SECTION SEC
SECURITY CONTROL SYSTEM

CONTENTS

WITH INTELLIGENT KEY SYSTEM

PRECAUTION

PRECAUTIONS

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

INFOID:0000000011536744

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:

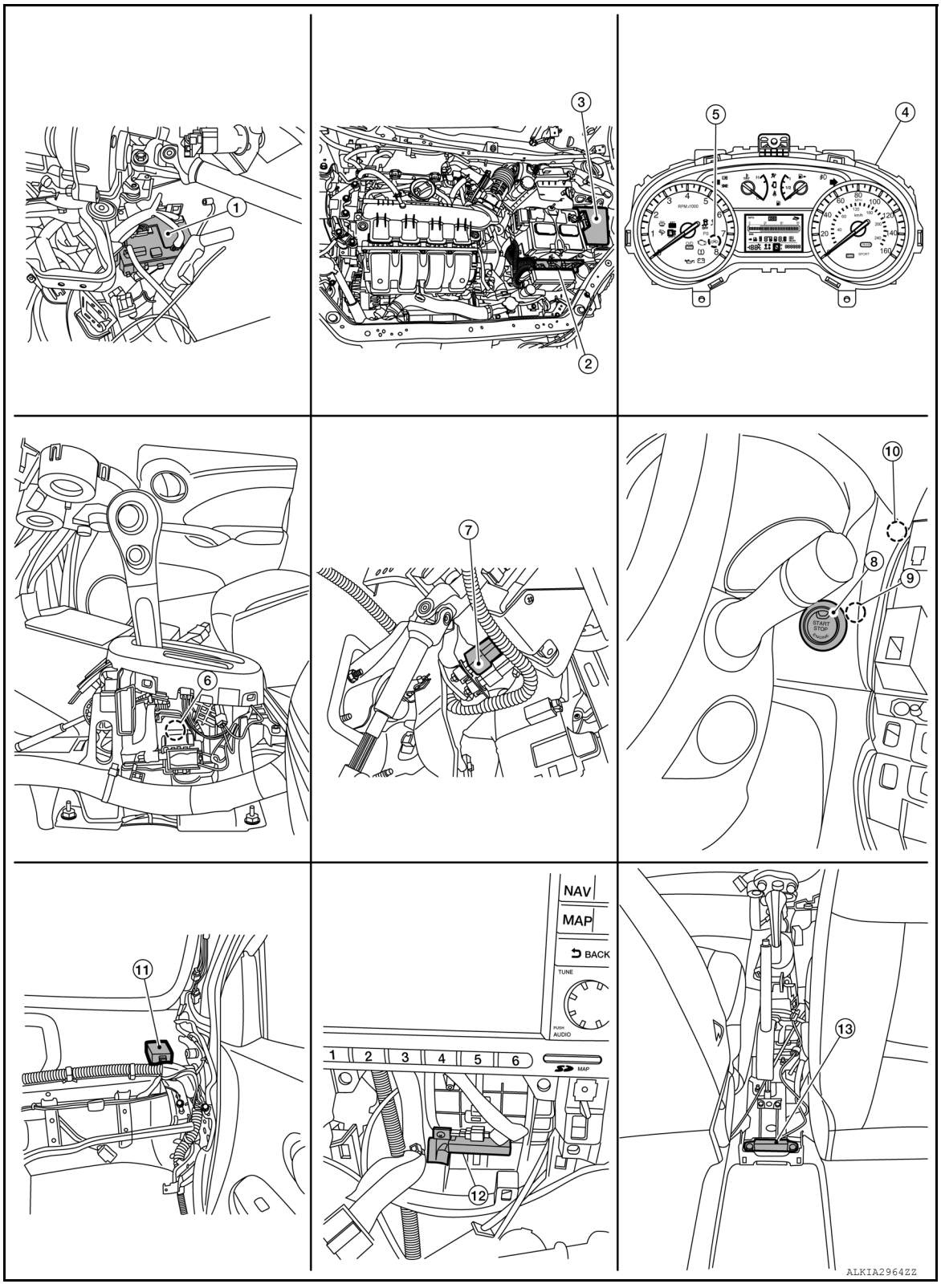
- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious 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.**

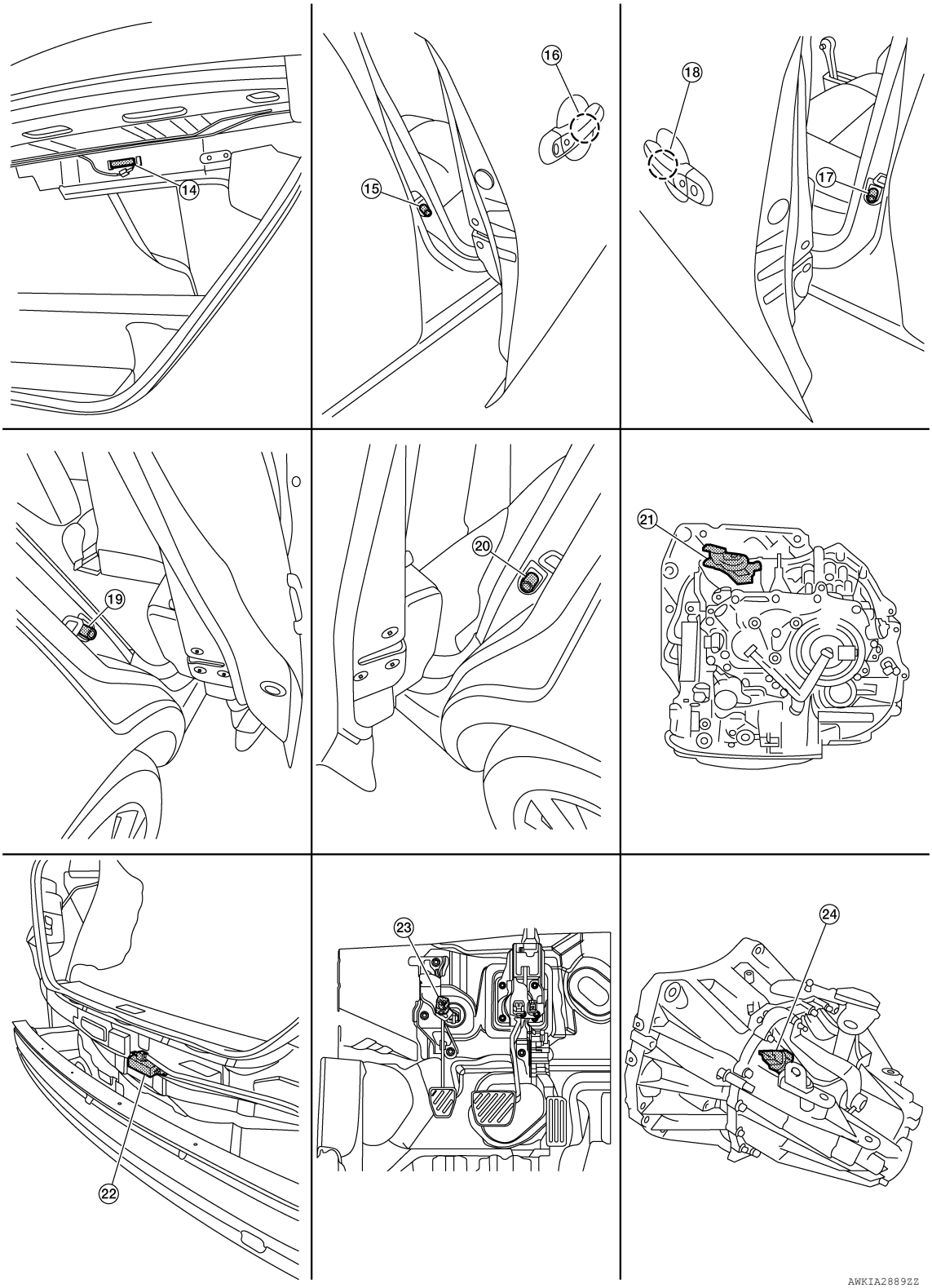
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000011536745





