

SECTION SEC

SECURITY CONTROL SYSTEM

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PRECAUTION

PRECAUTIONS

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

INFOID:0000000012430321

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:0000000012430322

- 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 >

[WITH INTELLIGENT KEY SYSTEM]

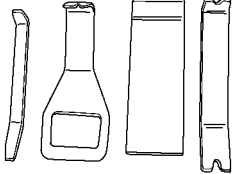
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000012430323

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

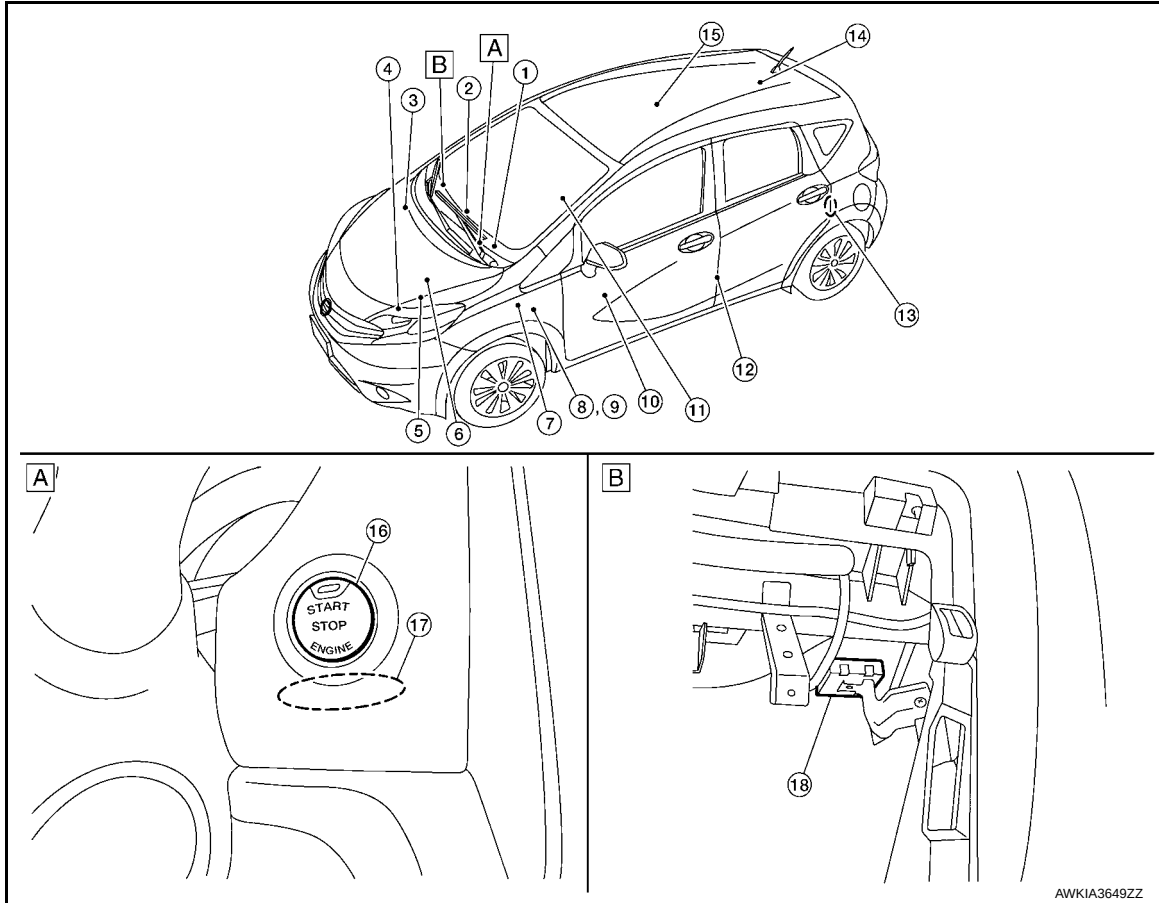
[WITH INTELLIGENT KEY SYSTEM]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012430324



A. View right of steering column

B. View with glove box cover removed

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-9, "METER SYSTEM : Combination Meter" .
2.	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 SEC-10, "Inside Key Antenna" .

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

No.	Component	Function
3.	ABS actuator and electric unit (control unit)	ABS actuator and electric unit (control unit) transmits the vehicle speed signal to BCM via CAN communication. BCM also receives the vehicle speed signal from the combination meter via CAN communication. BCM compares both signals to detect the vehicle speed. Refer to BRC-8, "ABS Actuator and Electric Unit (Control Unit)" for detailed installation location.
4.	Intelligent Key warning buzzer	Intelligent Key warning buzzer warns the user, who is outside the vehicle, of operation confirmation according to Intelligent Key operation and door request switch operation, or of an inappropriate operation.
5.	Transmission range switch	Transmission range switch detects the CVT shift selector lever position.
6.	IPDM E/R	Starter control relay is integrated in IPDM E/R and used for the engine starting function. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R while communicating with BCM. IPDM E/R sends the starter control relay and starter relay status signal to BCM.
7.	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-6, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
8.	Clutch interlock switch	Clutch interlock switch detects that clutch pedal is depressed, and then transmits ON/OFF signal to the BCM.
9.	Stop lamp switch	Stop lamp switch detects that brake pedal is depressed, and then transmits ON/OFF signal to the BCM.
10.	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".
11.	CVT shift selector (park position switch)	Park position switch is integrated into the CVT shift selector and detects that the selector lever is in the P (park) position, then transmits ON/OFF signal to the BCM and IPDM E/R.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

No.	Component	Function
12.	Front door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
13.	Rear door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
14.	Inside key antenna (trunk room)	Inside key antenna (trunk room) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to SEC-10, "Inside Key Antenna" .
15.	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 SEC-10, "Inside Key Antenna" .
16.	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.
17.	NATS antenna amp.	ID verification is performed between the BCM and the transponder integrated into the Intelligent Key via the NATS antenna amp.
18.	Remote keyless entry receiver	Remote keyless entry receiver receives button operation signal and key ID signal of Intelligent Key, and then transmits them to the BCM. Refer to SEC-10, "Remote Keyless Entry Receiver" .

CVT Shift Selector (Park Position Switch)

INFOID:0000000012430325

Park position switch detects that CVT shift selector is in the P (Park) position and then transmits the signal to BCM and IPDM E/R.

BCM confirms the CVT shift selector position with the following 5 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P (Park) position signal from IPDM E/R (CAN)
- P/N position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the CVT shift selector position with the following 3 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

BCM

INFOID:0000000012430326

BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS (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, push-button ignition switch operation is available.

Then, when the power supply position is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine.

ECM

INFOID:0000000012430327

ECM controls the engine.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

When power supply position is turned ON, BCM starts communication with ECM and performs the ID verification between BCM and ECM.

If the verification result is OK, the engine can start. If the verification result is invalid, the engine can not start.

IPDM E/R

INFOID:0000000012430328

IPDM E/R has the starter relay and starter control relay inside. Starter relay and starter control relay are used for the engine starting function. IPDM E/R controls these relays while communicating with BCM.

NATS Antenna Amp.

INFOID:0000000012430329

The ID verification is performed between BCM and transponder in 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 starting engine is available.

Combination Meter

INFOID:0000000012430330

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.

Door Switch

INFOID:0000000012430331

Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.

Outside Key Antenna

INFOID:0000000012430332

Outside key antenna detects whether Intelligent Key is outside the vehicle and transmits the signal to BCM. Three outside key antennas are installed in the front outside handle LH, front outside handle RH and rear bumper.

Inside Key Antenna

INFOID:0000000012430333

Inside key antenna detects whether Intelligent Key is inside the vehicle and transmits the signal to BCM. Three inside key antennas are installed in the instrument center, console and trunk room.

Remote Keyless Entry Receiver

INFOID:0000000012430334

Remote keyless entry receiver receives each button operation signal and electronic key ID signal from Intelligent Key and then transmits the signal to BCM.

Intelligent Key

INFOID:0000000012430335

Each Intelligent Key has an individual electronic ID and transmits the ID signal by request from BCM. Carrying the Intelligent Key whose ID is registered in BCM, the driver can perform, remote start, door lock/unlock operation, remote liftgate, panic alarm and push-button ignition switch operation.

Push-button Ignition Switch

INFOID:0000000012430336

Push-button ignition switch detects that push-button is pressed and then transmits the signal to BCM. BCM changes the power supply position with the operation of push-button ignition switch. BCM maintains the power supply position status while push-button is not operated.

Security Indicator Lamp

INFOID:0000000012430337

Security indicator lamp is located on combination meter.

Security indicator lamp blinks when power supply position is any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS (NATS) is on board.

Starter Relay

INFOID:0000000012430338

Engine starting system functions by controlling both starter relay and starter control relay.

Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R on request from BCM. IPDM E/R transmits starter relay and starter control relay status signal to BCM via CAN communication.

Stop Lamp Switch

INFOID:0000000012430339

Stop lamp switch detects that brake pedal is depressed, and then transmits the signal to BCM.

Transmission Range Switch

INFOID:0000000012430340

Transmission range switch is integrated in CVT assembly, and detects the CVT shift selector position.

TCM receives the transmission range switch signal and then transmits the P/N position signal to BCM and IPDM E/R.

BCM confirms the CVT shift selector position with the following 5 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P (Park) position signal from IPDM E/R (CAN)
- P/N position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the CVT shift selector position with the following 3 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

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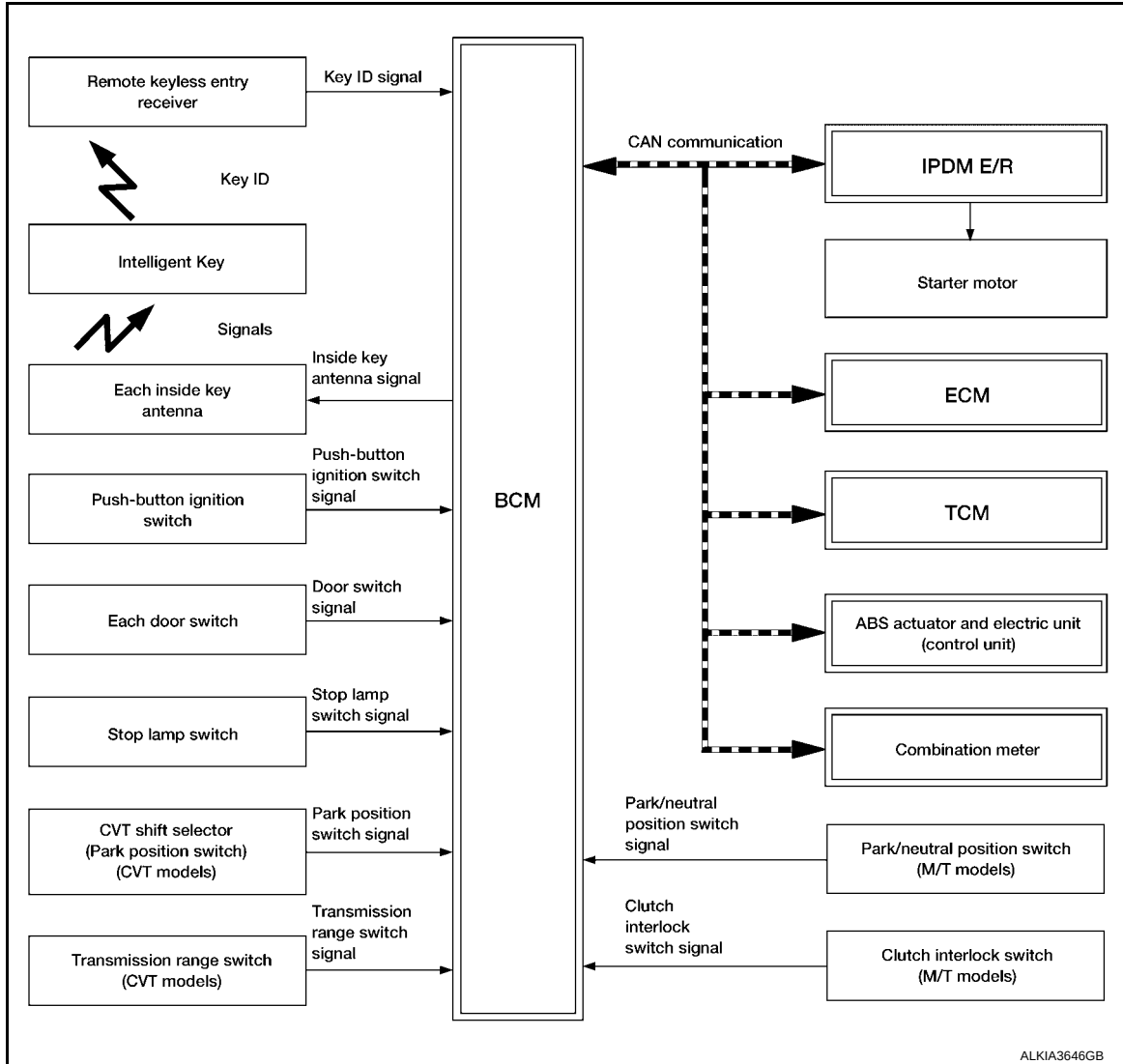
SYSTEM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:000000012430341

SYSTEM DIAGRAM



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 NATS ID). It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- If the ID is successfully verified, when push-button ignition switch is pressed the engine can be started.
- For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.

NOTE:

Refer to [SEC-15. "NISSAN ANTI-THEFT SYSTEM : System Description"](#) for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

The transponder (the chip for NATS ID verification) is integrated into the Intelligent Key. (For the conventional models, it is integrated into the mechanical key.) Therefore, ID verification cannot be performed by mechanical key only.

In that case, NATS ID verification can be performed when Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. 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 via remote keyless entry receiver 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. IPDM E/R turns the starter control relay ON for engine starting in advance.
7. BCM detects the selector lever position and brake pedal operation condition.
8. BCM transmits the starter request signal to IPDM E/R and turns the starter relay ON if BCM judges that the engine start condition* is satisfied.
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 on 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 "IGNITION SWITCH 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, NATS ID verification between transponder in Intelligent Key and BCM is performed when Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If the verification result is OK, engine can be started.

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

The ignition switch position can be changed by the following operations:

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna or 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 operation condition
 - Selector lever position
 - Vehicle speed

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

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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

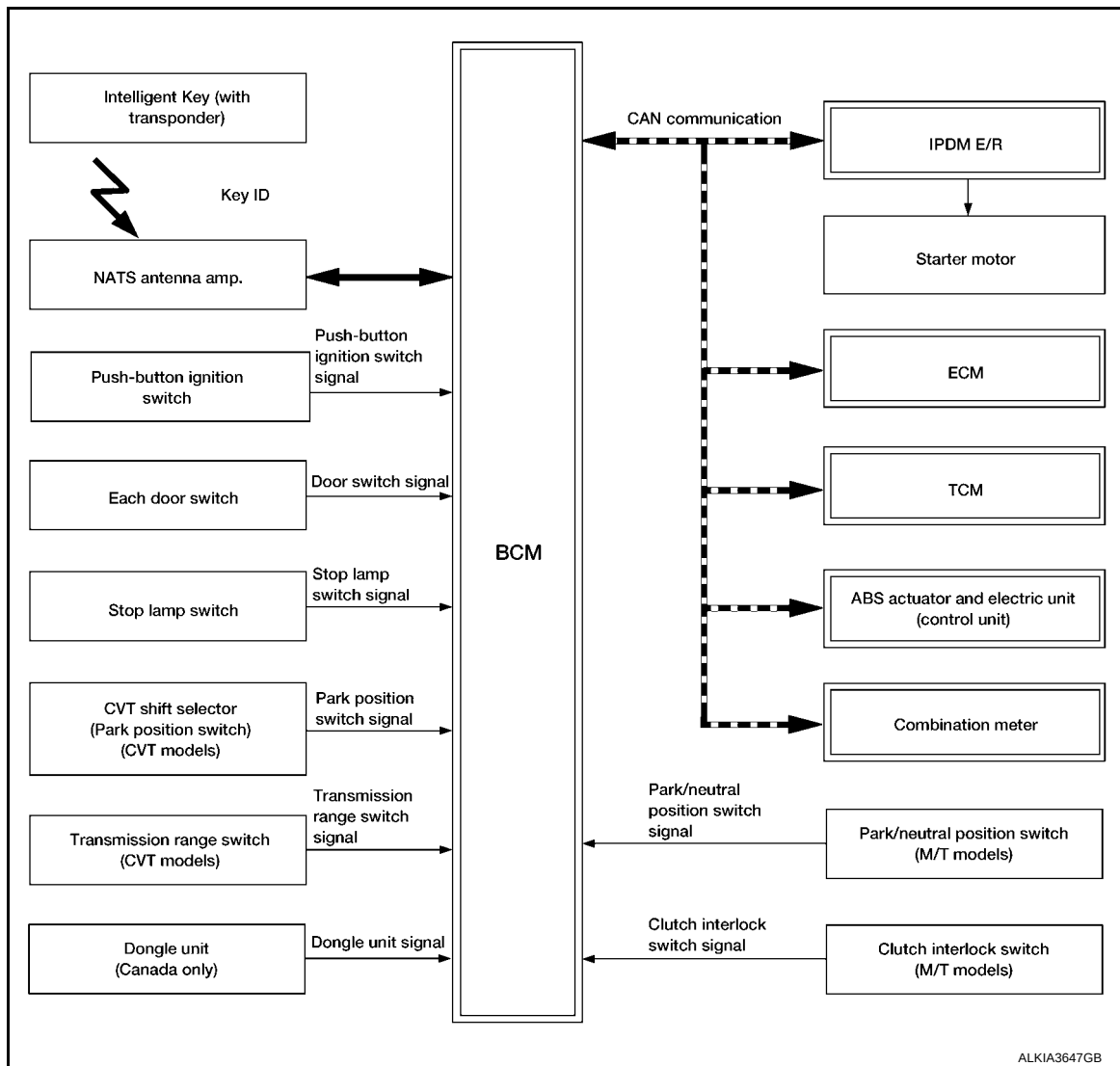
- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

NISSAN ANTI-THEFT SYSTEM

NISSAN ANTI-THEFT SYSTEM : System Description

INFOID:000000012430342

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

- The Nissan Anti-Theft System (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 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 while brake pedal is depressed. If the verification result is OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator lamp and always blinks it when the ignition switch is in any position except ON to warn that the vehicle is equipped with Nissan Anti-Theft System (NATS).
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.
- When replacing ECM, BCM or Intelligent Key, the specified procedure (Initialization and registration) using CONSULT is required.
- For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions.
- Possible symptom of NATS malfunction is "Engine can not start". This symptom also occurs because of other than NATS malfunction, so start the trouble diagnosis according to [SEC-46, "Work Flow"](#).
- If ECM other than genuine part is installed, the engine cannot be started.
For ECM replacement procedure, refer to [EC-477, "Removal and Installation"](#).

< SYSTEM DESCRIPTION >

PRECAUTIONS FOR KEY REGISTRATION

- The ID registration is a procedure that erases the current NATS ID once, and then registers 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 IDs (NATS ID and Intelligent Key ID).

SECURITY INDICATOR LAMP

- Security indicator lamp warns that the vehicle is equipped with NATS.
- Security indicator lamp always blinks when the ignition switch is in 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 position the 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 NATS ID verification between BCM and Intelligent Key (transponder built-in) via NATS antenna amp.
3. When 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. IPDM E/R turns the starter control relay ON for engine starting in advance.
7. BCM detects that the selector lever position and brake pedal operation condition.
8. BCM transmits starter request signal to IPDM E/R and turns the starter relay ON if BCM judges that the engine start condition* is satisfied.
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 "IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION" below.

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

The ignition switch position can be changed by the following operations.

