	 JMKIA6233JP
				Brake pedal: Not depressed	Battery voltage

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to SEC-201, "Removal and Installation".
NO >> GO TO 8.

8. CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 2

1. Disconnect BCM connector.
2. Check continuity between NATS antenna amp. harness connector and BCM connector.

NATS antenna amp.		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M4	4	M19	113	Yes

3. Check continuity between NATS antenna amp. harness connector and ground.

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M4	4		No

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair or replace harness.

9. REPLACE BCM

1. Replace BCM. Refer to BCS-137, "Removal and Installation".
2. Perform initialization of BCM and registration of all keys using CONSULT.

>> Inspection End

B2608 STARTER RELAY

DTC Logic

INFOID:0000000012424080

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".
- If DTC B2608 is displayed with other DTC (BCM), first perform the trouble diagnosis for other DTC detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2608	STARTER RELAY	BCM outputs starter relay OFF signal but BCM receives starter relay ON signal from IPDM E/R (CAN).	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connectors (Starter relay circuit is open or shorted.) • IPDM E/R • Starter relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine:
- Selector lever: In the P position
- Brake pedal: Depressed
2. Wait 1 second after engine started.
3. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-184, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424081

1.CHECK DTC OF IPDM E/R

Select “Self Diagnostic Result” of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to PCS-26, "DTC Index".
NO >> GO TO 2.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace BCM. Refer to BCS-137, "Removal and Installation".

B260F ENGINE STATUS

Description

INFOID:0000000012424082

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

DTC Description

INFOID:0000000012424083

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition
B260F	ENG STATE SIG LOST (Engine state signal lost)	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.

POSSIBLE CAUSE

- Harness or connectors
  (The CAN communication line is open or shorted.)
- ECM

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC B260F is displayed with DTC U1000 or U1010, first perform the trouble diagnosis for DTC U1000 or U1010.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1000: Refer to BCS-126, "DTC Logic". U1010: Refer to BCS-127, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 2 seconds or more.
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-185, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000012424084

1.CHECK DTC PRIORITY

If DTC B260F is displayed with DTC U1000 or U1010, first perform the trouble diagnosis for DTC U1000 or U1010.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1000: Refer to BCS-126, "DTC Logic". U1010: Refer to BCS-127, "DTC Logic".
NO >> GO TO 2.

2.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to SEC-185, "DTC Description".

Is DTC detected?

YES >> GO TO 3.
NO >> Inspection End.

3.REPLACE ECM

Replace ECM. Refer EC-503, "Removal and Installation".

>> Inspection End.

B261E VEHICLE TYPE

Description

INFOID:0000000012424085

There are two types of vehicles.
- HEV
- Conventional

DTC Logic

INFOID:0000000012424086

DTC DETECTION LOGIC

NOTE:
- If DTC B261E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC B261E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261E	VEHICLE TYPE	Difference of BCM configuration.	• BCM mis-configuration • Wrong ECM installed

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions.
- Shift selector lever is in the P (Park) or N (Neutral) position
- Do not depress brake pedal
2. Check “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> GO TO SEC-187, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424087

1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure. Refer to SEC-187, "DTC Logic".

Is the 1st trip DTC B261E displayed again?

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

2.PERFORM BCM CONFIGURATION.

Perform the BCM configuration. Refer to BCS-123, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 3.

3.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure.
   Refer to SEC-187, "DTC Logic".

Is the 1st trip DTC B261E displayed again?

YES >> GO TO 4.
NO >> Inspection End.

4. CONFIRM ECM PART NUMBER.

Confirm the part number of the installed ECM is correct.

Is the ECM part number correct?

YES >> Replace BCM. Refer to BCS-137, "Removal and Installation".
NO >> Replace ECM. Refer to EC-503, "Removal and Installation".