1. BCM (view with instrument panel removed)
2. ECM
3. IPDM E/R
4. Combination meter
5. Security indicator lamp
6. CVT shift selector (park position switch) (view with center console removed)
7. Stop lamp switch
8. Push-button ignition switch
9. NATS antenna amp.

10. Dongle unit (Canada only)
11. Remote keyless entry receiver (view with instrument panel removed)
12. Inside key antenna (instrument center)
13. Inside key antenna (console) (view with center console removed)
14. Inside key antenna (trunk room)
15. Front door switch RH
16. Outside key antenna (passenger side)
17. Front door switch LH
18. Outside key antenna (driver side)
19. Rear door switch RH
20. Rear door switch LH
21. Transmission range switch (CVT)
22. Outside key antenna (rear bumper)
23. Clutch interlock switch (M/T)
24. Park/neutral position (PNP) switch (neutral switch) (M/T)

Component Description

INFOID:0000000011536746

Component	Reference
CVT shift selector (park position switch)	SEC-8
BCM	SEC-8
ECM	SEC-9
IPDM E/R	SEC-9
NATS antenna amp.	SEC-9
Combination meter	SEC-9
Door switch	SEC-9
Outside key antenna	SEC-9
Inside key antenna	SEC-9
Intelligent Key	SEC-9
Push-button ignition switch	SEC-9
Remote keyless entry receiver	SEC-9
Security indicator lamp	SEC-9
Starter relay	SEC-10
Stop lamp switch	SEC-10
Transmission range switch (CVT)	SEC-10
Park/neutral position (PNP) switch (neutral switch) (M/T)	SEC-10
Clutch interlock switch (M/T)	SEC-10

CVT Shift Selector (Park Position Switch)

INFOID:0000000011536747

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:0000000011536748

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:0000000011536749

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.

IPDM E/R

INFOID:0000000011536750

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:0000000011536751

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:0000000011536752

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:0000000011536753

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

Outside Key Antenna

INFOID:0000000011536754

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:0000000011536755

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:0000000011536756

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:0000000011536757

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:0000000011536758

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:0000000011536759

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:0000000011536760

Engine starting system functions by controlling both starter relay and starter control relay.
Both relays are integrated in IPDM E/R. 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:0000000011536761

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

Transmission Range Switch

INFOID:0000000011536762

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)

Park/neutral position (PNP) switch (neutral switch)

INFOID:0000000011536763

Park/neutral position (PNP) switch detects that shift lever is in the neutral position, and then transmits ON/OFF signal to BCM.

Clutch interlock switch

INFOID:0000000011536764

Clutch interlock switch detects that clutch pedal is depressed, then provides power source to starter control relay and starter relay, and transmits ON/OFF signal to BCM.

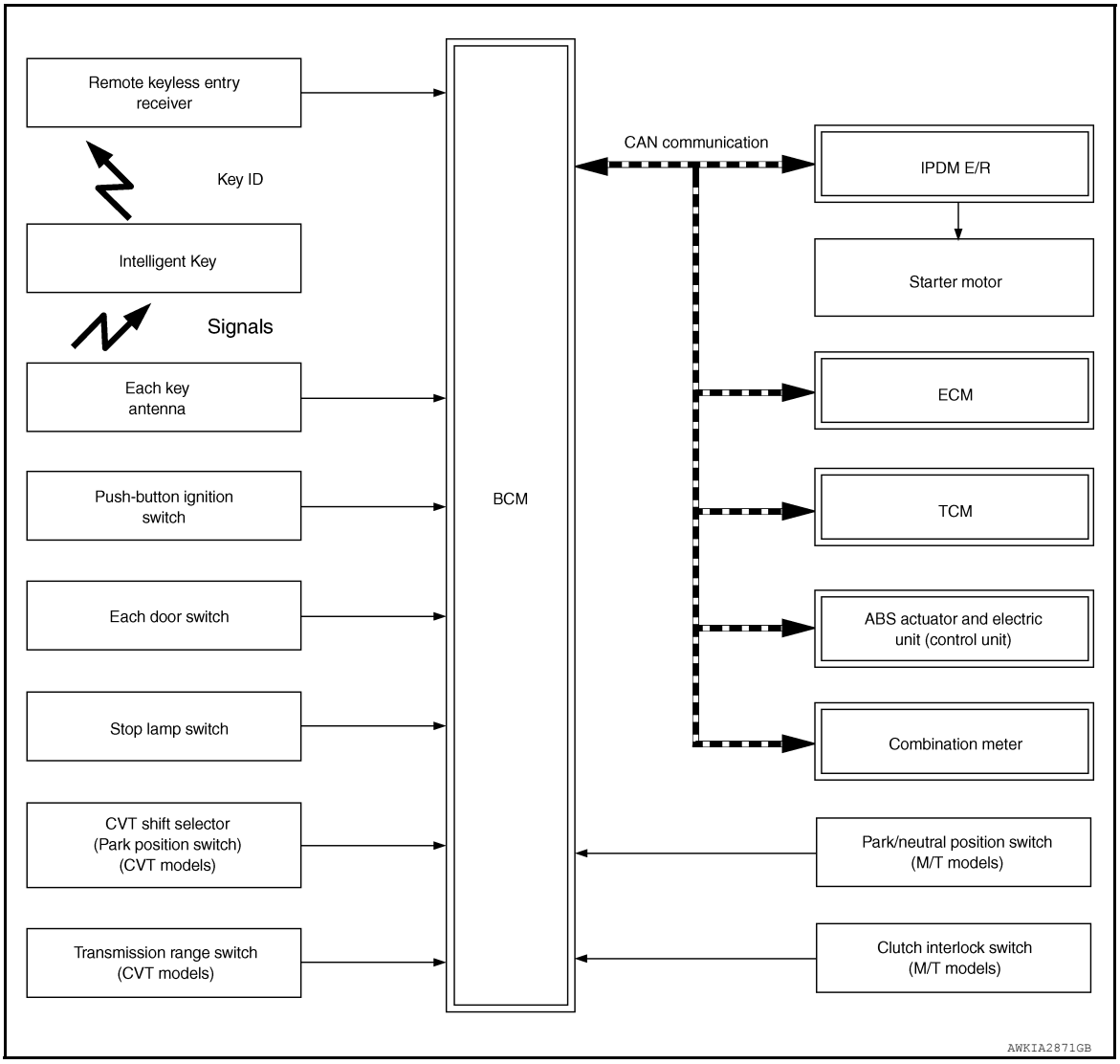
SYSTEM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:0000000011536765