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna or 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 operation condition
 - Selector lever position
 - Vehicle speed

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

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

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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

Power supply position	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.

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000012542530

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			x	x	x		
Rear window defogger	REAR DEFOGGER			x	x			
Warning chime	BUZZER			x	x			
Interior room lamp timer	INT LAMP			x	x	x		
Exterior lamp	HEAD LAMP			x	x	x		
Wiper and washer	WIPER			x	x	x		
Turn signal and hazard warning lamps	FLASHER			x	x	x		
Air conditioner	AIR CONDITIONER			x				
Intelligent Key system	INTELLIGENT KEY		x	x	x	x		
Combination switch	COMB SW			x				
BCM	BCM	x	x			x	x	x
Immobilizer	IMMU		x	x	x	x		
Interior room lamp battery saver	BATTERY SAVER			x	x	x		
Vehicle security system	THEFT ALM			x	x			
RAP system	RETAINED PWR			x				
Signal buffer system	SIGNAL BUFFER			x				
TPMS	AIR PRESSURE MONITOR		x	x	x	x		
Panic alarm system	PANIC ALARM				x			

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000012542526

SELF DIAGNOSTIC RESULT

Refer to [BCS-50, "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.
CLUCH SW [On/Off]	×	Indicates condition of clutch interlock switch.
BRAKE SW 1 [On/Off]	×	Indicates condition of brake switch.
BRAKE SW 2 [On/Off]		Indicates condition of brake switch.
DETE/CANCL SW [On/Off]	×	Indicates condition of P (park) position.
SFT PN/N SW [On/Off]	×	Indicates condition of P (park) or N (neutral) position.
UNLK SEN -DR [On/Off]	×	Indicates condition of door unlock sensor.
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.
DETE SW -IPDM [On/Off]		Indicates condition of detent switch received from TCM on CAN communication line.
SFT PN -IPDM [On/Off]		Indicates condition of P (park) or N (neutral) position from TCM on CAN communication line.
SFT P -MET [On/Off]		Indicates condition of P (park) position from TCM on CAN communication line.
SFT N -MET [On/Off]		Indicates condition of N (neutral) position 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.
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.
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.
ID OK FLAG [Set/Reset]		Indicates condition of Intelligent Key ID.
PRMT ENG STRT [Set/Reset]		Indicates condition of engine start possibility.
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-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.

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Test Item	Description
INSIDE BUZZER	This test is able to check combination meter warning chime operation [Take Out/Knob/Key/Off].
LCD	This test is able to check combination meter display information [Off/LK WN/OUTKEY/NO KY/BATT/INSRT/SFT P/ROTAT/ID NG/B&P I/B&P N].
BATTERY SAVER	This test is able to check battery saver operation [On/Off].
ENGINE SW ILLUMI	This test is able to check push-button ignition switch START indicator operation [On/Off].
PUSH SWITCH INDICATOR	This test is able to check push-button ignition switch indicator operation [On/Off].
INT LAMP	This test is able to check interior room lamp operation [On/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 hazard lamp operation [LH/RH/Off].
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation [On/Off].
HORN	This test is able to check horn operation [On].
P RANGE	This test is able to check CVT shift selector illumination operation [On/Off].

WORK SUPPORT

Support Item	Setting	Description
LOCK/UNLOCK BY I-KEY	On*	Door lock/unlock function from Intelligent Key ON.
	Off	Door lock/unlock function from Intelligent Key OFF.
ANTI KEY LOCK IN FUNCTI	On*	Anti lock out setting ON.
	Off	Anti lock out setting OFF.
ANS BACK I-KEY UNLOCK	Off	No buzzer reminder when doors are unlocked with request switch.
	On*	Buzzer reminder when doors are unlocked with request switch.
ANS BACK I-KEY LOCK	Horn Chirp	Horn chirp reminder when doors are locked with request switch.
	Buzzer*	Buzzer reminder when doors are locked with request switch.
	Off	No reminder when doors are locked with request switch.
HORN WITH KEYLESS LOCK	Off	Horn chirp reminder when doors are locked with Intelligent Key.
	On*	No horn chirp reminder when doors are locked with Intelligent Key.
HAZARD ANSWER BACK	Lock/Unlock*	Hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.
	Unlock Only	Hazard warning lamp activation when doors are unlocked with Intelligent Key or request switch.
	Lock Only	Hazard warning lamp activation when doors are locked with Intelligent Key or request switch.
	Off	No hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.
INSIDE ANT DIAGNOSIS	—	This function allows inside key antenna self-diagnosis.
CONFIRM KEY FOB ID	—	Intelligent Key ID code can be checked.
SHORT CRANKING OUTPUT	Start	70 msec
		100 msec
		200 msec
	End	
PANIC ALARM SET	MODE 3	1.5 sec
	MODE 2	OFF
	MODE 1*	0.5 sec
LO- BATT OF KEY FOB WARN	On*	Intelligent Key low battery warning ON.
	Off	Intelligent Key low battery warning OFF.

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Support Item	Setting		Description
AUTO LOCK SET	MODE7	5 min	Auto door lock time setting.
	MODE6	4 min	
	MODE5	3 min	
	MODE4	2 min	
	MODE3*	1 min	
	MODE2	30 sec	
	MODE1	Off	

*: Initial Setting

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:0000000012542528

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.
UNLK SEN -DR [On/Off]	Indicates condition of door unlock sensor.
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
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].
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].
HEAD LAMP(HI)	This test is able to check vehicle security lamp operation [On].

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000012542527

SELF DIAGNOSTIC RESULT

Refer to [BCS-50, "DTC Index"](#).

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	Description
CONFIRM ID ALL [Yet/DONE]	Switches to DONE when an Intelligent Key is registered.
CONFIRM ID4 [Yet/DONE]	
CONFIRM ID3 [Yet/DONE]	
CONFIRM ID2 [Yet/DONE]	
CONFIRM ID1 [Yet/DONE]	
TP 4 [Yet/DONE]	DONE indicates the number of Intelligent Key ID which has been registered.
TP 3 [Yet/DONE]	
TP 2 [Yet/DONE]	
TP 1 [Yet/DONE]	
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 code can be read.

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:0000000012430347

ECU	Reference
ECM	EC-71, "Reference Value"
	EC-83, "Fail Safe"
	EC-85, "DTC Inspection Priority Chart"
	EC-87, "DTC Index"
BCM	BCS-30, "Reference Value"
	BCS-48, "Fail-safe"
	BCS-49, "DTC Inspection Priority Chart"
	BCS-50, "DTC Index"
IPDM E/R	PCS-13, "Reference Value"
	PCS-19, "Fail-safe"
	PCS-20, "DTC Index"

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

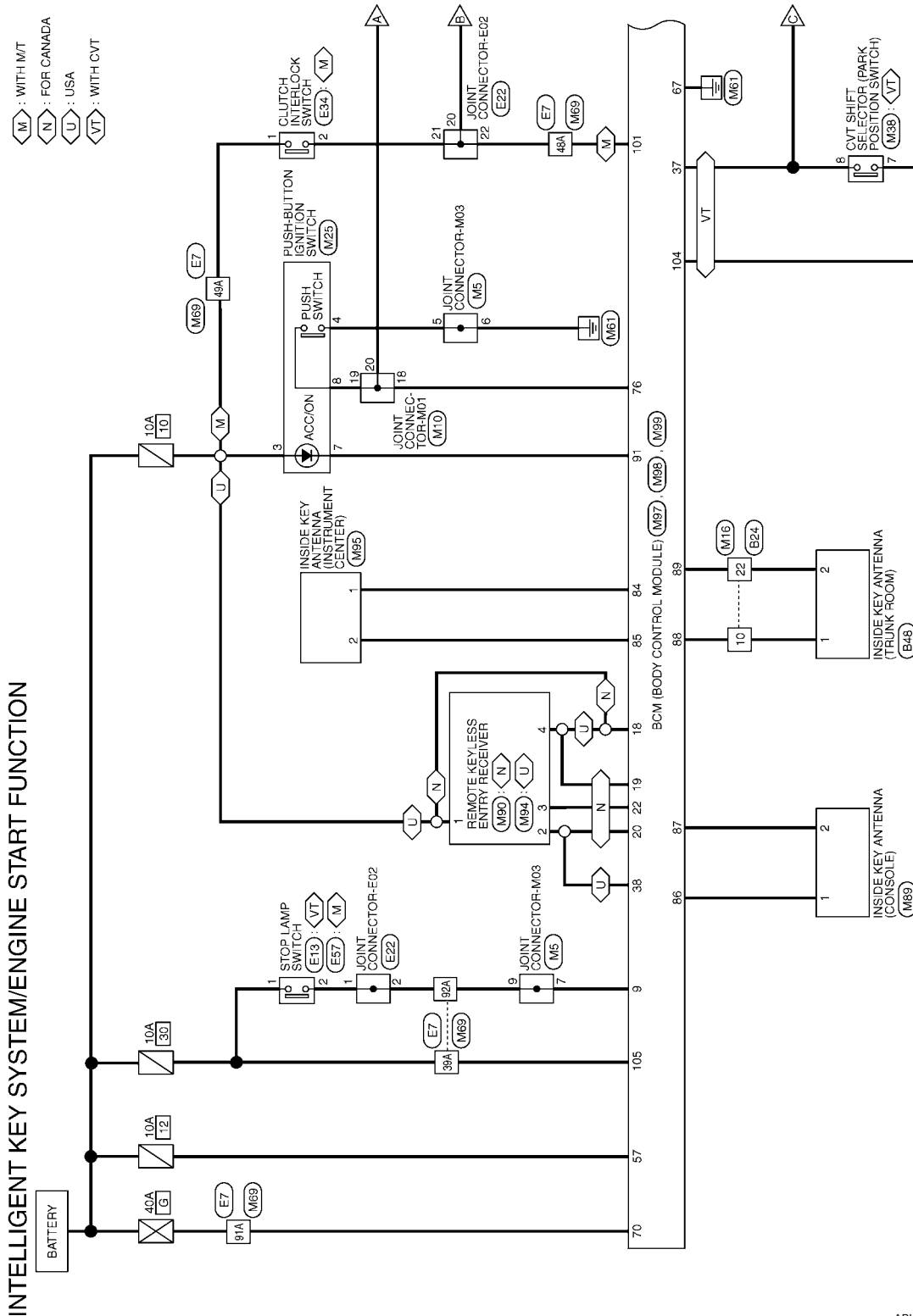
[WITH INTELLIGENT KEY SYSTEM]

WIRING DIAGRAM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram

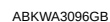
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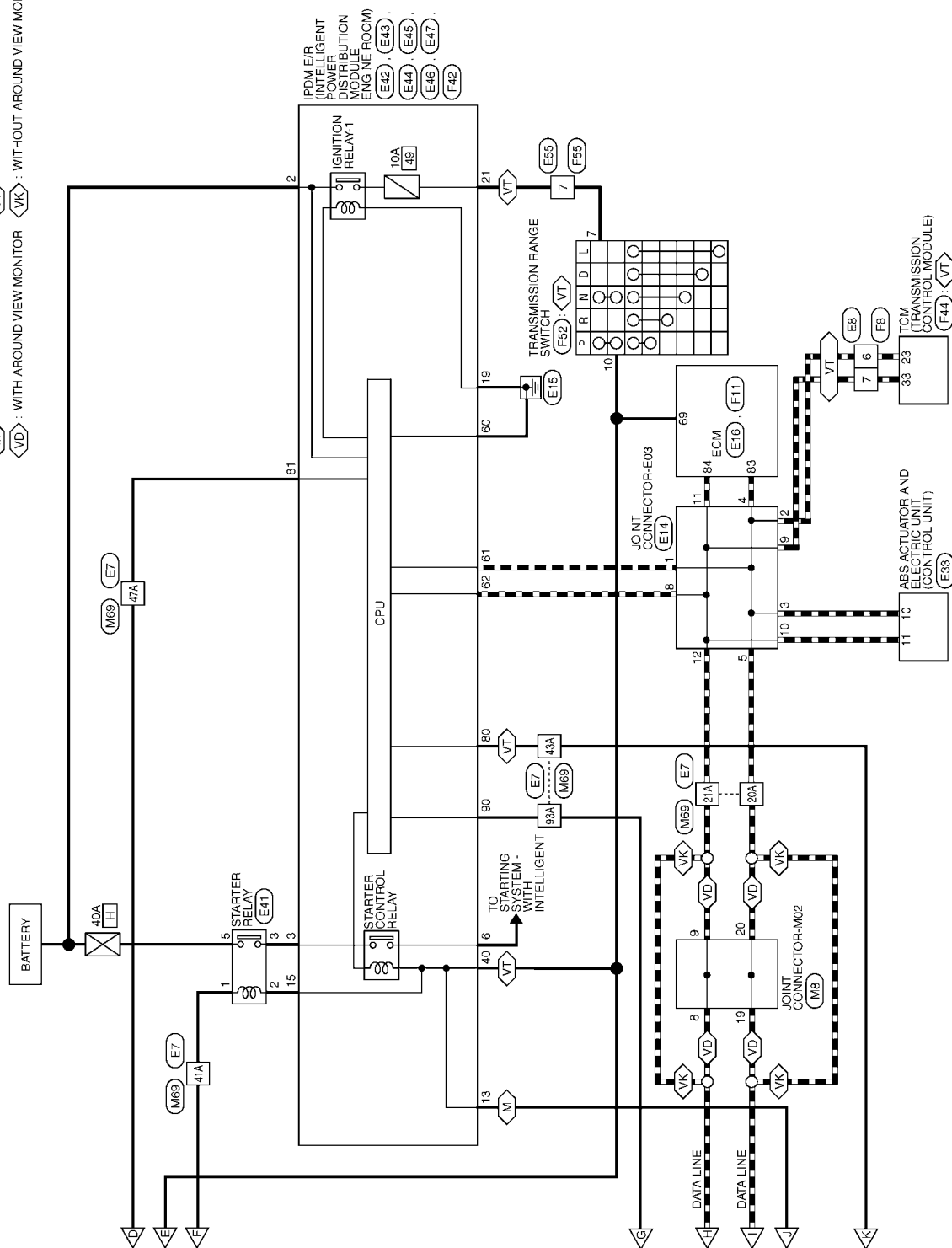
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< WIRING DIAGRAM >

 : WITH M/T  : WITH M/T
 : WITH AROUND VIEW MONITOR  : WITHOUT AROUND VIEW MONITOR



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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

Connector No.	M5
Connector Name	JOINT CONNECTOR-M03
Connector Color	WHITE

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Terminal No.	Color of Wire	Signal Name
5	B	-
6	B	-
7	LG	-
9	R	-

Connector No.	M8
Connector Name	JOINT CONNECTOR-M02
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
8	L	-
9	L	-
19	P	-
20	P	-

Connector No.	M10
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
4	L	-
7	L	-
8	L	-
13	P	-
16	P	-
17	P	-
18	L	-
19	R	-
20	W	-

Connector No.	M12
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
6	B	-
7	W	-

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
3	P	-

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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
10	V	-
15	W	-
16	BR	-
17	BG	-
18	SB	-
22	LG	-

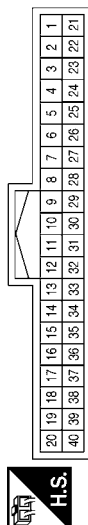
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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

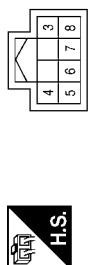
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	M24
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



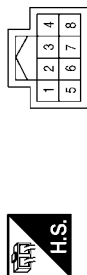
Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
18	GR	SECURITY IND
21	B	GND (ILL)
22	B	GND (POWER)
23	B	GND (CIRCUIT)
27	R/W	BAT

Connector No.	M25
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Color	WHITE



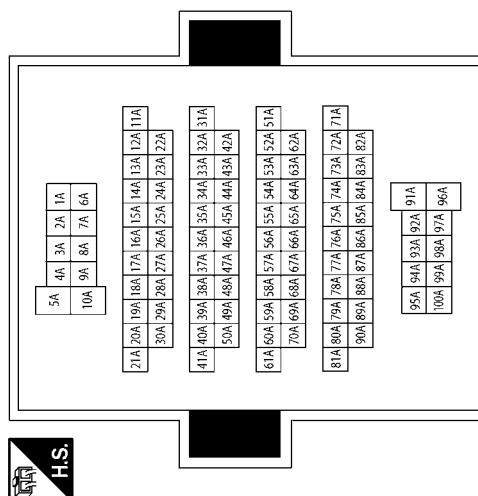
Terminal No.	Color of Wire	Signal Name
3	G	-
4	B	-
7	V	-
8	R	-

Connector No.	M38
Connector Name	CVT SHIFT SELECTOR
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	V	-
8	R	-

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



Terminal No.	Color of Wire	Signal Name
1A	GR	-
20A	P	-
21A	L	-
39A	SB	-
41A	R	-
43A	BR	-
47A	W	-
48A	V	-
49A	G	-
50A	BR	-
91A	G	-
92A	R	-
93A	BG	- (WITH INTELLIGENT KEY SYSTEM)

Connector No.	M89
Connector Name	INSIDE KEY ANTENNA (CONSOLE)
Connector Color	BLUE



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

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

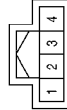
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	M95
Connector Name	INSIDE KEY ANTENNA (INSTRUMENT CENTER)
Connector Color	BLUE



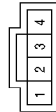
Terminal No.	Color of Wire	Signal Name
1	P	-
2	L	-

Connector No.	M94
Connector Name	REMOTE KEYLESS ENTRY RECEIVER (WITH INTELLIGENT KEY SYSTEM WITH TIRE PRESSURE MONITORING SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LG	-
2	G	-
4	V	-

Connector No.	M90
Connector Name	REMOTE KEYLESS ENTRY RECEIVER (WITH INTELLIGENT KEY SYSTEM WITHOUT TIRE PRESSURE MONITORING SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	V	-
2	G	-
3	W	-
4	LG	-

Terminal No.	Color of Wire	Signal Name
22	W	KEYLESS TUNER RSSI
23	GR	SECURITY INDICATOR OUTPUT
37	R	SHIFT P POSITION, PARKING POSITION SW
38	G	INTELLIGENT TUNER
39	L	CAN-H
40	P	CAN-L

Connector No.	M97
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



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
9	LG	BRAKE SW 1
18	V	KEYLESS TUNER
19	LG	KEYLESS TUNER POWER SUPPLY
20	G	KEYLESS TUNER SIGNAL

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	M99
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
57	Y	BATTERY (FUSE)
67	B	GND
70	G	BATTERY (F/L)

Terminal No.	Color of Wire	Signal Name
87	R	ROOM ANTENNA 2 -
88	V	ROOM ANTENNA 3 +
89	LG	ROOM ANTENNA 3 -
91	V	POWER POSITION LED (LOCK POSITION LED)
97	R	STARTER RELAY OUTPUT
98	BG	IGN RELAY OUTPUT1 (USM)
101	V	CLUTCH SW
102	BR	SHIFT N, P
104	V	AT DEVICE OUTPUT
105	SB	BRAKE SW2

71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110



Terminal No.	Color of Wire	Signal Name
76	L	ENGINE START SW
84	P	ROOM ANTENNA 1 +
85	L	ROOM ANTENNA 1 -
86	G	ROOM ANTENNA 2 +

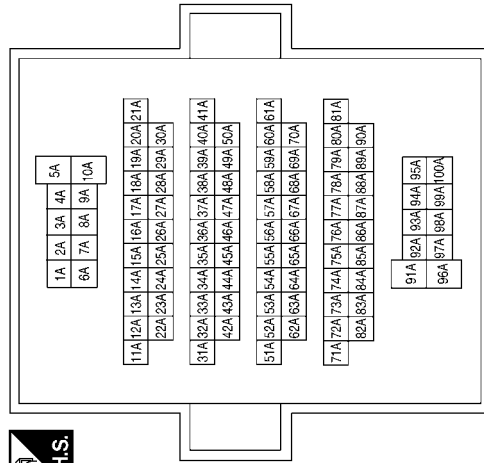
Connector No.	M100
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