B27D1 START CUT RELAY OFF

DTC Logic

INFOID:0000000012424088

DTC DETECTION LOGIC

NOTE:

- If DTC B27D1 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC B27D1 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B27D1	STARTER CUT RELAY OFF	When comparing the starter cut relay signal (CAN) from IPDM E/R, BCM detects that starter cut relay is stuck in the OFF position for 1 second or more.	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connector (Starter cut relay circuit is open or shorted.) • IPDM E/R • BCM • Starter cut relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch under the following conditions to start engine, and wait 1 second or more.
- Selector lever: In the P position
2. Check DTC in “Self Diagnostic Result” of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-189, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424089

Regarding Wiring Diagram information, refer to SEC-139, "Wiring Diagram".

1.CHECK STARTER CUT RELAY POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V) (Approx.)
Starter cut relay			
Connector	Terminal		
F55	1	Ground	Battery voltage
	3		

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 30 A fusible link [M, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between starter cut relay and fusible link.

2.CHECK STARTER CUT RELAY CONTROL

1. Reconnect starter cut relay.
2. Check voltage between BCM harness connector and ground.

(+) BCM Connector	(+) BCM Terminal	(–)	Condition		Voltage (V) (Approx.)
E29	139	Ground	CVT shift selector lever	N or P position	Battery voltage
				Other than above	0

Is the inspection result normal?

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

3.CHECK STARTER CUT RELAY CONTROL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Disconnect starter cut relay.
4. Check continuity between BCM harness connector and starter cut relay harness connector.

BCM		Starter cut relay		Continuity
Connector	Terminal	Connector	Terminal	
E29	139	F55	2	Yes

Is the inspection result normal?

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

4.CHECK STARTER CUT RELAY CIRCUIT

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

IPDM E/R		Starter cut relay		Continuity
Connector	Terminal	Connector	Terminal	
F41	86	F55	5	Yes

4. Check continuity between BCM harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
F41	86		No

Is the inspection result normal?

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

5.CHECK STARTER CUT RELAY

Refer to SEC-191, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace starter cut relay.

6.REPLACE BCM

1. Replace BCM. Refer to BCS-137, "Removal and Installation".
2. Perform initialization of BCM and registration of all keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B27D1. Refer to SEC-189, "DTC Logic".

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace IPDM E/R. Refer to PCS-44, "Removal and Installation".

Component Inspection

INFOID:0000000012424090

1. CHECK STARTER CUT RELAY

1. Turn ignition switch OFF.
2. Disconnect starter cut relay.
3. Check continuity between starter cut relay terminals.

Starter cut relay		Condition	Continuity
Terminal			
3	5	12 V direct current supply between terminals 1 and 2	Yes
		No current supply	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace starter cut relay.

B27D2 START CUT RELAY ON

DTC Logic

INFOID:0000000012424091

DTC DETECTION LOGIC

NOTE:

- If DTC B27D2 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-126, "DTC Logic".
- If DTC B27D2 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-127, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B27D2	STARTER CUT RELAY ON	When comparing the starter cut relay signal (CAN) from IPDM E/R, BCM detects that starter cut relay is stuck in the ON position for 1 second or more.	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connector (Starter cut relay circuit is open or shorted.) • IPDM E/R • BCM • Starter cut relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch under the following conditions to start engine, and wait 1 second or more.
- Selector lever: In the P position
2. Check DTC in “Self Diagnostic Result”of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-192, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012424092

Regarding Wiring Diagram information, refer to SEC-139, "Wiring Diagram".

1.CHECK STARTER CUT RELAY POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V) (Approx.)
Starter cut relay			
Connector	Terminal		
F55	1	Ground	Battery voltage
	3		

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 30 A fusible link [M, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between starter cut relay and fusible link.

2.CHECK STARTER CUT RELAY CONTROL

1. Reconnect starter cut relay.
2. Check voltage between BCM harness connector and ground.

(+) BCM Connector	(+) BCM Terminal	(–)	Condition		Voltage (V) (Approx.)
E29	139	Ground	CVT shift selector lever	N or P position	Battery voltage
				Other than above	0

Is the inspection result normal?