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.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.
- For initialization and registration of Intelligent Key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.
  NOTE:

Refer to SEC-14, "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 (CVT models), or clutch pedal operation condition (M/T models).
8. BCM transmits the starter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
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,
  CVT models
- Brake pedal operation condition
- Selector lever position
- Vehicle speed
  M/T models

- Clutch pedal operation condition
- Vehicle speed

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

Power supply position	Condition			Push-button ignition switch operation frequency
	CVT models		M/T models	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	
OFF → ACC	—	Not depressed	Not depressed	1
OFF → ACC → ON	—	Not depressed	Not depressed	2
OFF → ACC → ON → OFF	—	Not depressed	Not depressed	3
OFF → START ACC → START ON → START	P or N position	Depressed	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
	CVT models		M/T models	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	
Engine is running → ACC	—	—	—	Emergency stop operation
Engine stall return operation while driving	N position	Not depressed	Depressed	1

Emergency stop operation

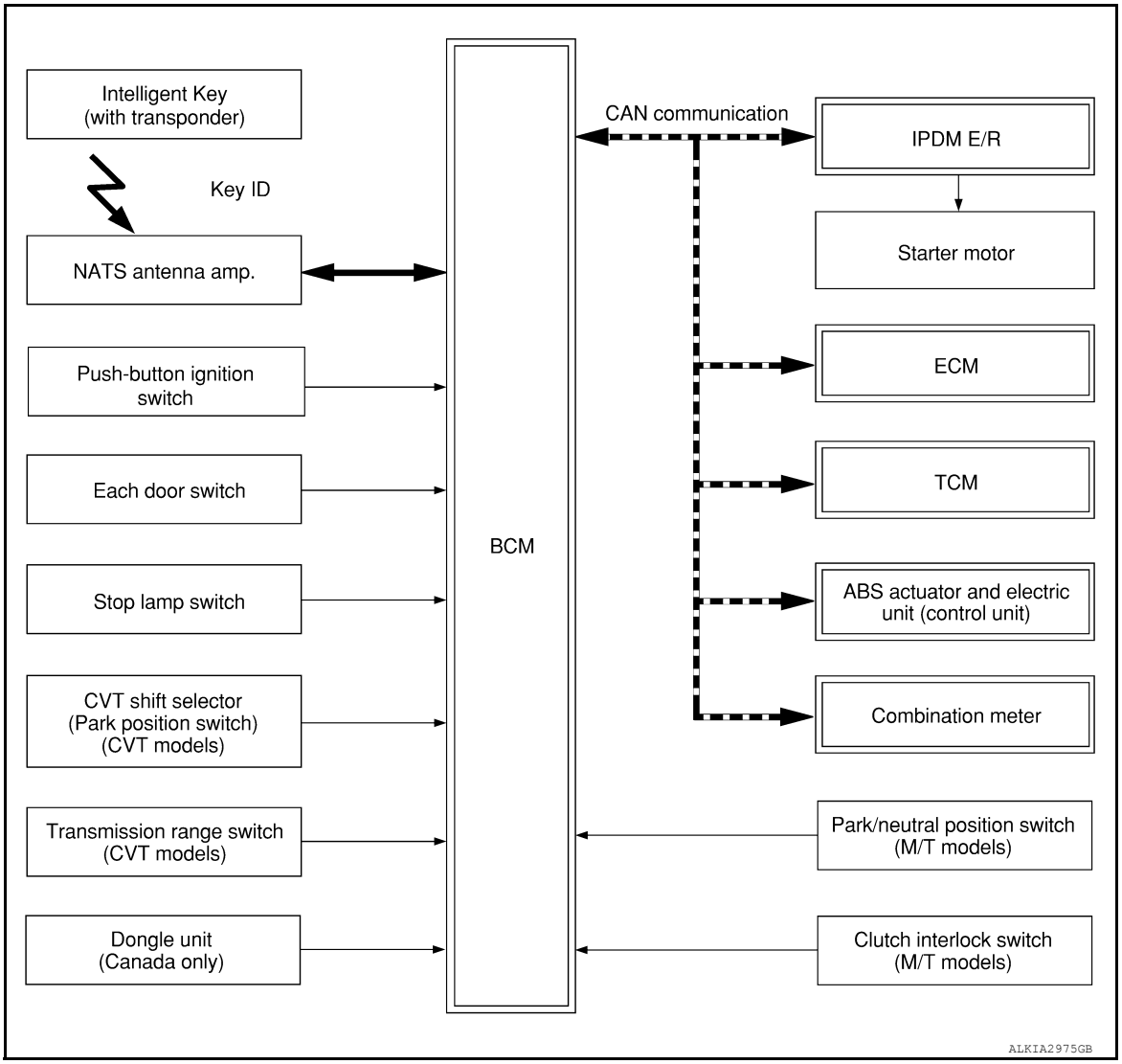
- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

NISSAN ANTI-THEFT SYSTEM

NISSAN ANTI-THEFT SYSTEM : System Description

INFOID:0000000011536766

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 Key, 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 GI-36, "Work Flow".
- If ECM other than genuine part is installed, the engine cannot be started.
  For ECM replacement procedure, refer to EC-488, "Removal and Installation".

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 (CVT models), or selector lever is in the Neutral position (M/T models), 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 (CVT models), or clutch pedal operation condition (M/T models).
8. BCM transmits starter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
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,

CVT models

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

M/T models

- Clutch pedal operation condition
- Vehicle speed

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

Power supply position	Condition			Push-button ignition switch operation frequency
	CVT models		M/T models	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	
OFF → ACC	—	Not depressed	Not depressed	1
OFF → ACC → ON	—	Not depressed	Not depressed	2
OFF → ACC → ON → OFF	—	Not depressed	Not depressed	3
OFF → START ACC → START ON → START	P or N position	Depressed	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
	CVT models		M/T models	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	
Engine is running → ACC	—	—	—	Emergency stop operation
Engine stall return operation while driving	N position	Not depressed	Depressed	1