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



Terminal No.	Color of Wire	Signal Name
43	P	DOOR SW BACK
45	BG	DOOR SW (AS)
46	BR	DOOR SW (RR)
47	SB	DOOR SW (DR)
48	W	DOOR SW (RL)

Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Color	WHITE



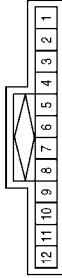
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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E14
Connector Name	JOINT CONNECTOR-E03
Connector Color	BLUE



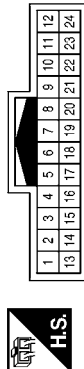
Terminal No.	Color of Wire	Signal Name
1	P	-
2	P	-
3	P	-
4	P	-
5	P	-
8	L	-
9	L	-
10	L	-
11	L	-
12	L	-

Connector No.	E13
Connector Name	STOP LAMP SWITCH (WITH CVT)
Connector Color	WHITE



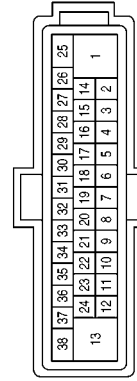
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	LG	-

Connector No.	E8
Connector Name	WIRE TO WIRE
Connector Color	WHITE



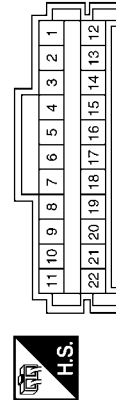
Terminal No.	Color of Wire	Signal Name
6	P	-
7	L	-
15	V	-

Connector No.	E33
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Color	BLACK



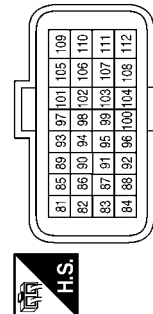
Terminal No.	Color of Wire	Signal Name
10	P	CAN-L
11	L	CAN-H

Connector No.	E22
Connector Name	JOINT CONNECTOR-E02
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LG	-
2	LG	-
20	R	-
21	V	-
22	LG	-

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
83	P	CAN-L
84	L	CAN-H

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
2	Y	F/L MAIN (+B2)

Connector No.	E41
Connector Name	STARTER RELAY
Connector Color	BLUE



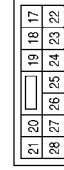
Terminal No.	Color of Wire	Signal Name
1	G	-
2	LG	-
3	SB	-
5	L	-

Connector No.	E34
Connector Name	CLUTCH INTERLOCK SWITCH
Connector Color	BROWN



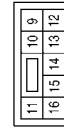
Terminal No.	Color of Wire	Signal Name
1	Y	- (WITH INTELLIGENT KEY SYSTEM)
2	V	- (WITH INTELLIGENT KEY SYSTEM)

Connector No.	E45
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
19	B	P-GND
21	R	AT ECU (WITH CVT)

Connector No.	E44
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
13	R	CLUTCH I/L SW (WITH INTELLIGENT KEY SYSTEM)
15	LG	ST RLY COIL

Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
3	SB	F/L GNSW (WITH INTELLIGENT KEY SYSTEM)
6	R	STARTER MOTOR

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	GRAY

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



Terminal No.	Color of Wire	Signal Name
6	GR	-
7	R	-

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

84	83	82	81	80	79	78	77
92	91	90	89	88	87	86	85



Terminal No.	Color of Wire	Signal Name
80	R	DETENT SW
81	SB	PUSH START SW
90	L	IGN SIGNAL

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

64	63	62	61	60	59	58	57	56	55	54	53
76	75	74	73	72	71	70	69	68	67	66	65



Terminal No.	Color of Wire	Signal Name
60	B	S GND
61	P	CAN-L
62	L	CAN-H

Connector No.	F11
Connector Name	ECM
Connector Color	BROWN

33	37	41	45	49	53	57	61	65	69	73	77
34	38	42	46	50	54	58	62	66	70	74	78
35	39	43	47	51	55	59	63	67	71	75	79
36	40	44	48	52	56	60	64	68	72	76	80



Terminal No.	Color of Wire	Signal Name
69	BR	PARK/NEUTRAL POSITION SWITCH

Connector No.	F8
Connector Name	WIRE TO WIRE
Connector Color	WHITE

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
6	P/L	-
7	L/G	-
15	BR	-

Connector No.	E57
Connector Name	STOP LAMP SWITCH (WITH M/T)
Connector Color	BLACK

2	1
---	---



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	LG	-

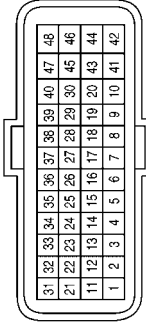
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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

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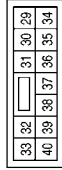
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	F44
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



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

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



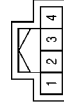
Terminal No.	Color of Wire	Signal Name
40	BR	NPSW

Connector No.	F24
Connector Name	PARK/NEUTRAL POSITION (PNP) SWITCH
Connector Color	GREEN



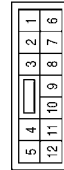
Terminal No.	Color of Wire	Signal Name
2	R	-
3	BR	-

Connector No.	B6
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE



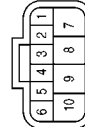
Terminal No.	Color of Wire	Signal Name
3	V	-

Connector No.	F55
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
6	R	-
7	R	-

Connector No.	F52
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
7	R	-
10	BR	-

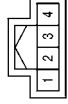
AAKIA2274GB

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

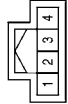
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	B17
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE



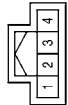
Terminal No.	Color of Wire	Signal Name
3	R	-

Connector No.	B16
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	L	-

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



Terminal No.	Color of Wire	Signal Name
3	LG	-

Connector No.	B48
Connector Name	INSIDE KEY ANTENNA (TRUNK ROOM)
Connector Color	BLUE



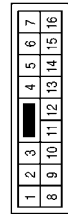
Terminal No.	Color of Wire	Signal Name
1	V	-
2	LG	-

Connector No.	B24
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
10	V	-
15	V	-
16	R	-
17	L	-
18	LG	-
22	LG	-

Connector No.	B23
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	P	-

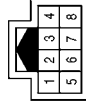
AAKIA2275GB

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

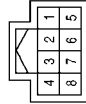
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	D503
Connector Name	WIRE TO WIRE
Connector Color	WHITE



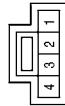
Terminal No.	6	Color of Wire	P	Signal Name	-
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Connector No.	B53
Connector Name	WIRE TO WIRE
Connector Color	WHITE



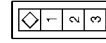
Terminal No.	6	Color of Wire	P	Signal Name	-
--------------	---	---------------	---	-------------	---

Connector No.	B52
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	2	Color of Wire	B	Signal Name	-
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Connector No.	D509
Connector Name	BACK DOOR SWITCH
Connector Color	WHITE



Terminal No.	1	Color of Wire	P	Signal Name	-
	3		B		-

Connector No.	D504
Connector Name	WIRE TO WIRE
Connector Color	WHITE



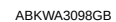
Terminal No.	2	Color of Wire	B	Signal Name	-
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AAKIA2276GB

[WITH INTELLIGENT KEY SYSTEM]

Wiring Diagram

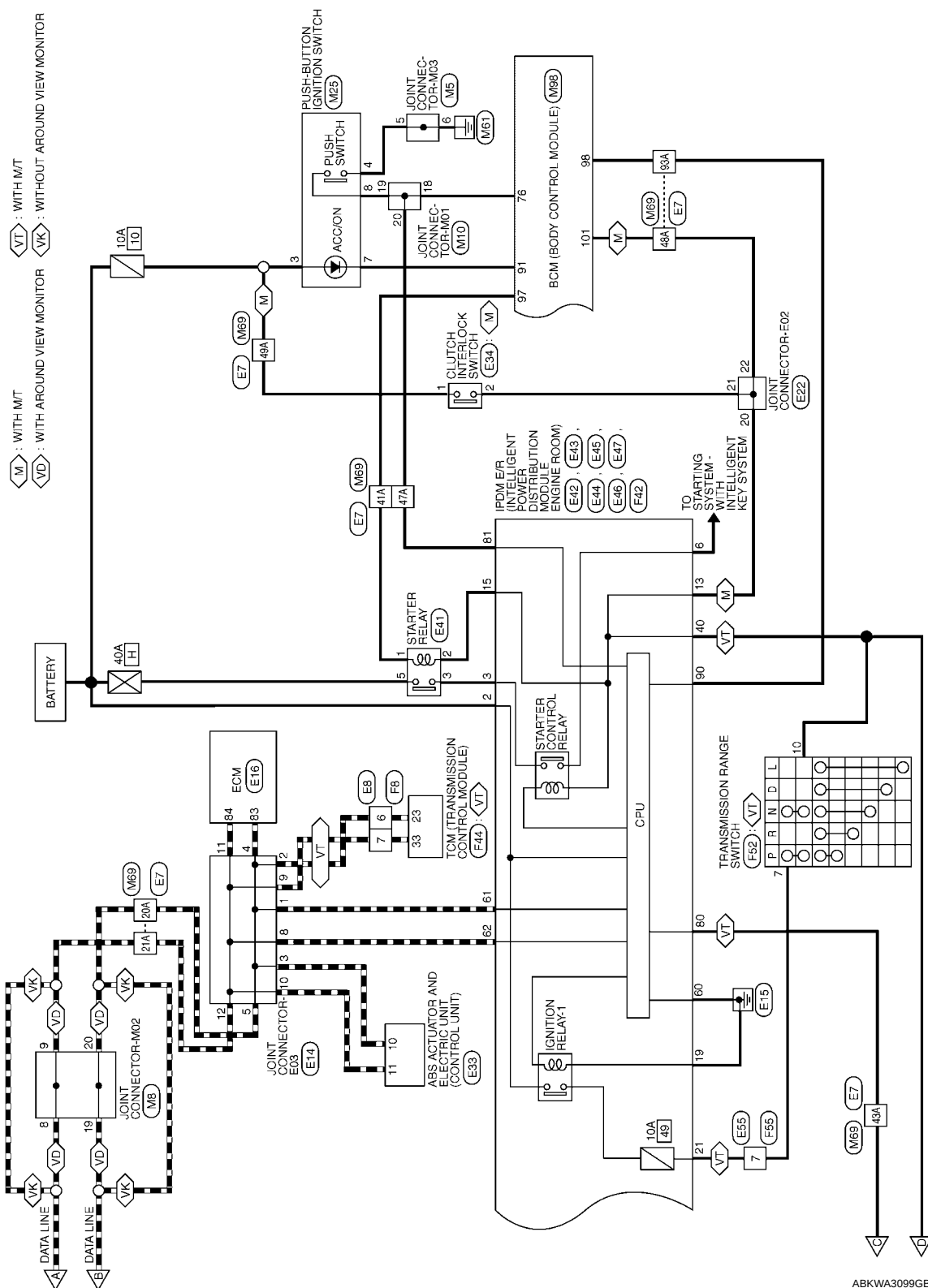
A
B
C
D
E
F
G
H
I
J
REC
L
M
N
O
P



NVIS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



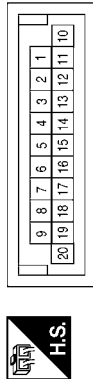
NVIS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

Connector No.	M5
Connector Name	JOINT CONNECTOR-M03
Connector Color	WHITE



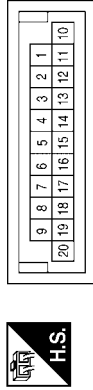
Terminal No.	Color of Wire	Signal Name
5	B	-
6	B	-
7	LG	-
9	R	-

Connector No.	M6
Connector Name	DONGLE UNIT
Connector Color	WHITE



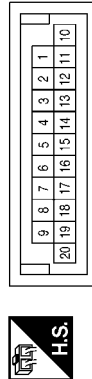
Terminal No.	Color of Wire	Signal Name
1	SB	-
4	B	-

Connector No.	M8
Connector Name	JOINT CONNECTOR-M02
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
8	L	-
9	L	-
19	P	-
20	P	-

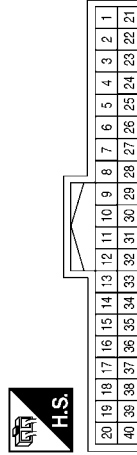
Connector No.	M10
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



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



Connector No.	M24
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4	L	-
7	L	-
8	L	-
13	P	-
16	P	-
17	P	-
18	L	-
19	R	-
20	W	-

Terminal No.	Color of Wire	Signal Name
1	BR	-
2	P	-
3	LG	-(WITH INTELLIGENT KEY SYSTEM)
4	B	-(WITH INTELLIGENT KEY SYSTEM)

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
18	GR	SECURITY IND
21	B	GND (ILL)
22	B	GND (POWER)
23	B	GND (CIRCUIT)
27	R/W	BAT

ABKIA7103GB

NVIS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	M25
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Color	WHITE



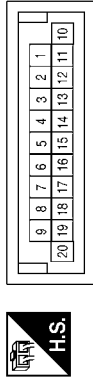
Terminal No.	Color of Wire	Signal Name
3	G	-
4	B	-
7	V	-
8	R	-

Connector No.	M38
Connector Name	CVT SHIFT SELECTOR
Connector Color	WHITE



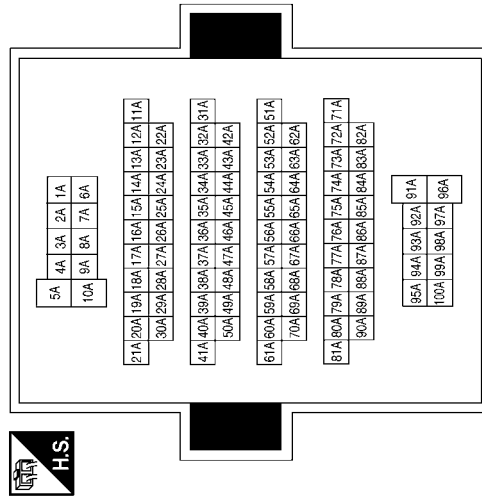
Terminal No.	Color of Wire	Signal Name
7	V	-
8	R	-

Connector No.	M51
Connector Name	JOINT CONNECTOR-M04
Connector Color	BLUE

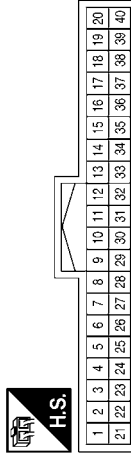


Terminal No.	Color of Wire	Signal Name
18	LG	-
20	V	-

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



Connector No.	M97
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
9	LG	BRAKE SW 1
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)
23	GR	SECURITY INDICATOR OUTPUT
24	SB	DONGLE LINK (SERIAL)
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
37	R	SHIFT P POSITION, PARKING POSITION SW
39	L	CAN-H
40	P	CAN-L

Terminal No.	Color of Wire	Signal Name
1A	GR	-
20A	P	-
21A	L	-
37A	V	-
38A	R	-
39A	SB	-
41A	R	-
43A	BR	-
47A	W	-
48A	V	-
49A	G	-
50A	BR	-
91A	G	-
92A	R	-
93A	BG	- (WITH INTELLIGENT KEY SYSTEM)
97A	BR	-

NVIS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	M99
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

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



Terminal No.	Color of Wire	Signal Name
57	Y	BATTERY (FUSE)
67	B	GND
70	G	BATTERY (F/L)

Terminal No.	Color of Wire	Signal Name
76	L	ENGINE START SW
91	V	POWER POSITION LED (LOCK POSITION)
93	R	SMART KEYLESS BUZZER OUTPUT
98	BG	STARTER RELAY OUTPUT
101	V	CLUTCH SW
102	BR	SHIFT N. P
104	V	AT DEVICE OUTPUT
105	SB	BRAKE SW2

Connector No.	M98
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110

Connector No.	E8
Connector Name	WIRE TO WIRE
Connector Color	WHITE

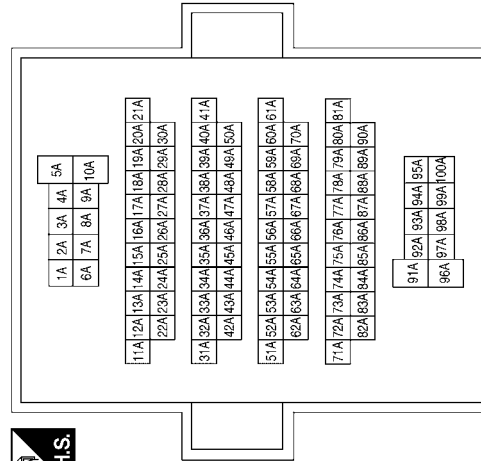
1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24



Terminal No.	Color of Wire	Signal Name
6	P	-
7	L	-
15	V	-

Terminal No.	Color of Wire	Signal Name
1A	GR	-
20A	P	-
21A	L	-
37A	W	-
38A	R	-
39A	SB	-
41A	G	-
43A	R	-
47A	SB	-
48A	LG	-
49A	Y	-
50A	V	-
91A	Y	-
92A	LG	-
93A	L	-
97A	G/B	-

Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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NVIS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

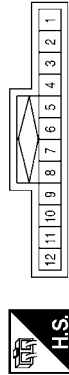
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E13
Connector Name	STOP LAMP SWITCH (WITH CVT)
Connector Color	WHITE



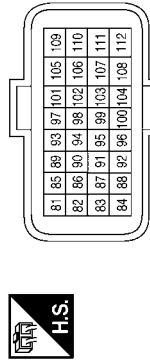
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	LG	-

Connector No.	E14
Connector Name	JOINT CONNECTOR-E03
Connector Color	BLUE



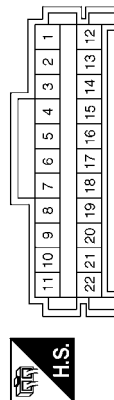
Terminal No.	Color of Wire	Signal Name
1	P	-
2	P	-
3	P	-
4	P	-
5	P	-
8	L	-
9	L	-
10	L	-
11	L	-
12	L	-

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK



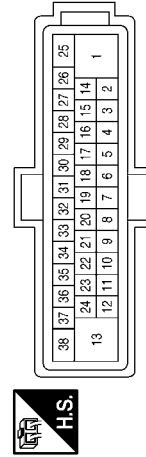
Terminal No.	Color of Wire	Signal Name
83	P	CAN-L
84	L	CAN-H

Connector No.	E22
Connector Name	JOINT CONNECTOR-E02
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LG	-
2	LG	-
20	R	-
21	V	-
22	LG	-

Connector No.	E33
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
10	P	CAN-L
11	L	CAN-H

Connector No.	E34
Connector Name	CLUTCH INTERLOCK SWITCH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	Y	-(WITH INTELLIGENT KEY SYSTEM)
2	V	-(WITH INTELLIGENT KEY SYSTEM)

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NVIS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



5	4	3
8	7	6

Terminal No.	Color of Wire	Signal Name
3	SB	F/L IGNSW (WITH INTELLIGENT KEY SYSTEM)
6	R	STARTER MOTOR

Connector No.	E42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



1	2
---	---

Terminal No.	Color of Wire	Signal Name
2	Y	F/L MAIN (+B2)

Connector No.	E41
Connector Name	STARTER RELAY
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	G	-
2	LG	-
3	SB	-
5	L	-

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



64	63	62	61	60	59	58	57	56	55	54	53
76	75	74	73	72	71	70	69	68	67	66	65

Terminal No.	Color of Wire	Signal Name
60	B	S GND
61	P	CAN-L
62	L	CAN-H

Connector No.	E45
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



21	20	19		18	17	
28	27	26	25	24	23	22

Terminal No.	Color of Wire	Signal Name
19	B	P-GND
21	R	AT ECU (WITH CVT)