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

3.CHECK STARTER CUT RELAY CONTROL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Disconnect starter cut relay.
4. Check continuity between BCM harness connector and starter cut relay harness connector.

BCM		Starter cut relay		Continuity
Connector	Terminal	Connector	Terminal	
E29	139	F55	2	Yes

Is the inspection result normal?

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

4.CHECK STARTER CUT RELAY CIRCUIT

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

IPDM E/R		Starter cut relay		Continuity
Connector	Terminal	Connector	Terminal	
F41	86	F55	5	Yes

4. Check continuity between BCM harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
F41	86		No

Is the inspection result normal?

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

5.CHECK STARTER CUT RELAY

Refer to SEC-194, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace starter cut relay.

6.REPLACE BCM

1. Replace BCM. Refer to BCS-137, "Removal and Installation".
2. Perform initialization of BCM and registration of all keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B27D2. Refer to SEC-192, "DTC Logic".

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace IPDM E/R. Refer to PCS-44, "Removal and Installation".

Component Inspection

INFOID:0000000012424093

1. CHECK STARTER CUT RELAY

1. Turn ignition switch OFF.
2. Disconnect starter cut relay.
3. Check continuity between starter cut relay terminals.

Starter cut relay		Condition	Continuity
Terminal			
3	5	12 V direct current supply between terminals 1 and 2	Yes
		No current supply	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace starter cut relay.

HEADLAMP FUNCTION

Component Function Check

INFOID:0000000012424094

1.CHECK FUNCTION

1. Perform “HEAD LAMP(HI)” in “Active Test” of “THEFT ALM” of “BCM” using CONSULT.
2. Check headlamps operation.

Test item		Description	
HEAD LAMP (HI)	ON	Headlamps (Hi)	Light
	OFF		Does not light

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to SEC-195, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012424095

1.CHECK HEADLAMP FUNCTION

Refer to SEC-195, "Component Function Check".

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-45, "Intermittent Incident".

>> Inspection End.

HORN FUNCTION

Component Function Check

INFOID:0000000012424096

1.CHECK FUNCTION 1

1. Perform “VEHICLE SECURITY HORN” in “Active Test” of “THEFT ALM” of “BCM” using CONSULT.
2. Check the horn operation.

Test item		Description	
VEHICLE SECURITY HORN	ON	Horn	Sounds (for 0.5 sec)

Is the operation normal?

YES >> Inspection End.
NO >> Go to SEC-149, "Wiring Diagram".

Component Inspection

INFOID:0000000012424097

1.CHECK ANTI-THEFT HORN RELAY

1. Turn ignition switch OFF.
2. Disconnect anti-theft horn relay.
3. Check voltage between anti-theft horn relay connector E101 terminal 2 and ground under the following conditions.

(+) Anti-theft horn relay Terminal	(−)	Condition	Voltage (V) (Approx.)
2	Ground	12 V direct current supply between terminals 1 and 3	12
		No current supply	0

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace anti-theft horn relay.

SECURITY INDICATOR LAMP

Component Function Check

INFOID:0000000012424098

1.CHECK FUNCTION

1. Perform “THEFT IND” in “Active Test” of “IMMU” of “BCM” using CONSULT.
2. Check security indicator lamp operation.

Test item		Description	
THEFT IND	ON	Security indicator lamp	Illuminates
	OFF		Does not illuminate

Is the inspection result normal?

YES >> Inspection End.
NO >> Go to SEC-197, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012424099

Regarding Wiring Diagram information, refer to SEC-149, "Wiring Diagram".

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V) (Approx.)
Combination meter			
Connector	Terminal		
M77	45	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No. 13, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between combination meter and fuse.

2.CHECK SECURITY INDICATOR LAMP SIGNAL

1. Connect combination meter connector.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

(+)		(–)	Voltage (V) (Approx.)
BCM			
Connector	Terminal		
M18	35	Ground	Battery voltage

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to BCS-137, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

4. CHECK SECURITY INDICATOR LAMP CIRCUIT

1. Disconnect combination meter connector.
2. Check continuity between combination meter harness connector and BCM harness connector.