Emergency stop operation

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

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Description

INFOID:0000000011536767

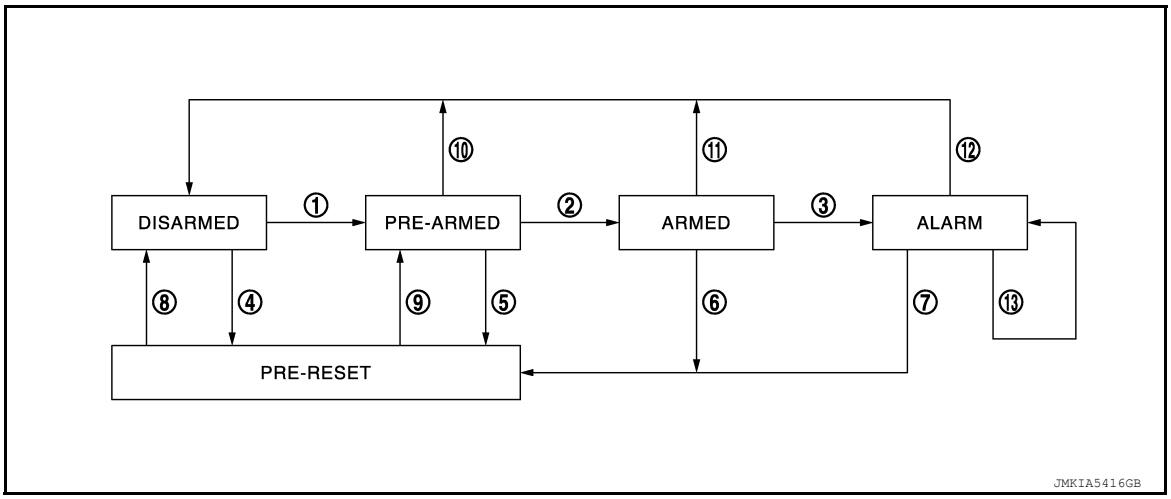
- The vehicle security system has two alarm functions (theft warning alarm and panic alarm) and reduces the possibility of a theft or mischief by activating horns and headlamps intermittently.
- The panic alarm does not start when the theft warning alarm is activating and the panic alarm stops when the theft warning alarm is activated.
  The priority of the functions are as per the following.

Priority	Function
1	Theft warning alarm
2	Panic alarm

THEFT WARNING ALARM

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

Operation Flow



No.	System state	Switching condition		
1	DISARMED to PRE-ARMED	When all conditions of A and one condition of B is satisfied.	A	B
			• Power supply position: OFF/LOCK • All doors: Closed	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	• Power supply position: OFF/LOCK • All doors: Locked	
3	ARMED to ALARM	When one condition of A and one condition of B are satisfied.	A	B
			Intelligent Key: Not used	• Any door: Open
4	DISARMED to PRE-RESET	No conditions		
5	PRE-ARMED to PRE-RESET			
6	ARMED to PRE-RESET			
7	ALARM to PRE-RESET			
8	PRE-RESET to DISARMED			
9	PRE-RESET to PRE-ARMED			
10	PRE-ARMED to DISARMED	When one of the following conditions is satisfied.	• Power supply position: ACC/ON/CRANKING/RUN • Door key cylinder UNLOCK switch: ON • UNLOCK button of Intelligent Key: ON • TRUNK button of Intelligent Key: ON • Door request switch: ON • Trunk opener switch: ON • Any door: Open	
11	ARMED to DISARMED	When one of the following conditions is satisfied.	• Power supply position: ACC/ON/CRANKING/RUN • Door key cylinder UNLOCK switch: ON • UNLOCK button of Intelligent Key: ON • Door request switch: ON • Trunk opener switch: ON	
12	ALARM to DISARMED			
13	RE-ALARM	When one of the following conditions is satisfied after the ALARM operation is finished.	• Any door: Open	

NOTE:

- BCM ignores the door key cylinder UNLOCK switch signal input for 1 second after the door key cylinder LOCK switch signal input.
- To lock/unlock all doors by operating remote controller button of Intelligent Key or door request switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to SEC-11, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".
- To open trunk by operating trunk opener switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to SEC-11, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".

DISARMED Phase

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

PRE-ARMED Phase

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

ARMED Phase

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

ALARM Phase

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

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

PANIC ALARM

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

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

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

INFOID:0000000011900756

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

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

SYSTEM APPLICATION
BCM can perform the following functions.

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

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000011900757

SELF DIAGNOSTIC RESULT

Refer to BCS-49, "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 trunk open switch.
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.
CLUCH SW [On/Off]	×	Indicates condition of clutch 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 driver 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.
TRNK/HAT MNTR [On/Off]		Indicates condition of trunk lid switch.
RKE-LOCK [On/Off]		Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]		Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]		Indicates condition of trunk open signal from Intelligent Key.
RKE-PANIC [On/Off]		Indicates condition of panic signal from Intelligent Key.
RKE-MODE CHG [On/Off]		Indicates condition of mode change signal from Intelligent Key.

ACTIVE TEST

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].
TRUNK/BACK DOOR	This test is able to check trunk actuator operation [Open].
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.
TRUNK/GLASS HATCH OPEN	On*		Buzzer reminder function from trunk opener switch.
	Off		No buzzer reminder function from trunk opener switch.
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	Starter motor operation duration time setting.
		100 msec	
		200 msec	
	End		—

Support Item	Setting		Description
PANIC ALARM SET	MODE 3	1.5 sec	Intelligent Key panic alarm button setting.
	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.
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	
TRUNK OPEN DELAY	MODE 3	1.5 sec	Intelligent Key trunk open button setting.
	MODE 2	OFF	
	MODE 1*	0.5 sec	

*: Initial Setting

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000011900760

SELF DIAGNOSTIC RESULT

Refer to BCS-49, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
CONFRM 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.

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:0000000011900761

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 trunk open switch.
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of driver 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 trunk 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.
TR/BD OPEN SW [On/Off]	Indicates condition of trunk open switch.
TRNK/HAT MNTR [On/Off]	Indicates condition of trunk lid switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]	Indicates condition of trunk open 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].

WORK SUPPORT

Support Item	Setting	Description
SECURITY ALARM SET	Off	Security alarm OFF.
	On*	Security alarm ON.
THEFT ALM TRG	Off/On	The switch which triggered vehicle security alarm is recorded [On]. This mode is able to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching [CLEAR].
	CLEAR	