Connector No.	E44
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



11		10	9	
16	15	14	13	12

Terminal No.	Color of Wire	Signal Name
13	R	CLUTCH /L SW (WITH INTELLIGENT KEY SYSTEM)
15	LG	ST RLY COIL

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NVIS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

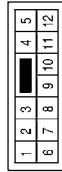
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E57
Connector Name	STOP LAMP SWITCH (WITH M/T)
Connector Color	BLACK



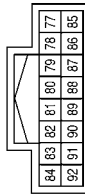
Terminal No.	Color of Wire	Signal Name
1	SB	-
2	LG	-

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
6	GR	-
7	R	-
9	G/B	-

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



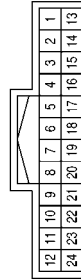
Terminal No.	Color of Wire	Signal Name
80	R	DETENT SW
81	SB	PUSH START SW
90	L	IGN SIGNAL

Connector No.	F24
Connector Name	PARK/NEUTRAL POSITION (PNP) SWITCH
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
2	R	-
3	BR	-

Connector No.	F8
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	P/L	-
7	L/G	-
15	BR	-

Connector No.	E70
Connector Name	INTELLIGENT KEY WARNING BUZZER
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	W	-
3	R	-

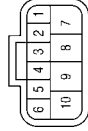
AAKIA2283GB

NVIS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

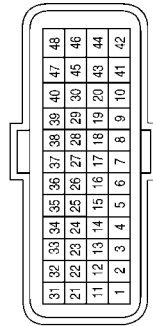
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	F52
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



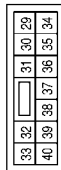
Terminal No.	Color of Wire	Signal Name
7	R	-
10	BR	-

Connector No.	F44
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



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

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



Terminal No.	Color of Wire	Signal Name
35	BR	ECM BAT
40	BR	NPSW

Connector No.	F55
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
6	R	-
7	R	-
9	BR	-

AAKIA2284GB

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

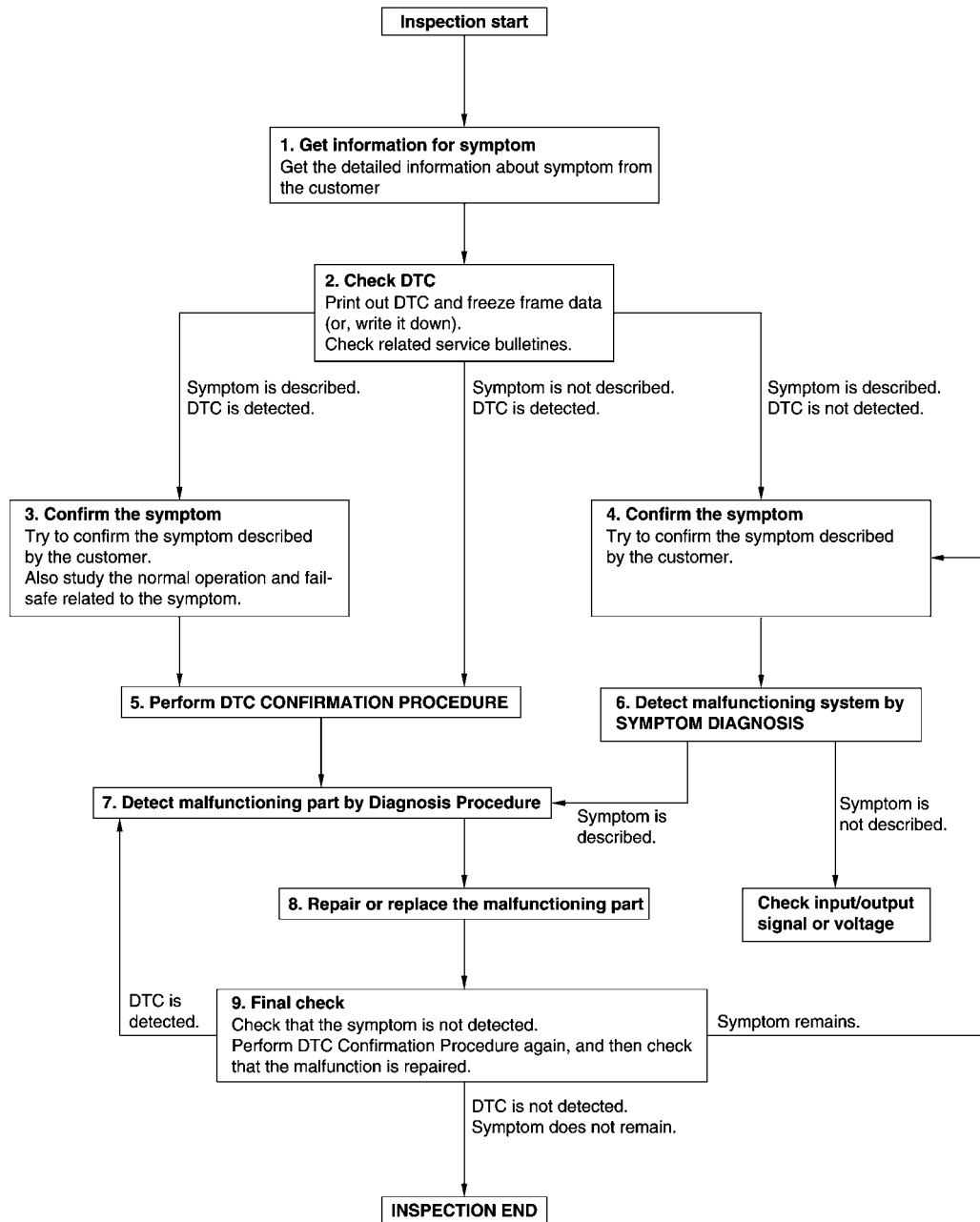
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000012430350

OVERALL SEQUENCE



cardiagn.com

DETAILED FLOW

Revision: August 2015

SEC-46

JMKIA8652GB

2016 Versa Note

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

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-49. "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-42. "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

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-42, "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

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM

ECM : Description

INFOID:0000000012430351

When replacing ECM, this procedure must be performed.

ECM : Work Procedure

INFOID:0000000012430352

1.PERFORM INITIALIZATION OF NATS SYSTEM AND REGISTRATION OF ALL NATS IGNITION KEY IDS

Perform BCM initialization. (NATS)

>> GO TO 2.

2.PERFORM ACCELERATOR PEDAL RELEASED POSITION LEARNING

Refer to [EC-128, "Work Procedure"](#).

>> GO TO 3.

3.PERFORM THROTTLE VALVE CLOSED POSITION LEARNING

Refer to [EC-129, "Work Procedure"](#).

>> GO TO 4.

4.PERFORM IDLE AIR VOLUME LEARNING

Refer to [EC-130, "Work Procedure"](#).

>> END

BCM

BCM : Description

INFOID:0000000012542548

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) (if equipped).

BCM : Work Procedure

INFOID:0000000012542549

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to [BCS-59, "Description"](#).

NOTE:

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

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-74, "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-59, "Work Procedure"](#).

>> GO TO 4.

4. REGISTER INTELLIGENT KEYS

For initialization and registration of Intelligent Keys, refer to CONSULT immobilizer mode and follow the on-screen instructions.

>> WORK END

DTC/CIRCUIT DIAGNOSIS

P1610 LOCK MODE

Description

INFOID:0000000012430355

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:0000000012430356

DTC DETECTION LOGIC

NOTE:

If DTC P1610 is displayed with other DTC (for BCM or ENGINE), first perform the trouble diagnosis for other DTC.

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

- Turn ignition switch ON.
- Check DTC in "Self Diagnostic Result" of "ENGINE" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-51. "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430357

1.CHECK ENGINE START FUNCTION

- Check that DTC except for DTC P1610 is not detected.
If detected, erase the DTC after fixing.
- Turn ignition switch OFF.
- Depress brake pedal and contact the registered Intelligent Key backside to push-button ignition switch, then wait 5 seconds.
- Turn ignition switch ON.
- Turn ignition switch OFF and wait 5 seconds.
- Repeat steps 3 and 5 twice (a total of 3 times).
- Check that engine can start.

>> Inspection End.

P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000012430358

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 invalid.	• 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-52, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430359

1.PERFORM INITIALIZATION

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 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-52, "DTC Logic"](#).

Is DTC detected?

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

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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-477, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-125, "Work Procedure"](#).

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1612 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000012430360

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000 (for BCM), first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC P1612 is displayed with DTC U1010 (for BCM), first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to [SEC-53, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430361

1.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

Does the engine start?

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

2.REPLACE ECM

1. Replace ECM.
Refer to [EC-477, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-125, "Work Procedure"](#).

>> Inspection End.

B2192 ID DISCORD, IMMU-ECM**DTC Logic**

INFOID:0000000012430362

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.	• 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-54, "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430363

1.PERFORM INITIALIZATION

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 2.

2.CHECK SELF-DIAGNOSIS RESULT

1. Select "Self Diagnostic Result" of "BCM" using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2192. Refer to [SEC-54, "DTC Logic"](#).

Is DTC detected?

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

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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-477, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-125, "Work Procedure"](#).

>> Inspection End.

B2193 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2193 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000012430364

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "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.) • 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-55, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430365

1.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

Does the engine start?

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

2.REPLACE ECM

1. Replace ECM.
Refer to [EC-477, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-125, "Work Procedure"](#).

>> Inspection End.

B2195 ANTI-SCANNING

DTC Logic

INFOID:000000012430366

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2195	ANTI-SCANNING	ID verification between BCM and ECM that is out of the specified specification is detected.	ID verification request out of the specified specification

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 >> Refer to [SEC-56, "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012430367

1.CHECK SELF DIAGNOSTIC RESULT 1

1. Select "Self Diagnostic Result" of "BCM" using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to [SEC-56, "DTC Logic"](#).

Is DTC detected?

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

2.CHECK EQUIPMENT OF THE VEHICLE

Check that unspecified accessory part related to engine start is not installed.

Is unspecified accessory part related to engine start installed?

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

3.CHECK SELF DIAGNOSTIC RESULT 2

1. Obtain the customers approval to remove unspecified accessory part related to engine start, and then remove it.
2. Select "Self Diagnostic Result" of "BCM" using CONSULT.
3. Erase DTC.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to [SEC-56, "DTC Logic"](#).

Is DTC detected?

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

4.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2196 DONGLE UNIT

Description

INFOID:0000000012430368

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

DTC Logic

INFOID:0000000012430369

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2196	DONGLE NG	The ID verification results between BCM and dongle unit is invalid.	• 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 DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is the DTC detected?

- YES >> Refer to [SEC-57, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430370

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and registration of all mechanical keys using CONSULT.
For initialization and registration procedures, refer to CONSULT Immobilizer mode and follow the on-screen instructions.
2. Start the engine.

Does 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	
M97	24	M6	1	Yes

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M97	24		No

Is the inspection result normal?

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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		
M6	4		Yes

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:0000000012430371

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-13, "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-59, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430372

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK FUSE

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

Signal name	Fuse No.
Battery power supply	53 (20 A)

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace the blown fuse after repairing the cause of blowing.

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		
M21	1	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 IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and NATS antenna amp. connector.

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

IPDM E/R		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
F42	35	M21	1	Yes

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).

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		
M21	4		Yes

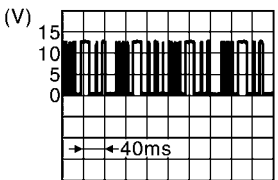
Is the inspection result normal?

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.		(-)	Condition	Voltage (V) (Approx.)
Connector	Terminal			
M21	2	Ground	Intelligent Key: Intelligent 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	
M21	2	M97	21	Yes

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

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M21	2		No

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

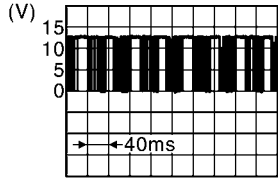
7. CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 2

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

(+) NATS antenna amp.		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
M21	3	Ground	IntelligentKey: Intelligent Key battery is removed.	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed.	
				Brake pedal: Not depressed	Battery voltage

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to [SEC-114, "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	
M21	3	M97	25	Yes

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

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M21	3		No

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

9. REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2555 STOP LAMP

DTC Logic

INFOID:0000000012430373

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Depress brake pedal and wait 1 second or more.
2. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-62. "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430374

Regarding Wiring Diagram information, refer to [SEC-37. "Wiring Diagram"](#).

1.CHECK STOP LAMP SWITCH INPUT SIGNAL 1

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

(+)		(-)	Voltage (V) (Approx.)
BCM			
Connector	Terminal		
M98	105	Ground	Battery voltage

Is the inspection normal?

- YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No. 30, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between BCM and fuse.

2.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Disconnect stop lamp switch connector.
2. Check voltage between stop lamp switch harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Stop lamp switch			
Connector	Terminal		
E13 (CVT)	1	Ground	Battery voltage
E57 (MT)			

Is the inspection result normal?

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

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3.CHECK STOP LAMP SWITCH INPUT SIGNAL 2

1. Connect stop lamp switch connector.
2. Check voltage between BCM harness connector and ground.

(+)		(-)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
M97	9	Ground	Brake pedal	Depressed	Battery voltage
				Not depressed	0

Is the inspecting result normal?

YES >> GO TO 4.

NO >> GO TO 5.

4.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

5.CHECK STOP LAMP SWITCH CIRCUIT

1. Disconnect stop lamp switch connector.
2. Check continuity between stop lamp switch harness connector and BCM harness connector.

Stop lamp switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E13 (CVT)	2	M97	9	Yes
E57 (MT)				

3. Check continuity between stop lamp switch harness connector and ground.

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E13 (CVT)	2		No
E57 (MT)			

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6.CHECK STOP LAMP SWITCH

Refer to [SEC-63, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace stop lamp switch. Refer to [BR-20, "Exploded View"](#).

7.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

Component Inspection

INFOID:0000000012430375

1.CHECK STOP LAMP SWITCH

1. Turn ignition switch OFF.

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

2. Disconnect stop lamp switch connector.
3. Check continuity between stop lamp switch terminals.

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

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Replace stop lamp switch. Refer to [BR-20. "Exploded View"](#).

B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:0000000012430376

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2556	ENG START 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-65, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430377

Regarding Wiring Diagram information, refer to [SEC-37, "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		
M25	8	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	
M25	8	M98	76	Yes

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M25	8		No

B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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 GROUND CIRCUIT

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M25	4		Yes

Is the inspection result normal?

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

5.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to [SEC-66, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 6.
NO >> Replace push-button ignition switch. Refer to [SEC-115, "Removal and Installation"](#).

6.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

Component Inspection

INFOID:0000000012430378

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	8	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-115, "Removal and Installation"](#).

B2557 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2557 VEHICLE SPEED

DTC Logic

INFOID:0000000012430379

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "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-67, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430380

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-43, "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-24, "DTC Index"](#).
NO >> GO TO 3.

3.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2601 SHIFT POSITION

DTC Logic

INFOID:0000000012430381

DTC DETECTION LOGIC

NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2601	SHIFT P SIGNAL	When there is a difference between P range signal from CVT shift selector (park position switch) and P position signal from IPDM E/R (CAN).	• Harness or connectors (CAN communication line is open or shorted.) • Harness or connectors [CVT shift selector (park position switch) circuit is open or shorted.] • IPDM E/R • 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 2 seconds or more.
3. Shift the selector lever to any position other than P and wait 2 seconds or more.
4. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-68, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430382

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK CVT SHIFT SELECTOR CIRCUIT (BCM)

1. Turn ignition switch OFF.
2. Disconnect CVT shift selector (park position switch) connector.
3. Disconnect BCM connector.
4. 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	
M38	8	M97	37	Yes

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

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M38	8		No

Is the inspection result normal?

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

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

2. CHECK CVT SHIFT SELECTOR CIRCUIT (IPDM E/R)

1. Disconnect IPDM E/R connector.
2. Check continuity between CVT shift selector (park position switch) harness connector and IPDM E/R harness connector.

CVT shift selector (park position switch)		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
M38	8	E47	80	Yes

Is the inspection result normal?

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

3. REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2601. Refer to [SEC-68, "DTC Logic"](#).

Is DTC B2601 detected again?

- YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).
NO >> Inspection End.

B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2602 SHIFT POSITION

DTC Logic

INFOID:0000000012430383

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT P DIAG	BCM detects the following status for 10 seconds: • Selector lever is in the P position. • Vehicle speed is 4 km/h (2.5 MPH) or more. • Ignition switch is in the ON position.	• Harness or connectors (The 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

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-70, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430384

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

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-43, "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-24, "DTC Index"](#).
NO >> GO TO 3.

3.CHECK CVT SHIFT SELECTOR POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect CVT shift selector (park position switch) connector.
3. Check voltage between CVT shift selector (park position switch) harness connector and ground.

B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

(+)		(-)	Voltage (V) (Approx.)
CVT shift selector (park position switch)			
Connector	Terminal		
M38	7	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 4.

4.CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

1. Disconnect BCM 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	
M38	7	M98	104	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		
M38	7		No

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.REPLACE BCM

1. Replace BCM. Refer to [PCS-30. "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.

6.CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM connector and IPDM E/R 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	
M38	8	M97	37	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		
M38	8		No

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7.CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to [SEC-72. "Component Inspection"](#).

Is the inspection result normal?

B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- YES >> GO TO 8.
NO >> Replace CVT shift selector. Refer to [TM-231, "Removal and Installation"](#).

8.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

Component Inspection

INFOID:0000000012430385

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				
7	8	Selector lever: P position	Selector button: Released	No
			Selector button: Pressed	Yes
		Selector lever: Other than P position		

Is the inspection result normal?

- YES >> Inspection End.
NO >> Replace CVT shift selector. Refer to [TM-231, "Removal and Installation"](#).

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2603 SHIFT POSITION

DTC Logic

INFOID:0000000012430386

DTC DETECTION LOGIC

NOTE:

- If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to [SEC-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSITION	BCM detects the following status when ignition switch is in the ON position: - Transmission range switch signal: approx. 0 V. - CVT shift selector (park position switch) signal: approx. 0 V.	- Harness or connector [CVT shift selector (park position switch) circuit is open or shorted.] - Harness or connectors (Transmission range switch circuit is open or shorted.) - CVT shift selector (park position switch) - Transmission range switch - BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

- Shift the selector lever to the P position.
- Turn ignition switch ON and wait 1 second or more.
- Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-73, "Diagnosis Procedure"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

- Shift the selector lever to the position other than P and N, and wait 1 second or more.
- 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:0000000012430387

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.INSPECTION START

Perform inspection in accordance with procedure that confirms DTC.

Which procedure confirms DTC?

- DTC confirmation procedure 1>>GO TO 2.
DTC confirmation procedure 2>>GO TO 8.

2.CHECK FUSE

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

Signal name	Fuse No.
Ignition power supply	49 (10 A)

Is the inspection result normal?

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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		
F52	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	
F52	7	E45	21	Yes

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-30. "Removal and Installation"](#).

NO >> Repair or replace harness.

5.CHECK BCM INPUT SIGNAL

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

(+)		(-)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
M98	102	Ground	Selector lever	P or N position	Battery voltage
				Other than above	0

Is the inspection result normal?

YES >> GO TO 13.

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	
F52	10	M98	102	Yes

Is the inspection result normal?

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

7.CHECK TRANSMISSION RANGE SWITCH

Refer to [SEC-76. "Component Inspection \(Transmission Range Switch\)".](#)

Is the inspection result normal?

- YES >> GO TO 12.
NO >> Replace transmission range switch.