Combination meter		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M76	7	M18	35	Yes

3. Check continuity between combination meter harness connector and ground.

Combination meter		Ground	Continuity
Connector	Terminal		
M76	7		No

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-84, "Removal and Installation".
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

INFOID:0000000012424100

NOTE:
- Before performing the diagnosis in the following table, check “SEC-162, "Work Flow"”.
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.
- If the following symptoms are detected, check systems shown in the “Diagnosis/service procedure” column in this order.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)
- Mechanical key is not inserted into key cylinder.
- Ignition knob switch is not depressed.

Symptom	Diagnosis/service procedure	Reference page
Security indicator does not turn ON or flash.	1. Check vehicle security indicator	SEC-197
	2. Check Intermittent Incident	GI-45

VEHICLE SECURITY SYSTEM

Symptom Table

INFOID:0000000012424101

Procedure	Symptom		Diagnostic procedure	Refer to page
1	Vehicle security system cannot be set by ····	Door switch	Check door switch (front door LH, front door RH, rear door LH, rear door RH).	DLK-335
		—	Check Intermittent Incident.	GI-45
	Security indicator does not turn ON.		Check vehicle security indicator.	SEC-197
			Check Intermittent Incident.	GI-45
2	* Vehicle security system does not sound alarm when ····	Any door is opened.	Check door switch (front door LH, front door RH, rear door LH, rear door RH).	DLK-335
		—	Check Intermittent Incident.	GI-45
3	Vehicle security alarm does not activate.	Horn alarm	Check horn switch.	DLK-351
			Check Intermittent Incident.	GI-45
		Headlamp flash	Check headlamp switch.	DLK-353
			Check Intermittent Incident.	GI-45

*: Check the system is in the armed phase.

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

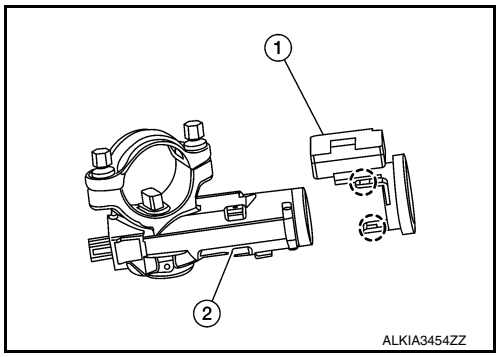
Removal and Installation

INFOID:0000000012424102

REMOVAL

1. Remove steering column covers. Refer to IP-18, "Removal and Installation".
2. Remove instrument lower panel LH. Refer to IP-23, "Removal and Installation".
3. Remove knee protector. Refer to IP-14, "Exploded View".
4. Disconnect the harness connector from the NATS antenna amp.
5. Release pawls using suitable tool and remove NATS antenna amp. (1) from the steering lock unit (2).

: Pawl



INSTALLATION

Installation is in the reverse order of removal.

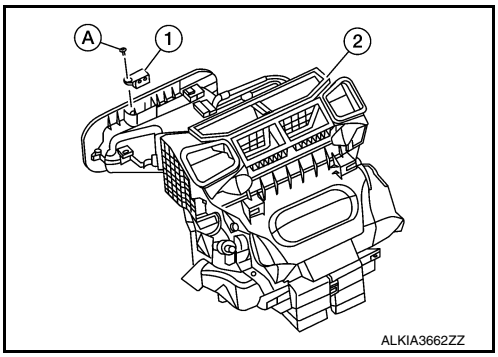
DONGLE UNIT

Removal and Installation

INFOID:0000000012424103

REMOVAL

1. Remove instrument panel assembly. Refer to IP-14, "INSTRUMENT PANEL ASSEMBLY : Removal and Installation".
2. Disconnect the harness connector from the dongle unit (1).
3. Remove screw (A) and dongle unit (1) from the heating and cooling unit assembly (2).



INSTALLATION

Installation is in the reverse order of removal.