*: Initial setting

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:0000000011536772

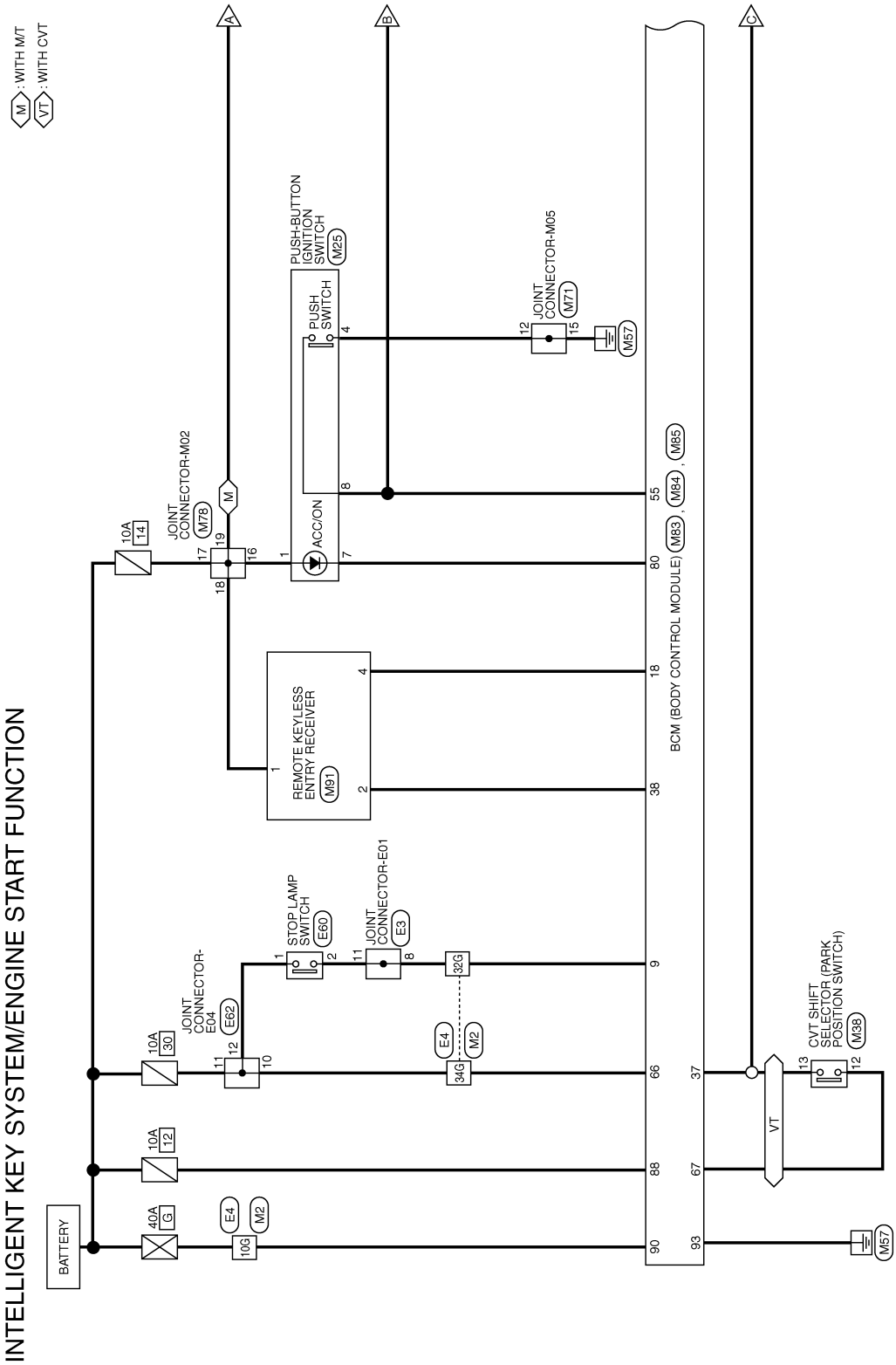
ECU		Reference
ECM	Reference Value	EC-77, "Reference Value"
	Fail-safe	EC-90, "Fail Safe"
	DTC Inspection Priority Chart	EC-93, "DTC Inspection Priority Chart"
	DTC Index	EC-94, "DTC Index"
BCM	Reference Value	BCS-29, "Reference Value"
	Fail-safe	BCS-46, "Fail-safe"
	DTC Inspection Priority Chart	BCS-48, "DTC Inspection Priority Chart"
	DTC Index	BCS-49, "DTC Index"
IPDM E/R	Reference Value	PCS-13, "Reference Value"
	Fail-safe	PCS-19, "Fail-safe"
	DTC Index	PCS-20, "DTC Index"

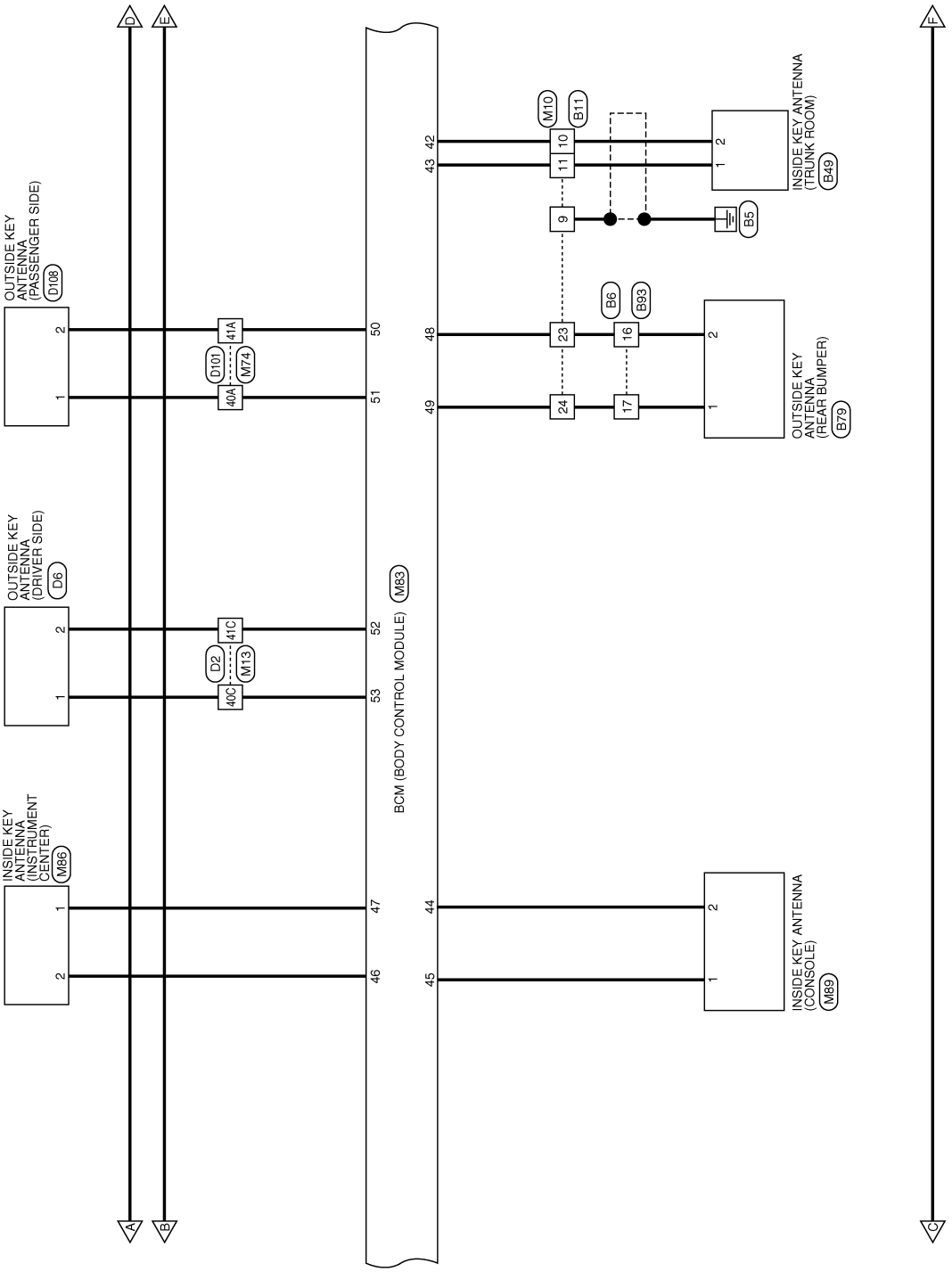
WIRING DIAGRAM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram

INFOID:0000000011536773




D
E
F
A
B
C
OUTSIDE KEY ANTENNA (PASSENGER SIDE) D108
OUTSIDE KEY ANTENNA (DRIVER SIDE) D6
INSIDE KEY ANTENNA (INSTRUMENT CENTER) M86
BCM (BODY CONTROL MODULE) M83
INSIDE KEY ANTENNA (TRUNK ROOM) B49
OUTSIDE KEY ANTENNA (REAR BUMPER) B79
INSIDE KEY ANTENNA (CONSOLE) M89
B5
M10
B11
B6
B93
41A
40A
D101
M74
41C
40C
D2
M13
50
51
52
53
47
46
42
43
48
49
44
45
9
10
11
23
24
16
17
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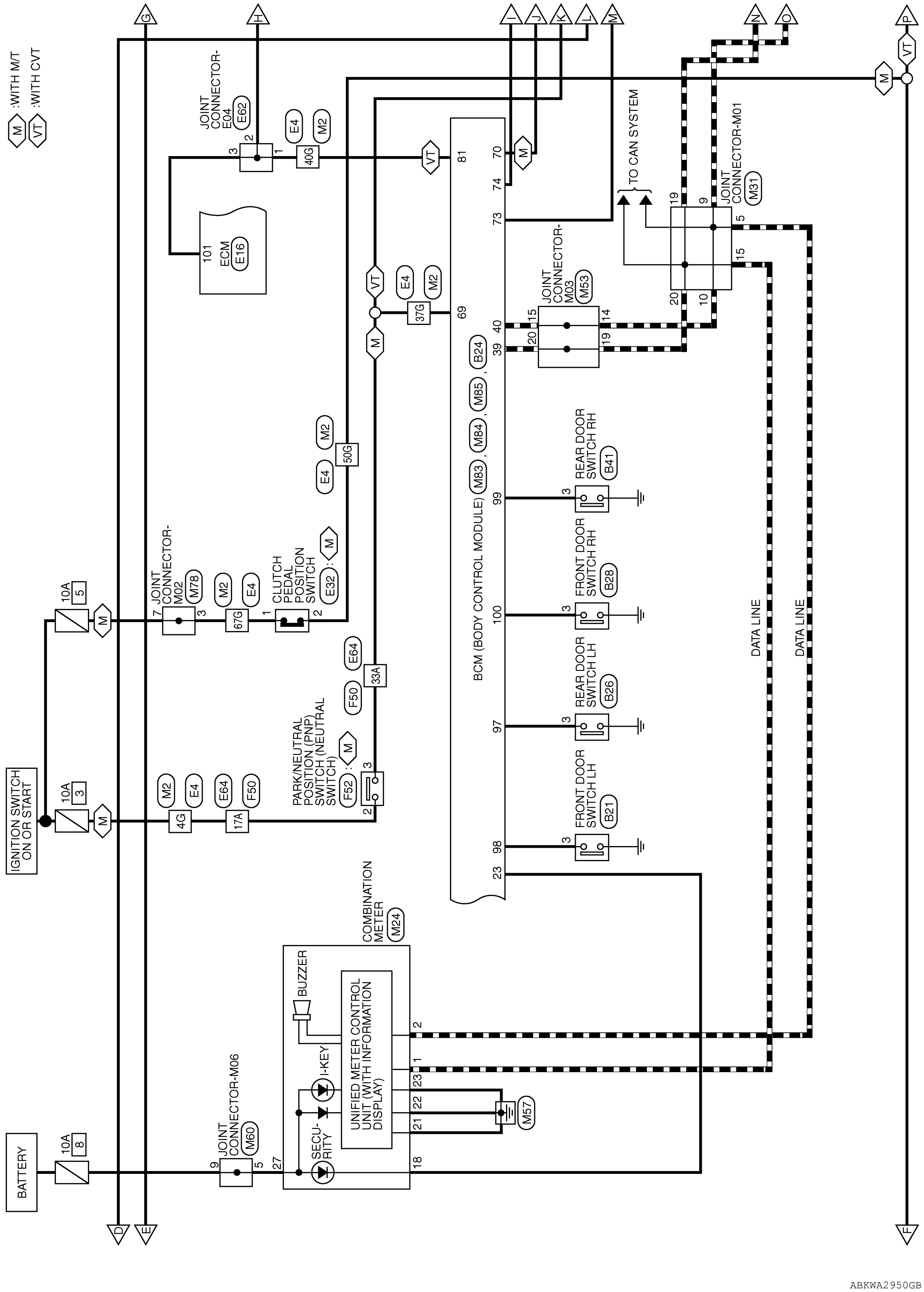
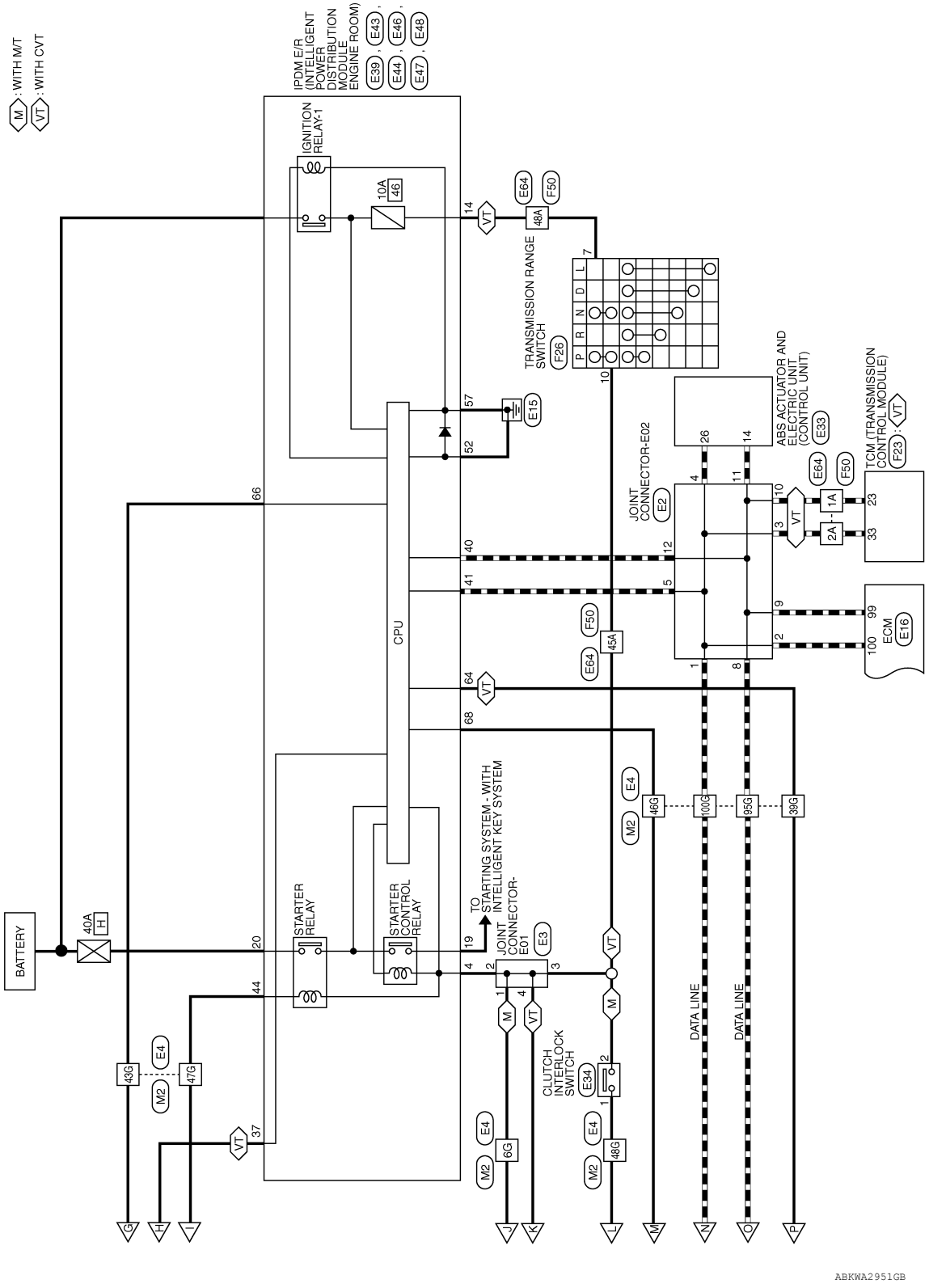