8.CHECK CVT SHIFT SELECTOR POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect CVT shift selector (park position switch) connector.
3. Check voltage between CVT shift selector (park position switch) harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
CVT shift selector (park position switch)			
Connector	Terminal		
M38	7	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 10.
NO >> GO TO 9.

9.CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

1. Disconnect BCM 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	
M38	7	M98	104	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		
M38	7		No

Is the inspection result normal?

- YES >> GO TO 12.
NO >> Repair or replace harness.

10.CHECK CVT SHIFT SELECTOR CIRCUIT

1. Disconnect BCM 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	
M38	8	M97	37	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		
M38	8		No

Is the inspection result normal?

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- YES >> GO TO 11.
NO >> Repair or replace harness.

11.CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to [SEC-76. "Component Inspection \[CVT Shift Selector \(Park Position Switch\)\]"](#).

Is the inspection result normal?

- YES >> GO TO 13.
NO >> Replace CVT shift selector. Refer to [TM-231. "Removal and Installation"](#).

12.CHECK INTERMITTENT INCIDENT

Refer to [GI-42. "Intermittent Incident"](#).

>> Inspection End.

13.REPLACE BCM

1. Replace BCM. Refer to [BCS-74. "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.

Component Inspection (Transmission Range Switch)

INFOID:0000000012430388

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.

Component Inspection [CVT Shift Selector (Park Position Switch)]

INFOID:0000000012430389

1.CHECK CVT SHIFT SELECTOR (DETENTION 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 (detention switch)		Condition		Continuity
Terminal				
7	8	Selector lever: P position	Selector button: Released	No
			Selector button: Pressed	Yes
		Selector lever: Other than P position		

Is the inspection result normal?

- YES >> Inspection End.
NO >> Replace CVT shift selector. Refer to [TM-231. "Removal and Installation"](#).

B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2604 SHIFT POSITION

DTC Logic

INFOID:0000000012430390

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "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-77, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430391

Regarding Wiring Diagram information, refer to [SEC-37, "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-110, "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	49 (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.

B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

(+)		(-)	Voltage (V) (Approx.)
Transmission range switch			
Connector	Terminal		
F52	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	
F52	7	E45	21	Yes

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-30, "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				
M98	102	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	
F52	10	M98	102	Yes

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

Transmission range switch		Ground	Continuity
Connector	Terminal		
F52	10		No

Is the inspection result normal?

B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

7.CHECK TRANSMISSION RANGE SWITCH

Refer to [SEC-79, "Component Inspection"](#).

Is the inspection result normal?

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

8.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

9.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

Component Inspection

INFOID:0000000012430392

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.

B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2605 SHIFT POSITION

DTC Logic

INFOID:0000000012430393

DTC DETECTION LOGIC

NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2605	SHIFT PN DIAG IPDM	When ignition switch is ON, P/N position signal input from transmission range switch and P/N position signal (CAN) input from IPDM E/R do not match.	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connectors (Transmission range switch circuit is open or shorted.) • Transmission range switch • IPDM E/R • 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 1 second or more.
3. Shift the selector lever to the N position and wait 1 second or more.
4. Shift the selector lever to any position other than P and N, and wait 1 second or more.
5. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-80, "Diagnosis Procedure"](#).
- NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430394

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK IPDM E/R INPUT SIGNAL

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

(+)		(-)	Condition		Voltage (V) (Approx.)
IPDM E/R					
Connector	Terminal				
F42	40	Ground	Selector lever	P or N position	Battery voltage
				Other than above	0

Is the inspection result normal?

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

2.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Disconnect transmission range switch connector.

B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

4. Check continuity between IPDM E/R harness connector and transmission range switch harness connector.

IPDM E/R		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	
F42	40	F52	10	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
F42	40		No

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

3.CHECK BCM INPUT SIGNAL

1. Check voltage between BCM harness connector and ground.

(+) BCM		(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
M98	102	Ground	Selector lever	P or N position	Battery voltage
				Other than above	0

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK BCM INPUT SIGNAL CIRCUIT

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

BCM		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	
M98	102	F52	10	Yes

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

BCM		Ground	Continuity
Connector	Terminal		
M98	102		No

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "Removal and Installation"](#).
2. Perform initialization of BCM using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.
3. Perform DTC CONFIRMATION PROCEDURE for B2605. Refer to [SEC-80, "DTC Logic"](#).

Is DTC B2605 detected again?

YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).

NO >> Inspection End.

B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2608 STARTER RELAY

DTC Logic

INFOID:0000000012430395

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "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-82, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430396

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK DTC OF IPDM E/R

Check DTC in "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-20, "DTC Index"](#).
NO >> GO TO 2.

2.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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

(+) BCM		(-)	Condition	Voltage (V) (Approx.)	
Connector	Terminal				
M98	97	Ground	CVT 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.

B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3.CHECK STARTER RELAY CIRCUIT

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

Starter relay		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E41	1	M98	97	Yes

5. Check continuity between starter relay harness connector and ground.

Starter relay		Ground	Continuity
Connector	Terminal		
E41	1		No

Is the inspection result normal?

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

4.CHECK STARTER RELAY

Refer to [SEC-83, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 5.
NO >> Replace starter relay.

5.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.
3. Perform DTC CONFIRMATION PROCEDURE for B2605. Refer to [SEC-80, "DTC Logic"](#).

Is DTC B2605 detected again?

- YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).
NO >> Inspection End.

Component Inspection

INFOID:0000000012430397

1.CHECK STARTER RELAY

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

Starter 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 relay.

B260F ENGINE STATUS

Description

INFOID:0000000012430398

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

DTC Logic

INFOID:0000000012430399

DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260F	ECM CAN COMM	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.	• Harness or connectors (The CAN communication line is open or shorted.) • ECM

DTC CONFIRMATION PROCEDURE

1.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 >> Go to [SEC-84, "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430400

1.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-84, "DTC Logic"](#).

Is DTC detected?

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

2.REPLACE ECM

1. Replace ECM.
Refer to [EC-477, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-125, "Work Procedure"](#).

>> Inspection End.

B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B261F ASCD CLUTCH SWITCH

DTC Logic

INFOID:0000000012430401

DTC DETECTION LOGIC

NOTE:

- If DTC B261F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B261F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B261F	ASCD CNCL/CLTCH SW (ASCD clutch interlock switch)	BCM detects the following status for 10 seconds 3 times: • Clutch interlock switch input: 0 V. • Vehicle speed: 40 km/h (24.8 MPH) or more.	• Harness or connectors. (CAN communication line is open or shorted.) • Harness or connectors. (Clutch interlock switch circuit is open or shorted) • Clutch interlock switch • Combination meter • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Drive vehicle at a speed of 40 km/h (24.8 MPH) or more for 10 seconds.
3. Decrease the vehicle speed to below 40 km/h (24.8 MPH).
4. Repeat steps 2 and 3 twice (total of 3 times).
5. 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:0000000012430402

SEC

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK DTC OF COMBINATION METER

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

Refer to [MWI-24, "DTC Index"](#).

Is the inspection result normal?

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

2.CHECK FUSE

1. Turn power switch OFF.
2. Check that the following fuse in the fuse block (J/B) is not blown.

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

Is the inspection result normal?

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

B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3.CHECK CLUTCH INTERLOCK SWITCH POWER SUPPLY

1. Disconnect clutch interlock switch connector.
2. Turn ignition switch ON.
3. Check voltage between clutch interlock switch harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Clutch interlock switch			
Connector	Terminal		
E34	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK CLUTCH INTERLOCK SWITCH SIGNAL

1. Connect clutch interlock switch connector.
2. Check voltage between BCM harness connector and ground.

(+)		(-)	Condition		Voltage
BCM					
Connector	Terminal				
M98	101	Ground	Clutch pedal	Released	0 V
				Depressed	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 6.

5.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

6.CHECK CLUTCH INTERLOCK SWITCH CIRCUIT

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

Clutch interlock switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E34	2	M98	101	Yes

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7.CHECK CLUTCH INTERLOCK SWITCH

Refer to [SEC-87, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace clutch interlock switch. Refer to [CL-11, "Exploded View"](#).

8.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> Inspection End.

Component Inspection

INFOID:0000000012430403

1.CHECK CLUTCH INTERLOCK SWITCH

1. Turn ignition switch OFF.
2. Disconnect clutch interlock switch connector.
3. Check continuity between clutch interlock switch terminals.

Clutch interlock switch		Condition		Continuity
Terminal				
1	2	Clutch pedal	Not depressed	No
			Depressed	Yes

Is the inspection result normal?

- YES >> Inspection End.
NO >> Replace clutch interlock switch. Refer to [CL-11, "Exploded View"](#).

B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2620 PARK/NEUTRAL POSITION SWITCH

DTC Logic

INFOID:0000000012430404

NOTE:

- If DTC B2620 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2620 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B2620	NEUTRAL SW (Neutral switch)	BCM detects the following status for 10 seconds 3 times: • Park/neutral position switch input: Battery voltage • Vehicle speed: 40 km/h (24.8 MPH) or more.	• Harness or connector (CAN communication line is open or shorted.) • Harness or connector (Park/neutral position switch circuit is open or shorted.) • Park/neutral position switch • Combination meter • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Drive vehicle at a speed of 40 km/h (24.8 MPH) or more for 10 seconds.
3. Decrease the vehicle speed to below 40 km/h (24.8 MPH).
4. Repeat steps 2 and 3 twice (total of 3 times).
5. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-88, "Diagnosis Procedure"](#).
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000012430405

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK DTC OF COMBINATION METER

Check DTC in "Self Diagnostic Result" of "METER/M&A" using CONSULT.
Refer to [MWI-24, "DTC Index"](#).

Is the inspection result normal?

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

2.CHECK FUSE

1. Turn power switch OFF.
2. Check that the following fuse in the fuse block (J/B) is not blown.

Signal name	Fuse No.
Ignition power supply	3 (10 A)

Is the inspection result normal?

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

B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3. CHECK PARK/NEUTRAL POSITION SWITCH POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect park/neutral position switch connector.
3. Turn ignition switch ON.
4. Check voltage between park/neutral position switch harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Park/neutral position switch			
Connector	Terminal		
F24	2	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK PARK/NEUTRAL POSITION SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Connect park/neutral position switch connector.
3. Turn ignition switch ON.
4. Check voltage between BCM harness connector and ground.

(+)		(-)	Condition		Voltage
BCM					
Connector	Terminal				
M98	102	Ground	Shift lever	Neutral position	Battery voltage
				Except neutral position	0 V

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 6.

5. REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

6. CHECK PARK/NEUTRAL POSITION SWITCH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect park/neutral position switch connector.
3. Disconnect BCM connector.
4. Check continuity between park/neutral position switch harness connector and BCM harness connector.

Park/neutral position switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
F24	3	M98	102	Yes

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7. CHECK PARK/NEUTRAL POSITION SWITCH

Refer to [SEC-90, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace park/neutral position switch. Refer to [TM-19, "Removal and Installation"](#).

B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

8. CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

Component Inspection

INFOID:0000000012430406

1. CHECK PARK/NEUTRAL POSITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect park/neutral position switch connector.
3. Check continuity between park/neutral position switch terminals.

Park/neutral position switch		Condition		Continuity
Terminal				
2	3	Shift lever	Neutral position	Yes
			Except neutral position	No

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace park/neutral position switch. Refer to [TM-19, "Removal and Installation"](#).

B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26E8 CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:0000000012430407

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26E8	CLUTCH SW (Clutch switch)	BCM detects the following conditions for 2 seconds or more: - Clutch pedal position switch: ON (Clutch pedal is released.) - Clutch interlock switch: ON (Clutch pedal is depressed.)	- Harness or connector (Clutch interlock switch circuit is open or shorted.) - Harness or connector (Clutch pedal position switch circuit is open or shorted.) - Clutch interlock switch - Clutch pedal position switch - BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

- Turn ignition switch ON.
- Wait 2 seconds or more under the following conditions.
 - Shift lever: In the neutral position.
 - Clutch pedal: Depressed
- Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

YES >> Go to [SEC-91, "Diagnosis Procedure"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

- Release clutch pedal and wait 2 seconds or more.
- Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

YES >> Go to [SEC-91, "Diagnosis Procedure"](#).

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430408

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK DTC OF COMBINATION METER

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

Refer to [MWI-24, "DTC Index"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK FUSE

- Turn power switch OFF.
- Check that the following fuse in the fuse block (J/B) is not blown.

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

Is the inspection result normal?

B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the cause of blowing.

3.CHECK CLUTCH INTERLOCK SWITCH POWER SUPPLY

1. Disconnect clutch interlock switch connector.
2. Turn ignition switch ON.
3. Check voltage between clutch interlock switch harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Clutch interlock switch			
Connector	Terminal		
E34	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK CLUTCH INTERLOCK SWITCH SIGNAL

1. Connect clutch interlock switch connector.
2. Check voltage between BCM harness connector and ground.

(+)		(-)	Condition		Voltage
BCM					
Connector	Terminal				
M98	101	Ground	Clutch pedal	Released	0 V
				Depressed	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 6.

5.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

6.CHECK CLUTCH INTERLOCK SWITCH CIRCUIT

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

Clutch interlock switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E34	2	M98	101	
				Yes

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7.CHECK CLUTCH INTERLOCK SWITCH

Refer to [SEC-93, "Component Inspection \(Clutch Interlock Switch\)"](#).

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace clutch interlock switch. Refer to [CL-11, "Exploded View"](#).

8.CHECK INTERMITTENT INCIDENT

B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Refer to [GI-42. "Intermittent Incident"](#).

>> Inspection End.

Component Inspection (Clutch Interlock Switch)

INFOID:0000000012430409

1. CHECK CLUTCH INTERLOCK SWITCH

1. Turn ignition switch OFF.
2. Disconnect clutch interlock switch connector.
3. Check continuity between clutch interlock switch terminals.

Clutch interlock switch		Condition		Continuity
Terminal				
1	2	Clutch pedal	Depressed	Yes
			Not depressed	No

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace clutch interlock switch. Refer to [CL-11. "Exploded View"](#).

SEC

B26F3 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26F3 STARTER CONTROL RELAY

DTC Logic

INFOID:0000000012430410

DTC DETECTION LOGIC

NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F3	START CONT RLY ON	BCM requests IPDM E/R to turn starter control relay OFF, but BCM cannot receive starter control relay OFF state signal from IPDM E/R (CAN).	• Harness or connectors (The CAN communication line is open or shorted.) • IPDM E/R

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: Not depressed
2. Wait 2 seconds after engine started.
3. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-94, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430411

1.CHECK DTC OF IPDM E/R

Check DTC in "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is DTC detected?

- YES >> Perform the diagnosis procedure related to the detected DTC. Refer to [PCS-20, "DTC Index"](#).
NO >> GO TO 2.

2.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

B26F4 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26F4 STARTER CONTROL RELAY

DTC Logic

INFOID:0000000012430412

DTC DETECTION LOGIC

NOTE:

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F4	START CONT RLY OFF	BCM requests IPDM E/R to turn starter control relay ON, but BCM cannot receive starter control relay ON state signal from IPDM E/R (CAN).	• Harness or connectors (The CAN communication line is open or shorted.) • IPDM E/R

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: Not depressed
2. Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to [SEC-95, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430413

1.CHECK DTC OF IPDM E/R

Check DTC in "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is DTC detected?

- YES >> Perform the diagnosis procedure related to the detected DTC. Refer to [PCS-20, "DTC Index"](#).
NO >> GO TO 2.

2.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

B26F7 BCM

DTC Logic

INFOID:0000000012430414

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F7	BCM	Inside key antenna output circuit in BCM is malfunctioning.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press door request switch.
2. Turn ignition switch ON.
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:0000000012430415

1.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 B26F7. Refer to [SEC-96, "DTC Logic"](#).

Is DTC B26F7 detected again?

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

2.REPLACE BCM

1. Replace BCM. Refer to [BCS-74, "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.

B26FB CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26FB CLUTCH SWITCH

DTC Logic

INFOID:0000000012430416

DTC DETECTION LOGIC

NOTE:

- If DTC B26FB is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B26FB is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26FB	CLUTCH SWITCH (Clutch switch)	BCM receives the abnormal signal of clutch pedal position switch from ECM via CAN communication.	• Harness or connector (CAN communication line is open or shorted.) • 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-97, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430417

1.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 B26FB. Refer to [SEC-97, "DTC Logic"](#).

Is DTC detected?

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

2.REPLACE ECM

Replace ECM. Refer to [EC-477, "Removal and Installation"](#)

>> Inspection End.

B26FC KEY REGISTRATION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26FC KEY REGISTRATION

DTC Logic

INFOID:0000000012430418

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-98, "Diagnosis Procedure"](#)

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430419

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-74, "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.

B210B STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210B STARTER CONTROL RELAY

DTC Logic

INFOID:0000000012430420

DTC DETECTION LOGIC

NOTE:

If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).

CONSULT Display	DTC Detection Condition	Possible Cause
START CONT RLY ON [B210B]	When comparing the following items, IPDM E/R detects that starter control relay is stuck in the ON position for 1 second or more: • Starter control relay signal (CAN) from BCM. • Starter relay status signal (CAN) from BCM. • Starter control relay and starter relay status signal. (IPDM E/R input) • Starter control relay control signal. (IPDM E/R output) • Transmission range switch signal input.	IPDM E/R

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait 1 second or more.
3. Turn ignition switch ON.
4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is DTC B210B displayed?

- YES >> Refer to [SEC-99, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430421

1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is display history of DTC B210B CRNT?

- YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).
NO >> Refer to [GI-42, "Intermittent Incident"](#).

B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210C STARTER CONTROL RELAY

DTC Logic

INFOID:0000000012430422

DTC DETECTION LOGIC

NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- When IPDM E/R power supply voltage is low (Approx. 7 - 8 V for about 1 second), the DTC B210C may be detected.

CONSULT Display	DTC Detection Condition	Possible Cause
STR CONT RLY OFF CIRC [B210C]	When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 1 second or more: • Starter control relay signal (CAN) from BCM. • Starter relay status signal (CAN) from BCM. • Starter control relay and starter relay status signal. (IPDM E/R input) • Starter control relay control signal. (IPDM E/R output)	• IPDM E/R • BCM • Battery

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait 1 second or more.
3. Turn ignition switch ON.
4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is DTC B210C displayed?

- YES >> Refer to [SEC-100, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430423

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is display history of DTC B210C CRNT?

- YES >> GO TO 2.
NO >> Refer to [GI-42, "Intermittent Incident"](#).

2.CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDM E/R		Ground	Voltage (Approx.)
Connector	Terminal		
E44 (WITH M/T)	13	—	Battery voltage
F42 (WITH CVT)	40		

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).
NO (WITH M/T)>>GO TO 3.
NO (WITH CVT)>>GO TO 4.

B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E44 and clutch interlock switch connector E34.
2. Check continuity between IPDM E/R connector E44 and clutch interlock switch connector E34.

IPDM E/R		Clutch interlock switch		Continuity
Connector	Terminal	Connector	Terminal	
E44	13	E34	2	Yes

3. Disconnect BCM connector M98.
4. Check continuity between IPDM E/R connector E44 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E44	13	—	No

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-74, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

4. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector F42 and transmission range switch connector F52.
2. Check continuity between IPDM E/R connector F42 and transmission range switch connector F52.

IPDM E/R		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	
F42	40	F52	10	Yes

3. Disconnect BCM connector M98.
4. Check continuity between IPDM E/R connector F42 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
F42	40	—	No

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-74, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210D STARTER RELAY

DTC Logic

INFOID:0000000012430424

DTC DETECTION LOGIC

NOTE:

If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).

CONSULT Display	DTC Detection Condition	Possible Cause
STARTER RLY ON CIRC [B210D]	When comparing the following items, IPDM E/R detects that starter control relay is stuck in the ON position for 5 second or more: • Starter control relay signal (CAN) from BCM. • Starter relay status signal (CAN) from BCM. • Starter control relay and starter relay status signal. (IPDM E/R input) • Starter control relay control signal. (IPDM E/R output)	• Harness or connectors (starter motor relay control circuit open or short.) • IPDM E/R • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait 1 second or more.
3. Turn ignition switch ON.
4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is DTC B210D displayed?

- YES >> Refer to [SEC-102, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430425

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is display history of DTC B210D CRNT?

- YES >> GO TO 2.
NO >> Refer to [GI-42, "Intermittent Incident"](#).

2.CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDM E/R		Ground	Voltage (Approx.)
Connector	Terminal		
E44	13	—	Battery voltage
F42	40		

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).
NO (WITH M/T)>>GO TO 3.
NO (WITH CVT)>>GO TO 4.

3.CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connectors E44, BCM connector M98, clutch interlock switch connector E34.

B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

2. Check continuity between IPDM E/R connector E44 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E44	13	—	No

Is the inspection result normal?

YES >> Refer to [SEC-82, "Diagnosis Procedure"](#).

NO >> Repair or replace harness or connectors.

4. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connectors F42, BCM connector M98, transmission range switch connector F52.
2. Check continuity between IPDM E/R connector F42 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
F42	40	—	No

Is the inspection result normal?

YES >> Refer to [SEC-82, "Diagnosis Procedure"](#).

NO >> Repair or replace harness or connectors.

B210E STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210E STARTER RELAY

DTC Logic

INFOID:0000000012430426

DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B210E is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to [SEC-80, "DTC Logic"](#).
- When IPDM E/R power supply voltage is low (Approx. 7 - 8 V for about 1 second), the DTC B210F may be detected.

CONSULT Display	DTC Detection Condition	Possible Cause
STARTER RELAY OFF [B210E]	When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 5 second or more: • Starter control relay signal (CAN) from BCM. • Starter relay status signal (CAN) from BCM. • Starter control relay and starter relay status signal. (IPDM E/R input) • Starter control relay control signal. (IPDM E/R output)	• IPDM E/R • BCM • Battery

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait 1 second or more.
3. Turn ignition switch ON.
4. Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is DTC B210E displayed?

- YES >> Refer to [SEC-104, "Diagnosis Procedure"](#).
- NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430427

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1. PERFORM SELF DIAGNOSTIC RESULT

Perform "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is display history of DTC B210E CRNT?

- YES >> GO TO 2.
- NO >> Refer to [GI-42, "Intermittent Incident"](#).

2.CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDM E/R		Ground	Voltage (Approx.)
Connector	Terminal		
E44	13	—	Battery voltage
F42	40		

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).
- NO (WITH M/T)>>GO TO 3.

B210E STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NO (WITH CVT)>>GO TO 4.

3.CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E44 and clutch interlock switch connector E34.
2. Check continuity between IPDM E/R connector E44 and clutch interlock switch connector E34.

IPDM E/R		Clutch interlock switch		Continuity
Connector	Terminal	Connector	Terminal	
E44	13	E34	2	Yes

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-74, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

4.CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector F42 and transmission range switch connector F52.
2. Check continuity between IPDM E/R connector F42 and transmission range switch connector F52.

IPDM E/R		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	
F42	40	F52	10	Yes

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-74, "Removal and Installation"](#).
NO >> Repair or replace harness or connectors.

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:0000000012430428

DTC DETECTION LOGIC

NOTE:

If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTRLCK/PNP SW ON	IPDM E/R detects a difference between the following signals: P/N position signal from transmission range switch and P/N position signal (CAN) from BCM .	- Harness or connectors (The CAN communication line is open or shorted.) - Harness or connectors (Transmission range switch circuit is open or shorted.) - Transmission range switch - IPDM E/R - BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- Shift selector lever to the P position.
- Turn ignition switch ON and wait 1 second or more.
- Shift selector lever to the N position and wait 1 second or more.
- Shift selector lever to the position other than P and N, and wait 1 second or more.
- Check DTC in "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is DTC detected?

YES >> Go to [SEC-106, "Diagnosis Procedure"](#).

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430429

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK DTC OF BCM

Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [BCS-50, "DTC Index"](#).

NO >> GO TO 2.

2.CHECK IPDM E/R SIGNAL CIRCUIT OPEN AND SHORT

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

IPDM E/R		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	
F42	40	F52	10	Yes

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

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

(+)		(-)	Continuity
IPDM E/R			
Connector	Terminal		
F42	40	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).
NO >> Repair or replace harness.

SEC

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:0000000012430430

DTC DETECTION LOGIC

NOTE:

If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTRLCK/PNP SW OFF	IPDM E/R detects a difference between the following signals: P/N position signal from transmission range switch and P/N position signal (CAN) from BCM.	- Harness or connectors (The CAN communication line is open or shorted.) - Harness or connectors (Transmission range switch circuit is open or shorted.) - Transmission range switch - IPDM E/R - BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- Shift selector lever to the P position.
- Turn ignition switch ON and wait 1 second or more.
- Shift selector lever to the N position and wait 1 second or more.
- Shift selector lever to the position other than P and N, and wait 1 second or more.
- Check DTC in "Self Diagnostic Result" of "IPDM E/R" using CONSULT.

Is DTC detected?

YES >> Go to [SEC-108, "Diagnosis Procedure"](#).

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430431

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.CHECK DTC OF BCM

Check DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to [BCS-50, "DTC Index"](#).

NO >> GO TO 2.

2.CHECK IPDM E/R SIGNAL CIRCUIT OPEN AND SHORT

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

IPDM E/R		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	
F42	40	F52	10	Yes

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

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

(+)		(-)	Continuity
IPDM E/R			
Connector	Terminal		
F42	40	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-30, "Removal and Installation"](#).
NO >> Repair or replace harness.

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY INDICATOR

Description

INFOID:0000000012542522

- Vehicle security indicator is built in combination meter.
- NATS (Nissan Anti-Theft System) condition is indicated by blink or illumination of vehicle security indicator.

Component Function Check

INFOID:0000000012542523

1.CHECK FUNCTION

1. Perform "Active Test" of "THEFT IND" in the "IMMU" using CONSULT.
2. Check vehicle security indicator operation.

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

Is the inspection result normal?

- YES >> Inspection End.
NO >> Refer to [SEC-110, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:0000000012542524

Regarding Wiring Diagram information, refer to [SEC-37, "Wiring Diagram"](#).

1.SECURITY INDICATOR LAMP ACTIVE TEST

 With CONSULT

Check "THEFT IND" in "Active Test" of "IMMU".

 Without CONSULT

1. Disconnect BCM.
2. Check voltage between BCM harness connector M97 terminal 23 and ground.

Connector	Terminals		Condition	Voltage (V) (Approx.)
	(+)	(-)		
M97	23	Ground	ON	0
			OFF	Battery voltage

Is the inspection result normal?

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

2.SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace combination meter. Refer to [MWI-115, "Removal and Installation"](#).

3.CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and security indicator lamp connector.
3. Check continuity between BCM connector M97 terminal 23 and combination meter connector M24 terminal 18.

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

BCM		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M97	23	M24	18	Yes

4. Check continuity between BCM connector M97 terminal 23 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M97	23		No

Is the inspection result normal?

YES >> Check the following:

- 10A fuse No. 8, located in fuse block (J/B)
- Harness for open or short between security indicator lamp and fuse.

NO >> Repair or replace harness.

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SEC

SYMPTOM DIAGNOSIS

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:0000000012430432

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-IVIS/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” setting in “Work support” in “INTELLIGENT KEY” of “BCM” is ON.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:0000000012430433

1.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” in “Work Support” of “INTELLIGENT KEY” of “BCM” using CONSULT.
Refer to [BCS-22, "INTELLIGENT KEY : CONSULT Function \(BCM - INTELLIGENT KEY\)"](#).

>> GO TO 2.

2.PERFORM SELF-DIAGNOSIS RESULT

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

Is DTC detected?

- YES >> Perform the trouble diagnosis for detected DTC. Refer to [BCS-50, "DTC Index"](#).
NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Refer to [SEC-66, "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-42, "Intermittent Incident"](#).
NO >> GO TO 1.

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:0000000012430434

Security indicator lamp does not blink when power supply position is other than the ON position.

NOTE:

- Before performing the diagnosis, perform "Work Flow". Refer to [SEC-46, "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)

Power supply position is other than the ON position.

Diagnosis Procedure

INFOID:0000000012430435

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-42, "Intermittent Incident"](#).

NO >> GO TO 1.

REMOVAL AND INSTALLATION

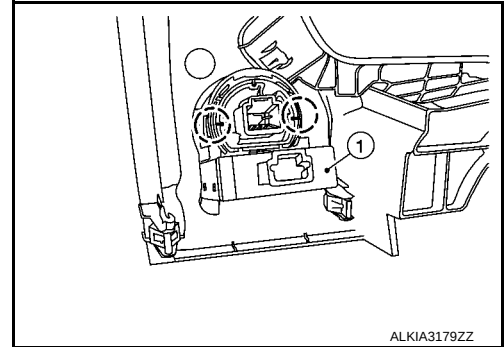
NATS ANTENNA AMP.

Removal and Installation

INFOID:000000012430436

REMOVAL

1. Remove cluster lid A. Refer to [JP-21, "Removal and Installation"](#).
2. Release pawls and remove NATS antenna amp. (1).
○: Pawl



INSTALLATION

Installation is in the reverse order of removal.

NOTE:

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

PUSH-BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

PUSH-BUTTON IGNITION SWITCH

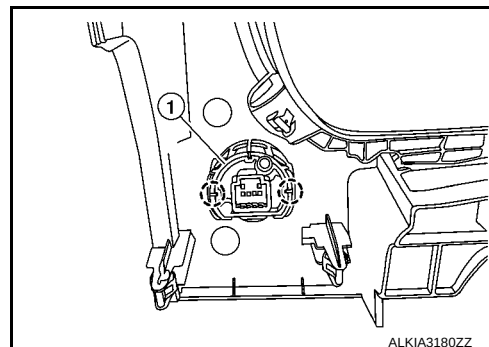
Removal and Installation

INFOID:0000000012430437

REMOVAL

1. Remove NATS antenna amp. Refer to [SEC-114. "Removal and Installation"](#).
2. Release pawls and remove the push-button ignition switch (1).

(1): Pawl



INSTALLATION

Installation is in the reverse order of removal.

REMOTE KEYLESS ENTRY RECEIVER

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

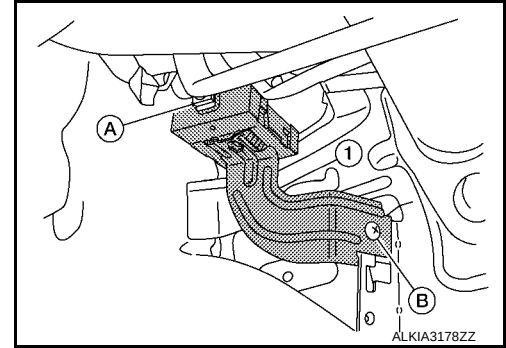
REMOTE KEYLESS ENTRY RECEIVER

Removal and Installation

INFOID:0000000012430438

REMOVAL

1. Remove the glove box. Refer to [IP-25. "Removal and Installation"](#).
2. Disconnect the harness connector (A) from remote keyless entry receiver (1).
3. Remove screw (B) and remove remote keyless entry receiver.



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:000000012430439

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:000000012430440

- 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 >

[WITHOUT INTELLIGENT KEY SYSTEM]

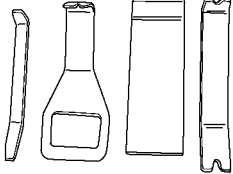
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000012430441

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

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

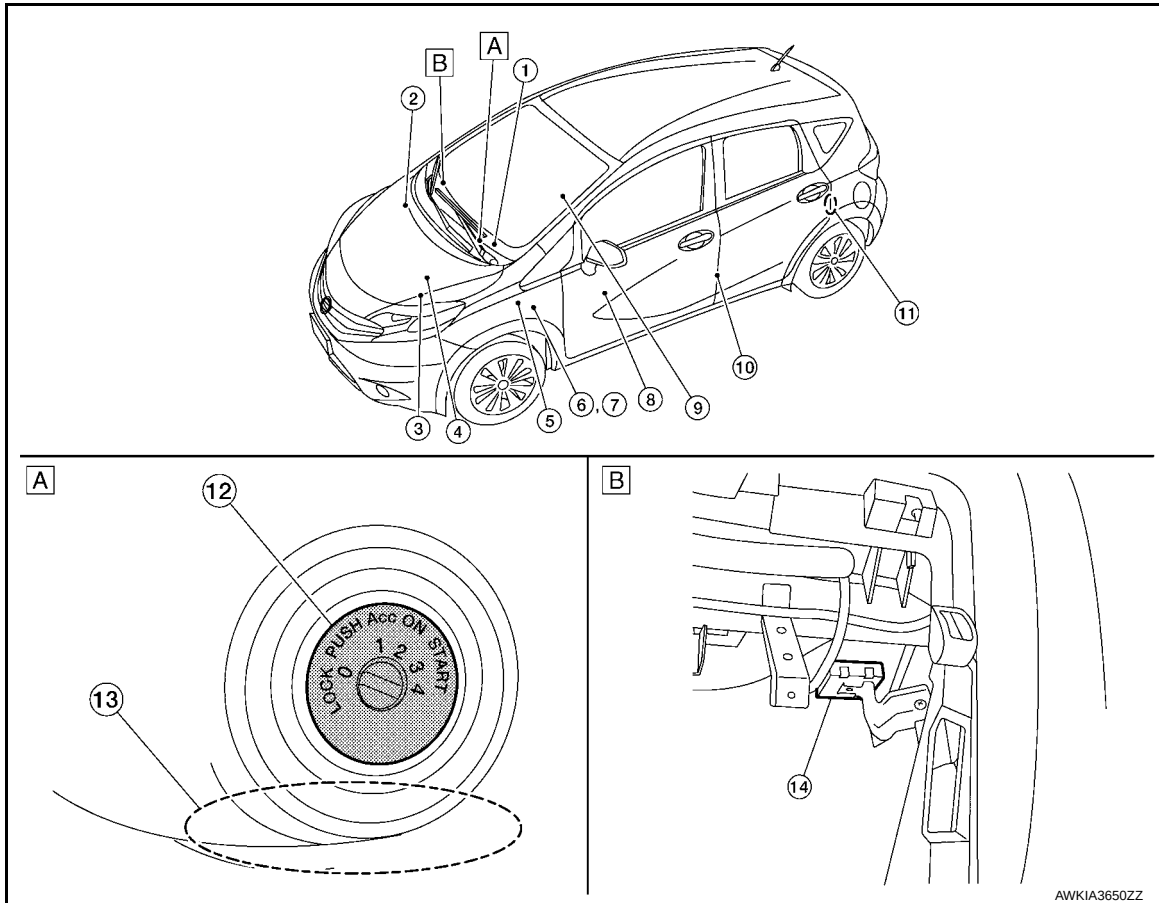
SYSTEM DESCRIPTION

COMPONENT PARTS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Parts Location

INFOID:0000000012430442



A. View from right side of steering column B. View with glove box door removed

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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-8, "METER SYSTEM : Component Parts Location" .
2.	ABS actuator and electric unit (control unit)	ABS actuator and electric unit (control unit) transmits the vehicle speed signal to BCM via CAN communication. BCM also receives the vehicle speed signal from the combination meter via CAN communication. BCM compares both signals to detect the vehicle speed. Refer to BRC-7, "Component Parts Location" for detailed installation location.
3.	Transmission range switch	Transmission range switch detects the CVT shift selector lever position.
4.	IPDM E/R	Starter control relay is used for the engine starting function. Starter control relay is controlled by IPDM E/R while communicating with BCM. IPDM E/R sends the starter control relay status signal to BCM.
5.	BCM	BCM controls NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] and VEHICLE SECURITY SYSTEM. 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-77, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
6.	Clutch interlock switch	Clutch interlock switch detects that clutch pedal is depressed, and then transmits ON/OFF signal to the BCM.
7.	Stop lamp switch	Stop lamp switch detects that brake pedal is depressed, and then transmits ON/OFF signal to the BCM.
8.	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-6, "Component Parts Location" .
9.	CVT shift selector (park position switch)	Park position switch is integrated into the CVT shift selector and detects that the selector lever is in the P (park) position, then transmits ON/OFF signal to the BCM and IPDM E/R.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

No.	Component	Function
10.	Front door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
11.	Rear door switch LH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
12.	Ignition switch	Input ignition switch ON/OFF condition to BCM.
13.	NATS antenna amp.	ID verification is performed between the BCM and the transponder integrated into the key via the NATS antenna amp.
14.	Remote keyless entry receiver	Remote keyless entry receiver receives button operation signal and key ID signal then transmits them to the BCM.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : CVT Shift Selector (Park Position Switch)

INFOID:0000000012430443

Park position switch detects that CVT shift selector is in the P (Park) position and then transmits the signal to BCM and IPDM E/R.

BCM confirms the CVT shift selector position with the following 5 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P (Park) position signal from IPDM E/R (CAN)
- P/N position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the CVT shift selector position with the following 3 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : BCM

INFOID:0000000012430444

BCM controls ENGINE START FUNCTION, NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS (NATS) and VEHICLE SECURITY SYSTEM.

BCM performs the ID verification between BCM and key. If the ID verification result is OK, ignition switch operation is available.

Then, when the power supply position is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : ECM

INFOID:0000000012430445

ECM controls the engine.

When power supply position is turned ON, BCM starts communication with ECM and performs the ID verification between BCM and ECM.

If the verification result is OK, the engine can start. If the verification result is invalid, the engine can not start.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : IPDM E/R

INFOID:0000000012430446

IPDM E/R has the starter control relay inside. Starter control relay is used for the engine starting function. IPDM E/R controls this relay while communicating with BCM.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Combination Meter

INFOID:0000000012430447

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.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Door Switch

INFOID:0000000012430448

Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Remote Keyless Entry Receiver

INFOID:0000000012430449

Remote keyless entry receiver receives each button operation signal and electronic key ID signal from key and then transmits the signal to BCM.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Security Indicator Lamp

INFOID:0000000012430450

Security indicator lamp is located on combination meter.

Security indicator lamp blinks when power supply position is any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS (NATS) is on board.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Starter Relay

INFOID:0000000012430451

Engine starting system functions by controlling starter control relay.

Starter control relay is controlled by IPDM E/R on request from BCM.

IPDM E/R transmits starter control relay status signal to BCM via CAN communication.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Stop Lamp Switch

INFOID:0000000012430452

Stop lamp switch detects that brake pedal is depressed, and then transmits the signal to BCM.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Transmission Range Switch

INFOID:0000000012430453

Transmission range switch is integrated in CVT assembly, and detects the CVT shift selector position.

TCM receives the transmission range switch signal and then transmits the P/N position signal to BCM and IPDM E/R.