M :WITH M/T
VT :WITH CVT
JOINT CONNECTOR-E04
E62
ECM
E16
BCM (BODY CONTROL MODULE)
M83
M84
M85
B24
JOINT CONNECTOR-M03
M53
JOINT CONNECTOR-M01
M31
TO CAN SYSTEM
REAR DOOR SWITCH RH
B41
FRONT DOOR SWITCH RH
B28
REAR DOOR SWITCH LH
B26
FRONT DOOR SWITCH LH
B21
DATA LINE
DATA LINE
JOINT CONNECTOR-M02
M78
CLUTCH PEDAL POSITION SWITCH
E32
PARK/NEUTRAL POSITION (PNP) SWITCH (NEUTRAL SWITCH)
F52
IGNITION SWITCH ON OR START
BATTERY
10A
COMBINATION METER
M24
BUZZER
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
I-KEY
SECU-RITY
JOINT CONNECTOR-M06
M60
M57
ABKWA2950GB


M : WITH M/T
VT : WITH CVT
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E39, E43, E44, E46, E47, E48
IGNITION RELAY-1
10A 46
14
VT
E64
F50
48A
TRANSMISSION RANGE SWITCH
F26
P R N D L
7
10
57
52
E15
CPU
66
40
41
64
68
JOINT CONNECTOR-E02
E2
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
E33
26
14
4
11
10
3
1A
2A
23
33
TCM (TRANSMISSION CONTROL MODULE)
F23
VT
ECM
E16
99
100
9
2
12
5
1
8
45A
BATTERY
40A H
20
44
STARTER RELAY
STARTER CONTROL RELAY
19
4
2
TO STARTING SYSTEM - WITH INTELLIGENT KEY SYSTEM
JOINT CONNECTOR-E01
E3
3
1
4
M
VT
CLUTCH INTERLOCK SWITCH
E34
2
1
E4
M2
43G
47G
37
6G
48G
46G
100G
95G
39G
DATA LINE
DATA LINE
G
F
I
J
K
L
M
N
O
P
ABKWA2951GB

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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

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

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

71G	72G	73G	74G	75G	76G	77G	78G	79G	80G	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		

91G	92G	93G	94G	95G
96G	97G	98G	99G	100G

Terminal No.	Color of Wire	Signal Name
4G	GR	–
6G	O	–
10G	Y	–
32G	R	–
34G	V	–
37G	L	–
39G	P	–
40G	G	–
43G	LG	–
46G	V	–
47G	SB	–
48G	G	–
50G	P	–
67G	W	–
95G	P	–
100G	L	–

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

36C	37C	38C	39C	40C	41C	42C	43C	44C	45C	46C
47C	48C	49C	50C	51C	52C	53C	54C	55C		

Terminal No.	Color of Wire	Signal Name
40C	P	–
41C	LG	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
10	BR	–
11	Y	–
23	R	–
24	W	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
18	Y	SECURITY
21	B	GND (ILL)
22	B	GND2 (POWER)
23	B	GND3 (CIRCUIT)
27	LG	BAT

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

H.S.

4	3	2	1
5	6	7	8

Terminal No.	Color of Wire	Signal Name
1	Y	–
4	B	–
7	V	–
8	LG	–

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Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
12	SB	–
13	P	–

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	P	–
9	P	–
10	P	–
15	L	–
19	L	–
20	L	–

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A
16A	17A	18A	19A	20A	21A	22A	23A	24A	25A	26A	36A	37A	38A	39A
27A	28A	29A	30A	31A	32A	33A	34A	35A			47A	48A	49A	50A

40A	39A	41A	42A	43A	44A	45A	46A
51A	52A	53A	54A	55A			

Terminal No.	Color of Wire	Signal Name
40A	BR	–
41A	Y	–

Connector No.	M71
Connector Name	JOINT CONNECTOR-M05
Connector Color	PINK

H.S.

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

Terminal No.	Color of Wire	Signal Name
12	B	–
15	B	–

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	LG	–
9	W	–

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Connector No.	M78
Connector Name	JOINT CONNECTOR-M02
Connector Color	PINK

H.S.