BCM confirms the CVT shift selector position with the following 5 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P (Park) position signal from IPDM E/R (CAN)
- P/N position signal from IPDM E/R (CAN)
- P/N position signal from TCM (CAN)

IPDM E/R confirms the CVT shift selector position with the following 3 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

SYSTEM

< SYSTEM DESCRIPTION >

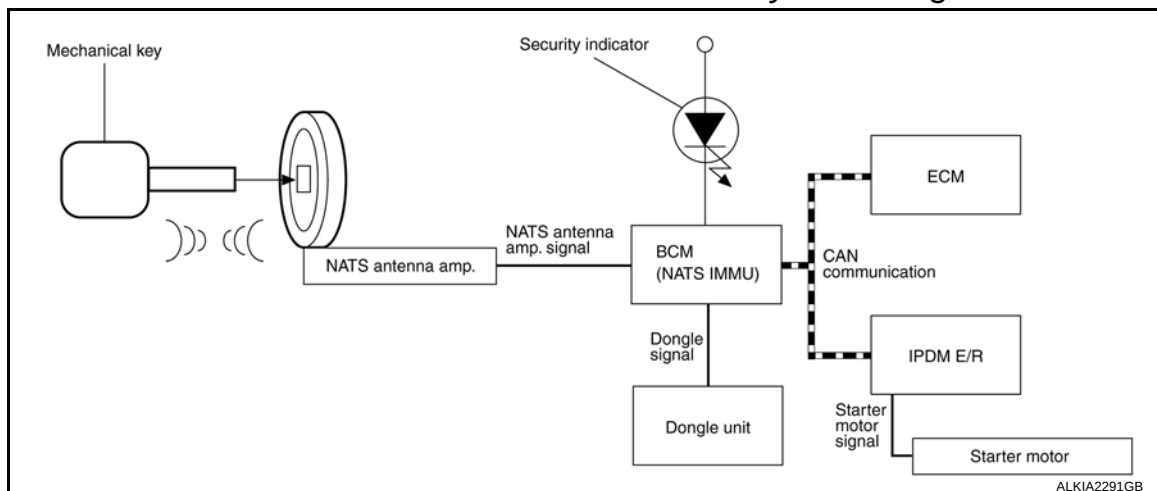
[WITHOUT INTELLIGENT KEY SYSTEM]

SYSTEM

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:0000000012430454



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:0000000012430455

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)
- 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 5 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-139, "Work Flow"](#).
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to [EC-477, "Removal and Installation"](#).

PRECAUTIONS FOR KEY REGISTRATION

SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

- 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.
- Dongle unit
- Combination meter

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000012542531

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			x	x	x		
Rear window defogger	REAR DEFOGGER			x	x			
Warning chime	BUZZER			x	x			
Interior room lamp timer	INT LAMP			x	x	x		
Remote keyless entry system	MULTI REMOTE ENT			x	x	x		
Exterior lamp	HEAD LAMP			x	x	x		
Wiper and washer	WIPER			x	x	x		
Turn signal and hazard warning lamps	FLASHER			x	x			
Air conditioner	AIR CONDITIONER			x				
Combination switch	COMB SW			x				
BCM	BCM	x	x			x	x	x
Immobilizer	IMMU		x		x	x		
Interior room lamp battery saver	BATTERY SAVER			x	x	x		
Vehicle security system	THEFT ALM			x		x		
RAP system	RETAINED PWR			x		x		
Signal buffer system	SIGNAL BUFFER			x				
TPMS	AIR PRESSURE MONITOR		x	x	x	x		
Panic alarm system	PANIC ALARM				x			

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000012542532

SELF DIAGNOSTIC RESULT

Refer to [BCS-115, "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 code can be read.

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:000000012542533

AUTO ACTIVE TEST

Description

In auto active test, the IPDM E/R sends a drive signal to the following systems to check their operation:

- Front wiper (LO, HI)
- Parking lamp
- Side marker lamp
- License plate lamp
- Tail lamp
- Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

NOTE:

Never perform auto active test in the following conditions:

- Passenger door is open
- CONSULT is connected

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)

NOTE:

When auto active test is performed with hood opened, sprinkle water on windshield beforehand.

2. Turn the ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

- When auto active test has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to [DLK-98, "Component Function Check"](#) (with Intelligent Key system) or [DLK-232, "Component Function Check"](#) (without Intelligent Key system).

Inspection in Auto Active Test

When auto active test is actuated, the following operation sequence is repeated 3 times.

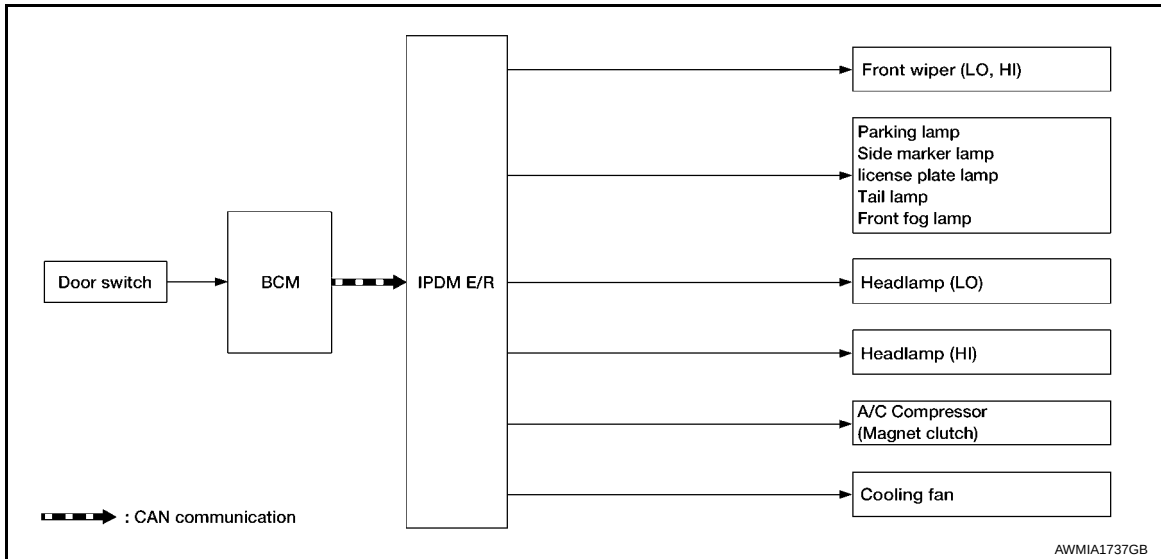
Operation sequence	Inspection location	Operation
1	Front wiper	LO for 5 seconds → HI for 5 seconds
2	• Parking lamp • Side marker lamp • License plate lamp • Tail lamp • Front fog lamp (if equipped)	10 seconds
3	Headlamp	LO for 10 seconds → HI ON ⇔ OFF 5 times
4	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
5	Cooling fan	LO for 5 seconds → MID for 3 seconds → HI for 2 seconds

DIAGNOSIS SYSTEM (IPDM E/R)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

Concept of Auto Active Test



- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis Chart in Auto Active Test

Symptom	Inspection contents	Possible cause
Any of the following components do not operate: • Parking lamp • Side marker lamp • License plate lamp • Tail lamp • Front fog lamp • Headlamp (HI, LO) • Front wiper (HI, LO)	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO • Lamp or motor • Lamp or motor ground circuit • Harness or connector between IPDM E/R and applicable system • IPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES • BCM signal input circuit • CAN communication signal between BCM and ECM • CAN communication signal between ECM and IPDM E/R
		NO • Magnet clutch • Harness or connector between IPDM E/R and magnet clutch • IPDM E/R
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES • ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO • Cooling fan motor • Harness or connector between IPDM E/R and cooling fan motor • IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:0000000012542534

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.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Direct Diagnostic Mode	Description
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-20, "DTC Index"](#).

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [1/2/3/4]	×	Indicates cooling fan speed signal received from ECM on CAN communication line
AC COMP REQ [On/Off]	×	Indicates A/C compressor request signal received from ECM on CAN communication line
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communication line
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communication line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
IGN RLY1 -REQ [On/Off]		Indicates ignition switch ON signal received from BCM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay
PUSH SW [On/Off]		Indicates condition of push-button ignition switch
INTER/NP SW [On/Off]		Indicates condition of CVT shift position
ST RLY CONT [On/Off]		Indicates starter relay status signal received from BCM on CAN communication line
IHBT RLY -REQ [On/Off]		Indicates starter control relay signal received from BCM on CAN communication line
ST/INHI RLY [Off/ ST /INHI]		Indicates condition of starter relay and starter control relay
DETENT SW [On/Off]		Indicates condition of CVT shift selector (park position switch)
DTRL REQ [Off]		Indicates daytime running light request signal received from BCM on CAN communication line
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

ACTIVE TEST

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

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Test item	Description
MOTOR FAN	This test is able to check cooling fan operation [4/3/2/1].
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].

CAN DIAG SUPPORT MNTR

Refer to [LAN-13. "CAN Diagnostic Support Monitor"](#).

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:0000000012430460

ECU	Reference
ECM	EC-71, "Reference Value"
	EC-99, "Wiring Diagram"
	EC-83, "Fail Safe"
	EC-85, "DTC Inspection Priority Chart"
	EC-87, "DTC Index"
IPDM E/R	PCS-13, "Reference Value"
	PCS-21, "Wiring Diagram"
	PCS-19, "Fail-safe"
	PCS-20, "DTC Index"
BCM	BCS-101, "Reference Value"
	BCS-117, "Wiring Diagram"
	BCS-115, "Fail-safe"
	BCS-115, "DTC Inspection Priority Chart"
	BCS-115, "DTC Index"

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SEC

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

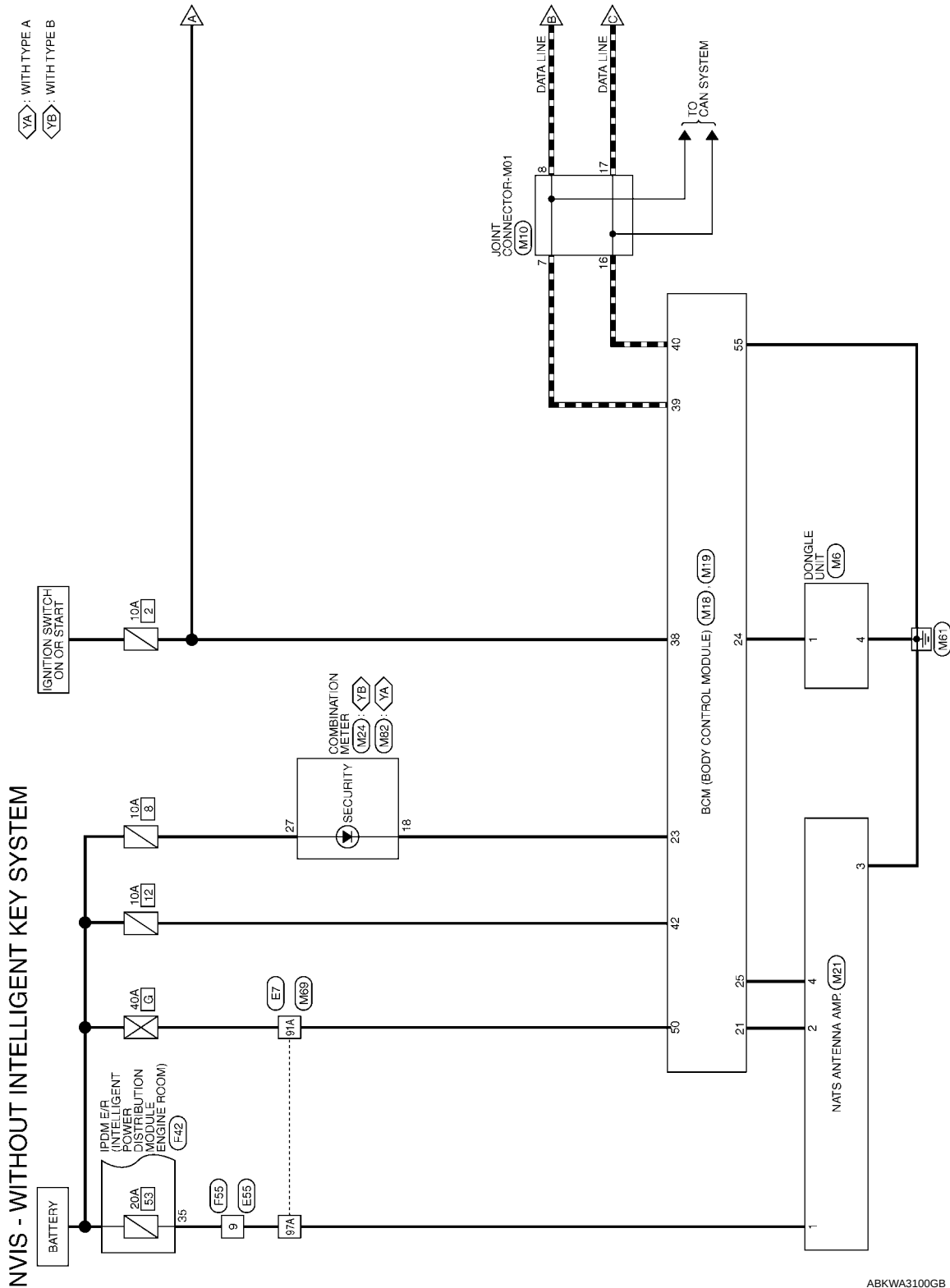
[WITHOUT INTELLIGENT KEY SYSTEM]

WIRING DIAGRAM

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

Wiring Diagram

INFOID:000000012430461

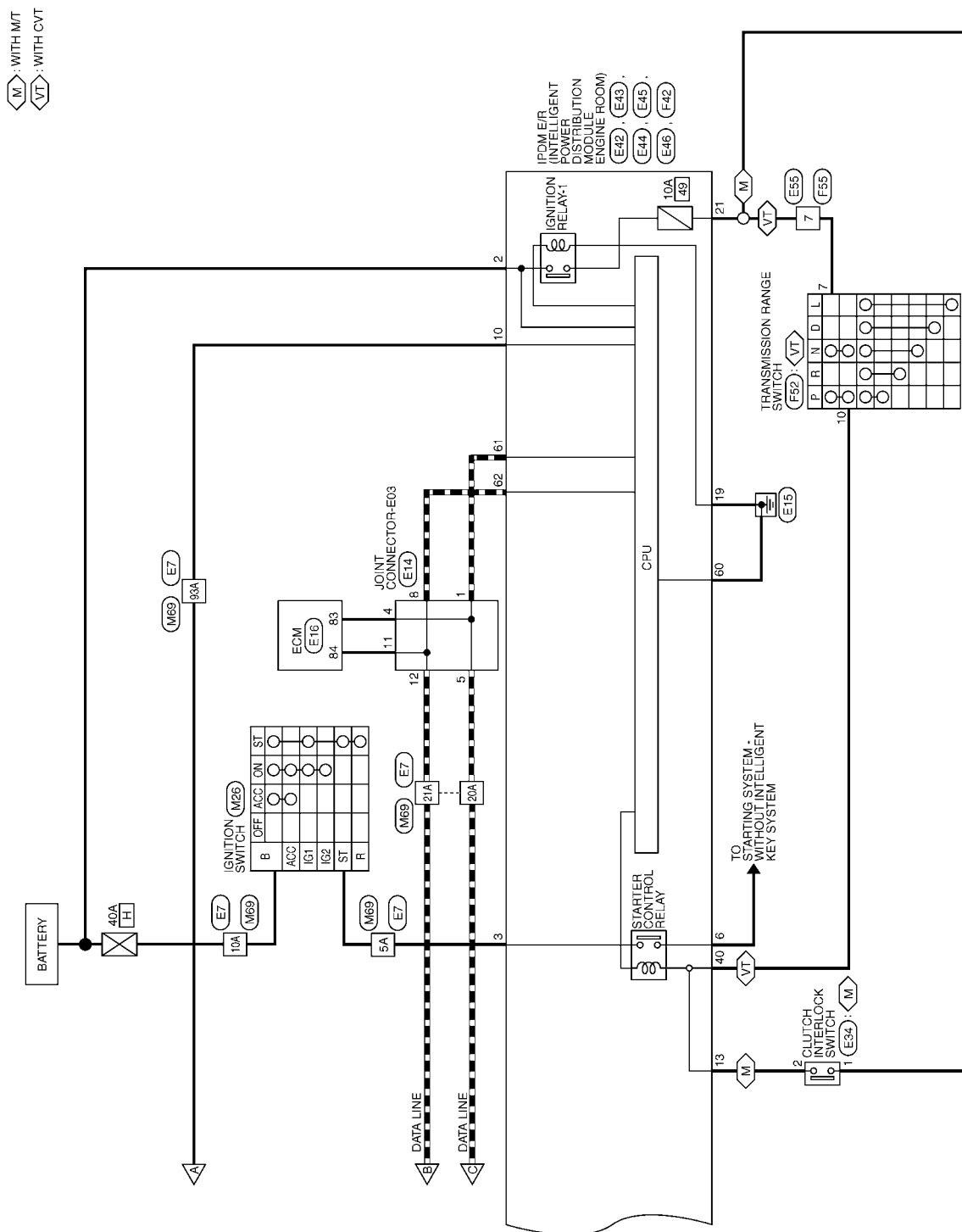


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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]



ABKWA3101GB

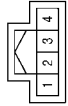
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

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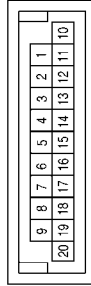
[WITHOUT INTELLIGENT KEY SYSTEM]

NVIS CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

Connector No.	M6
Connector Name	DONGLE UNIT
Connector Color	WHITE



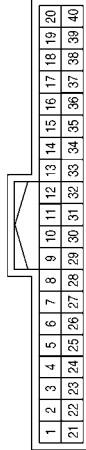
Connector No.	M10
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	SB	-
4	B	-

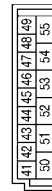
Terminal No.	Color of Wire	Signal Name
7	L	-
8	L	-
16	P	-
17	P	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



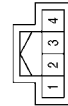
Terminal No.	Color of Wire	Signal Name
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)
23	GR	SECURITY INDICATOR OUTPUT
24	SB	AUDIO/DONGLE LINK (SERIAL)
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
38	O	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



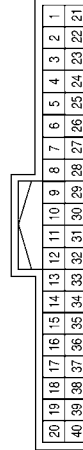
Terminal No.	Color of Wire	Signal Name
42	Y	BATTERY (FUSE)
50	G	BATTERY (F/L)
55	B	GND

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



Terminal No.	Color of Wire	Signal Name
1	BR	-
2	P	-
3	B	-(WITHOUT INTELLIGENT KEY SYSTEM)
4	LG	-(WITHOUT INTELLIGENT KEY SYSTEM)

Connector No.	M24
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
18	GR	SECURITY IND
27	R/W	BAT

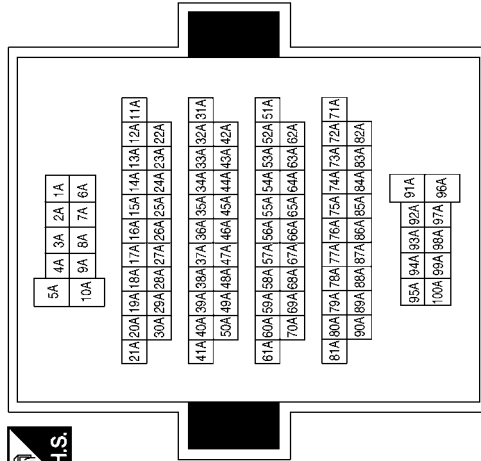
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

Terminal No.	Color of Wire	Signal Name
5A	W	-
10A	P	-
20A	P	-
21A	L	-
91A	G	-
93A	O	-(WITHOUT INTELLIGENT KEY SYSTEM)
97A	BR	-

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

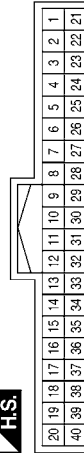


Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
B	P	-
ST	W	-

Connector No.	M82
Connector Name	COMBINATION METER (WITH TYPE A)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
18	GR	SECURITY
27	RW	BAT

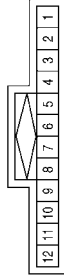
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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

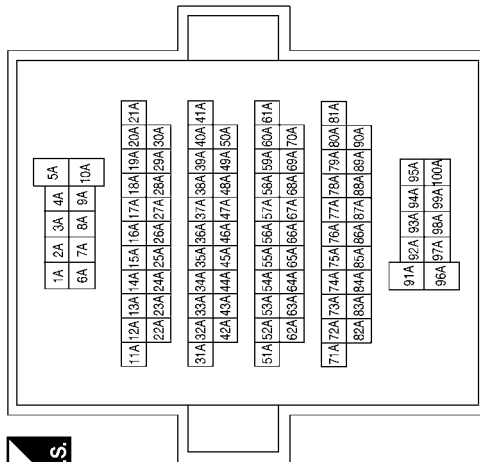
Connector No.	E14
Connector Name	JOINT CONNECTOR-E03
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	P	-
4	P	-
5	P	-
8	L	-
11	L	-
12	L	-

Terminal No.	Color of Wire	Signal Name
5A	W	-
10A	L	-
20A	P	-
21A	L	-
91A	Y	-
93A	L	-
97A	G/B	-

Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	E42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



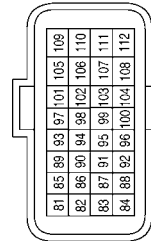
Terminal No.	Color of Wire	Signal Name
2	Y	F/L MAIN (+B2)

Connector No.	E34
Connector Name	CLUTCH INTERLOCK SWITCH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	G	- (WITHOUT INTELLIGENT KEY SYSTEM)
2	LG	- (WITHOUT INTELLIGENT KEY SYSTEM)

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
83	P	CAN-L
84	L	CAN-H

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

Connector No.	E45
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

21	20	19	18	17
28	27	26	25	24
23	22			



Terminal No.	Color of Wire	Signal Name
19	B	P-GND
21	R	AT ECU (WITH CVT)
21	G	CLUTCH I/L SW (WITH M/T)

Connector No.	E44
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

11	10	9
16	15	14
13	12	



Terminal No.	Color of Wire	Signal Name
10	L	IGNSW
13	LG	CLUTCH-I/L-SW (WITHOUT INTELLIGENT KEY SYSTEM)

Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

5	4	3
8	7	6



Terminal No.	Color of Wire	Signal Name
3	W	F/L IGNSW (WITHOUT INTELLIGENT KEY SYSTEM)
6	R	STARTER MOTOR

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

33	32	31	30	29
40	39	38	37	36
35	34			



Terminal No.	Color of Wire	Signal Name
35	BR	ECM BAT
40	BR	NPSW

Connector No.	E55
Connector Name	WIRE TO WIRE
Connector Color	GRAY

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



Terminal No.	Color of Wire	Signal Name
7	R	-
9	G/B	-

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

64	63	62	61	60	59	58	57	56	55	54	53
76	75	74	73	72	71	70	69	68	67	66	65



Terminal No.	Color of Wire	Signal Name
60	B	S GND
61	P	CAN-L
62	L	CAN-H

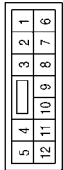
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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

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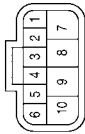
[WITHOUT INTELLIGENT KEY SYSTEM]

Connector No.	F55
Connector Name	WIRE TO WIRE
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
7	R	-
9	BR	-

Connector No.	F52
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
7	R	-
10	BR	-

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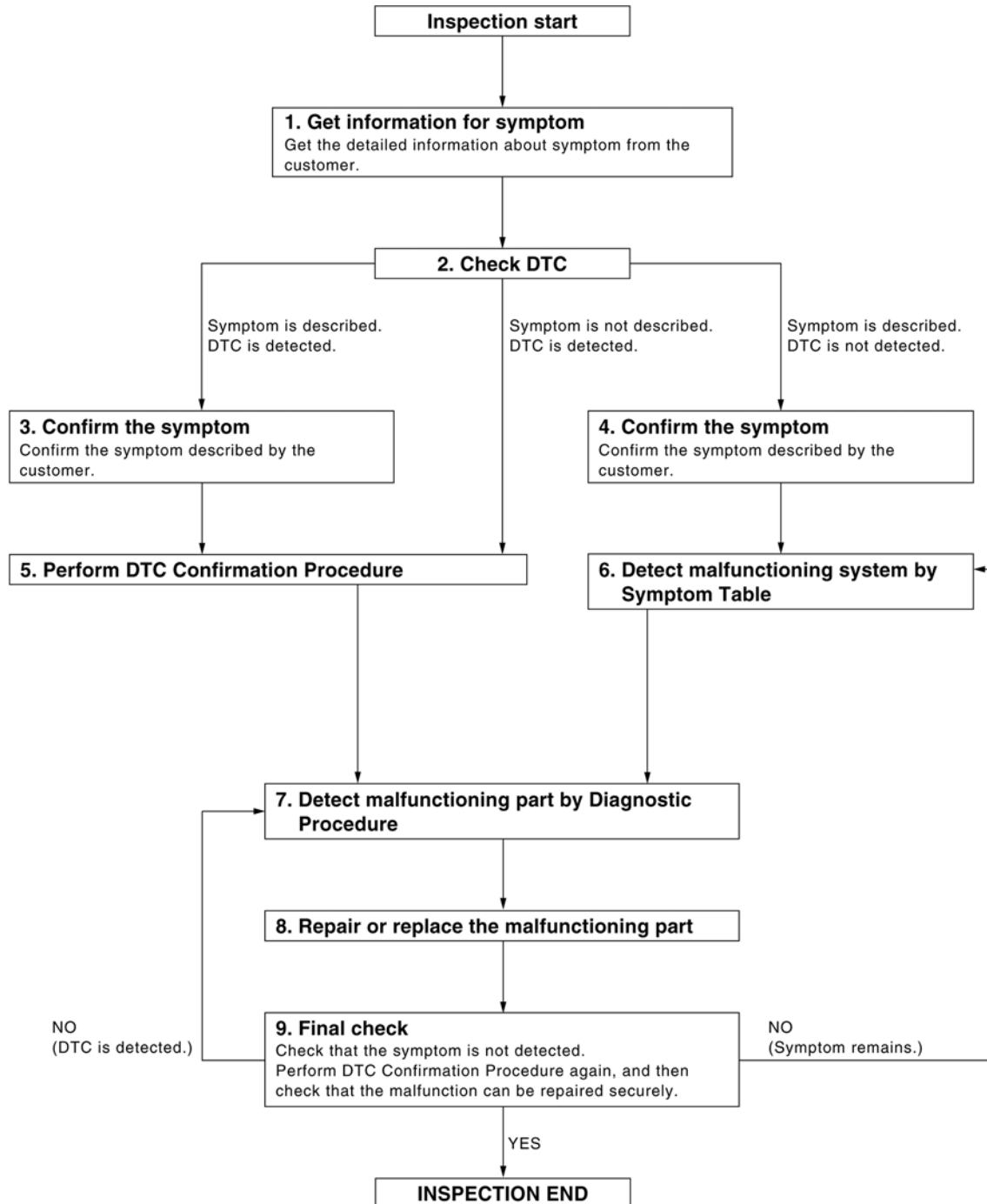
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000012430462

OVERALL SEQUENCE



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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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-115, "DTC Inspection Priority Chart"](#) (BCM) and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 7.

NO >> Refer to [GI-42, "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.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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.

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INSPECTION AND ADJUSTMENT

ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION : Description

INFOID:0000000012430463

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:0000000012430464

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.

P1610 LOCK MODE

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

DTC/CIRCUIT DIAGNOSIS

P1610 LOCK MODE

Description

INFOID:0000000012430465

When the starting operation is carried more than five times consecutively under the following conditions, NATS will shift to the mode which prevents the engine from being started.

- Unregistered mechanical key is used.
- BCM or ECM's malfunctioning.

DTC Logic

INFOID:0000000012430466

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	When the starting operation is carried out five or more times consecutively under the following conditions: • Unregistered mechanical key • BCM or ECM's malfunctioning.	• Mechanical key • BCM • ECM

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-143, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430467

1.CHECK ENGINE START FUNCTION

1. Perform the check for DTC except DTC P1610.
2. Use CONSULT to erase DTC after fixing.
3. Check that engine can start with registered mechanical key.

Does the engine start?

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

2.CHECK INTERMITTENT INCIDENT

Refer to [GI-42, "Intermittent Incident"](#).

>> Inspection End.

B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2190, P1614 NATS ANTENNA AMP.

Description

INFOID:0000000012430468

Performs ID verification through BCM and NATS antenna amplifier when ignition key is inserted and ignition switch turned ON.

Prohibits the start of engine when an unregistered ID of ignition key is used.

DTC Logic

INFOID:0000000012430469

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
P1614			

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Insert ignition key into the key cylinder.
2. Turn ignition switch ON.
3. Check "Self Diagnostic Result" using CONSULT.

Is DTC detected?

- YES >> Refer to [SEC-144, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430470

Regarding Wiring Diagram information, refer to [SEC-132, "Wiring Diagram"](#).

1.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to [SEC-159, "Removal and Installation"](#).

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

- YES >>
 - Ignition key ID chip is malfunctioning.
 - Replace the ignition key.
 - Perform initialization with CONSULT.

For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

NO >> GO TO 3.

3.CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

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

B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

NATS antenna amp.		Ground	Voltage (Approx.)
Connector	Terminal		
M21	1		Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace fuse or harness.

4.CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

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

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M21	3		Yes

Is the inspection result normal?

YES >> GO TO 5.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM [BCS-137, "Removal and Installation"](#). Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

5.CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

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

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

Is the inspection result normal?

YES >> GO TO 6.

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM [BCS-137, "Removal and Installation"](#). Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

6.CHECK NATS ANTENNA AMP. SIGNAL LINE- 2

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

B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning. Replace NATS antenna amp. Refer to [SEC-159, "Removal and Installation"](#).

NO >> • Repair or replace harness.

NOTE:

If harness is OK, replace BCM, refer to [BCS-137, "Removal and Installation"](#). Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

B2191, P1615 DIFFERENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2191, P1615 DIFFERENCE OF KEY

Description

INFOID:0000000012430471

Performs ID verification through BCM when mechanical key is inserted in the ignition key cylinder.
Prohibits the release of steering lock or start of engine when an unregistered ID of mechanical key is used.

DTC Logic

INFOID:0000000012430472

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Insert mechanical key into the key cylinder.
2. Check "Self Diagnostic Result" using CONSULT.

Is DTC detected?

- YES >> Refer to [SEC-147, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430473

1.PERFORM INITIALIZATION

Perform initialization with CONSULT. Re-register all mechanical keys.
For initialization and registration of mechanical key. Refer to CONSULT Immobilizer mode and follow the on-screen instructions.

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

- YES >> Mechanical key was unregistered.
NO >> BCM is malfunctioning.
 - Replace BCM. Refer to [BCS-137, "Removal and Installation"](#).
 - Perform initialization again.

B2192, P1611 ID DISCORD, IMMU-ECM**Description**

INFOID:0000000012430474

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

DTC Logic

INFOID:0000000012430475

DTC DETECTION LOGIC**NOTE:**

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-127, "DTC Logic"](#).
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-128, "DTC Logic"](#).

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

DTC CONFIRMATION PROCEDURE**1.PERFORM DTC CONFIRMATION PROCEDURE**

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

Is DTC detected?

- YES >> Refer to [SEC-148, "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430476

1.PERFORM INITIALIZATION

Perform initialization with CONSULT. Re-register all mechanical keys.
 For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

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

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

2.REPLACE BCM

1. Replace BCM. Refer to [BCS-137, "Removal and Installation"](#).
2. Perform initialization with CONSULT. Re-register all mechanical keys.
 For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

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

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

3.REPLACE ECM

1. Replace ECM. Refer to [EC-477, "Removal and Installation"](#).
2. Perform initialization with CONSULT. Re-register all mechanical keys.
 For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

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

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

B2192, P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-42. "Intermittent Incident"](#).

>> Inspection End.

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B2193, P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2193, P1612 CHAIN OF ECM-IMMU

Description

INFOID:0000000012430477

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

DTC Logic

INFOID:0000000012430478

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-127, "DTC Logic"](#).
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-128, "DTC Logic"](#).

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Refer to [SEC-150, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430479

1.REPLACE BCM

1. Replace BCM. Refer to [BCS-137, "Removal and Installation"](#).
2. Perform initialization with CONSULT.
For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

Does the engine start?

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

B2195 ANTI-SCANNING

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2195 ANTI-SCANNING

DTC Logic

INFOID:0000000012430480

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2195	ANTI SCANNING	ID verification between BCM and ECM is detected out of specification.	ID verification request out of specification.

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 >> Refer to [SEC-151, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430481

1.CHECK SELF DIAGNOSTIC RESULT 1

1. Select "Self Diagnostic Result" of "BCM" using CONSULT.
2. Erase DTC.
3. Perform DTC Confirmation Procedure for DTC P2195. Refer to [SEC-151, "DTC Logic"](#).

Is DTC detected?

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

2.CHECK EQUIPMENT OF THE VEHICLE

Check that unspecified accessory part related to engine start is not installed.

Is unspecified accessory part related to engine start installed?

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

3.CHECK SELF DIAGNOSTIC RESULT 2

1. Obtain the customer's approval to remove unspecified accessory part related to engine start, and then remove it.
2. Select "Self Diagnostic Result" of "BCM" using CONSULT.
3. Erase DTC.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to [SEC-151, "DTC Logic"](#).

Is DTC detected?

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

4.REPLACE BCM

1. Replace BCM. Refer to [BCS-137, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all ignition keys using CONSULT.
For initialization and registration procedures, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2196 DONGLE UNIT

Description

INFOID:0000000012430482

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

DTC Logic

INFOID:0000000012430483

DTC DETECTION 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 DTC in "Self Diagnostic Result" of "BCM" using CONSULT.

Is the DTC detected?

YES >> Refer to [SEC-152. "Diagnosis Procedure"](#).

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012430484

Regarding Wiring Diagram information, refer to [SEC-132. "Wiring Diagram"](#).

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and registration of all mechanical keys using CONSULT.
For initialization and registration procedures, refer to CONSULT Immobilizer mode and follow the on-screen instructions
2. Start the engine.

Does 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	24	M6	1	Yes

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M18	24		No

Is the inspection result normal?

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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		
M6	4		Yes

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:000000012542538

Regarding Wiring Diagram information, refer to [BCS-117, "Wiring Diagram"](#).

1.CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
37	Battery power supply	8 (10A)
42		12 (10A)
50		G (40A)
11	Ignition switch ACC or ON	18 (10A)
38	Ignition switch ON or START	2 (10A)

Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

BCM		Ground	Ignition switch position		
Connector	Terminal		OFF	ACC	ON
M18	11	—	0 V	Battery voltage	Battery voltage
	37		Battery voltage		
	38		0 V		
M19	42		Battery voltage	Battery voltage	
	50				

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M19	55	—	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY INDICATOR

Description

INFOID:0000000012430486

- Vehicle security indicator is built in combination meter.
- NATS (Nissan Anti-Theft System) condition is indicated by blink or illumination of vehicle security indicator.

Component Function Check

INFOID:0000000012430487

1.CHECK FUNCTION

1. Perform "Active Test" of "THEFT IND" in the "IMMU" using CONSULT.
2. Check vehicle security indicator operation.

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

Is the inspection result normal?

- YES >> Inspection End.
NO >> Refer to [SEC-155, "Diagnosis Procedure \(Type B\)"](#) or [SEC-156, "Diagnosis Procedure \(Type A\)"](#).

Diagnosis Procedure (Type B)

INFOID:0000000012430488

Regarding Wiring Diagram information, refer to [SEC-132, "Wiring Diagram"](#).

1.SECURITY INDICATOR LAMP ACTIVE TEST

 With CONSULT

Check "THEFT IND" in "Active Test" of "IMMU".

 Without CONSULT

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

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

Is the inspection result normal?

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

2.SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace combination meter. Refer to [MWI-115, "Removal and Installation"](#).

3.CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and security indicator lamp connector.
3. Check continuity between BCM connector M18 terminal 23 and combination meter connector M24 terminal 18.

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

BCM		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M18	23	M24	18	Yes

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

BCM		Ground	Continuity
Connector	Terminal		
M18	23		No

Is the inspection result normal?

YES >> Check the following:

- 10A fuse No. 8, located in fuse block (J/B)
- Harness for open or short between security indicator lamp and fuse.

NO >> Repair or replace harness.

Diagnosis Procedure (Type A)

INFOID:000000012430489

Regarding Wiring Diagram information, refer to [SEC-132, "Wiring Diagram"](#).

1. SECURITY INDICATOR LAMP ACTIVE TEST

 With CONSULT

Check "THEFT IND" in "Active Test" of "IMMU".

 Without CONSULT

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

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

Is the inspection result normal?

YES >> Security indicator lamp is OK.

NO >> GO TO 2.

2. SECURITY INDICATOR LAMP CHECK

Check security indicator lamp condition.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace combination meter. Refer to [MWI-54, "Removal and Installation"](#).

3. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and security indicator lamp connector.
3. Check continuity between BCM connector M18 terminal 23 and combination meter connector M82 terminal 18.

BCM		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
M18	23	M82	18	Yes

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

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

BCM		Ground	Continuity
Connector	Terminal		
M18	23		No

Is the inspection result normal?

YES >> Check the following:

- 10A fuse No. 8, located in fuse block (J/B)
- Harness for open or short between security indicator lamp and fuse.

NO >> Repair or replace harness.

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

INFOID:0000000012430490

NOTE:

- Before performing the diagnosis in the following table, check "[SEC-139. "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-155
	2. Check Intermittent Incident	GI-42

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NATS ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

REMOVAL AND INSTALLATION

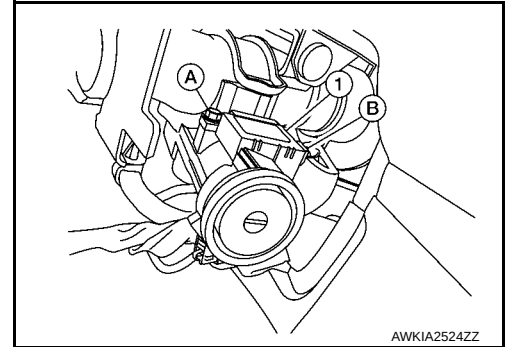
NATS ANTENNA AMP.

Removal and Installation

INFOID:0000000012430491

REMOVAL

1. Remove combination switch. Refer to [BCS-75. "Removal and Installation"](#).
2. Remove the NATS antenna amp bolt (A).
3. Disconnect the harness connector (B) from the NATS antenna amp. (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

NOTE:

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

SEC

REMOTE KEYLESS ENTRY RECEIVER

< REMOVAL AND INSTALLATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

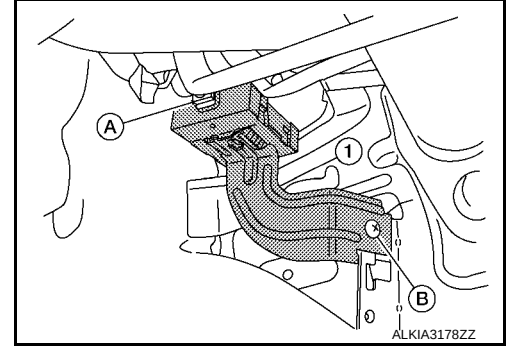
REMOTE KEYLESS ENTRY RECEIVER

Removal and Installation

INFOID:0000000012430492

REMOVAL

1. Remove the glove box. Refer to [IP-25. "Removal and Installation"](#).
2. Disconnect the harness connector (A) from remote keyless entry receiver (1).
3. Remove screw (B) and remove remote keyless entry receiver.



INSTALLATION

Installation is in the reverse order of removal.