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

Terminal No.	Color of Wire	Signal Name
3	W	–
7	G	–
16	Y	–
17	SB	–
18	R	–
19	G	–

Connector No.	M83
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
42	BR	ROOM ANTENNA 3 -
43	Y	ROOM ANTENNA 3 +
44	R	ROOM ANTENNA 2 -
45	G	ROOM ANTENNA 2 +
46	GR	ROOM ANTENNA 1 -
47	BR	ROOM ANTENNA 1 +
48	R	BACK DOOR ANTENNA -
49	W	BACK DOOR ANTENNA +
50	Y	DOOR ANTENNA (AS) -
51	BR	DOOR ANTENNA (AS) +
52	LG	DOOR ANTENNA (DR) -
53	P	DOOR ANTENNA (DR) +
55	LG	ENGINE START SW
66	V	BRAKE SW2
67	SB	AT DEVICE OUTPUT
69	L	SHIFT N, P (WITH CVT)
69	L	NEUTRAL SW (WITH M/T)
70	O	CLUTCH SW (WITH M/T)
73	V	IGN RELAY OUTPUT1 (USM)
74	SB	STARTER RELAY OUTPUT
80	V	POWER POSITION LED (LOCK POSITION LED)

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
9	R	BRAKE SW1
18	V	KEYLESS TUNER, AUTO LIGHT SENSOR GND
23	Y	SECURITY INDICATOR OUTPUT
37	P	SHIFT P POSITION, PARKING POSITION SW (WITH CVT)
37	P	ASCD CANCEL SW (CLUTCH CANCEL SW) (WITH M/T)
38	LG	INTELLIGENT TUNER
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
81	G	STARTER OUTPUT ENABLE INPUT
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

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Connector No.	M91
Connector Name	REMOTE KEYLESS ENTRY RECEIVER (WITH INTELLIGENT KEY SYSTEM
Connector Color	WHITE

H.S.

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

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

H.S.

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

Connector No.	E3
Connector Name	JOINT CONNECTOR-E01
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	BR	–
2	BR	–
3	BR	–
4	BR	–
8	SB	–
11	SB	–

Connector No.	M86
Connector Name	INSIDE KEY ANTENNA (INSTRUMENT CENTER)
Connector Color	BLUE

H.S.

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

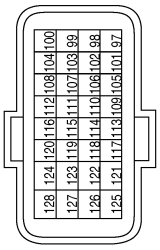
Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

H.S.

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

ABKIA6748GB

Connector No.	E16
Connector Name	ECM
Connector Color	GRAY



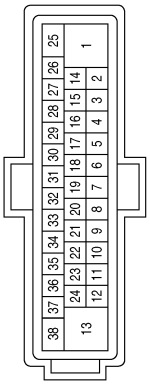
Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H
101	SB	STARTER RELAY CUT OFF SIGNAL

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

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

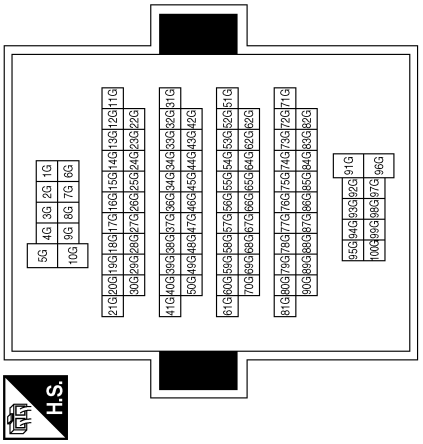
Terminal No.	Color of Wire	Signal Name
4G	GR	–
6G	BR	–
10G	G	–
32G	SB	–
34G	W	–
37G	BR	–
39G	Y	–
40G	SB	–
43G	L	–
46G	O	–
47G	V	–
48G	LG	–
50G	GR	–
67G	O	–
95G	P	–
100G	L	–

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



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

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	E32
Connector Name	CLUTCH PEDAL POSITION SWITCH
Connector Color	BROWN

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

ABKIA6749GB

Connector No.	E39
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

67	66	65	64	63
72	71	70	69	68

Terminal No.	Color of Wire	Signal Name
64	Y	DETENT SW
66	L	PUSH START SW
68	O	IGN SIGNAL

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4	BR	NP SW
14	LG	REVERSE LAMP IGN

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

H.S.

21	20	19
24	23	22

Terminal No.	Color of Wire	Signal Name
19	R	STARTER MOTOR
20	P	F/L IGN SW

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
37	SB	INHIBIT CUT
40	P	CAN-L
41	L	CAN-H
44	V	START CONT

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

H.S.

51				50	49
56	55	54	53	52	

Terminal No.	Color of Wire	Signal Name
52	B/Y	GND (SIGNAL)

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
57	B/Y	GND (POWER)

ABKIA5412GB

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

H.S.

Terminal No.	Color of Wire	Signal Name
1A	P	–
2A	L	–
17A	GR	–
33A	BR	–
45A	BR	–
48A	LG	–

Connector No.	E62
Connector Name	JOINT CONNECTOR-E04
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	SB	–
3	SB	–
10	W	–
11	W	–
12	W	–

Connector No.	E60
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE

H.S.

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

Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK

H.S.

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

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

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.

ABKIA6750GB

Connector No.	F52
Connector Name	PARK/NEUTRAL POSITION (PNP) SWITCH
Connector Color	GREEN

H.S.

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

Terminal No.	Color of Wire	Signal Name
1A	P	–
2A	L	–
17A	SB	–
33A	BR	–
45A	BR	–
48A	GR	–

Connector No.	B21
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	Y	–

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
9	SHIELD	–
10	LG	–
11	V	–
23	Y	–
24	W	–

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
16	Y	–
17	W	–

ABKIA6751GB

Connector No.	B24
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
97	GR	DOOR SW (RL)
98	Y	DOOR SW (DR)
99	P	DOOR SW (RR)
100	R	DOOR SW (AS)

Connector No.	B26
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	GR	–

Connector No.	B28
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	B41
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	P	–

Connector No.	B49
Connector Name	INSIDE KEY ANTENNA (TRUNK ROOM)
Connector Color	BLUE

H.S.

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

Connector No.	B79
Connector Name	OUTSIDE KEY ANTENNA (REAR BUMPER)
Connector Color	BLUE

H.S.

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

AAKIA1019GB

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
16	B	–
17	W	–

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

H.S.

15C	14C	13C	12C	11C	10C	9C	8C	7C	6C	5C	4C	3C	2C	1C
46C	45C	44C	43C	42C	41C	40C	39C	38C	37C	36C				
55C	54C	53C	52C	51C	50C	49C	48C	47C						

26C	25C	24C	23C	22C	21C	20C	19C	18C	17C	16C
35C	34C	33C	32C	31C	30C	29C	28C	27C		

Terminal No.	Color of Wire	Signal Name
40C	P	–
41C	V	–

Connector No.	D6
Connector Name	OUTSIDE KEY ANTENNA (DRIVER SIDE)
Connector Color	GRAY

H.S.

1	2

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

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

H.S.

15A	14A	13A	12A	11A	10A	9A	8A	7A	6A	5A	4A	3A	2A	1A
46A	45A	44A	43A	42A	41A	40A	39A	38A	37A	36A				
55A	54A	53A	52A	51A	50A	49A	48A	47A						

26A	25A	24A	23A	22A	21A	20A	19A	18A	17A	16A
35A	34A	33A	32A	31A	30A	29A	28A	27A		

Terminal No.	Color of Wire	Signal Name
40A	P	–
41A	V	–

Connector No.	D108
Connector Name	OUTSIDE KEY ANTENNA (PASSENGER SIDE)
Connector Color	GRAY

H.S.

1	2

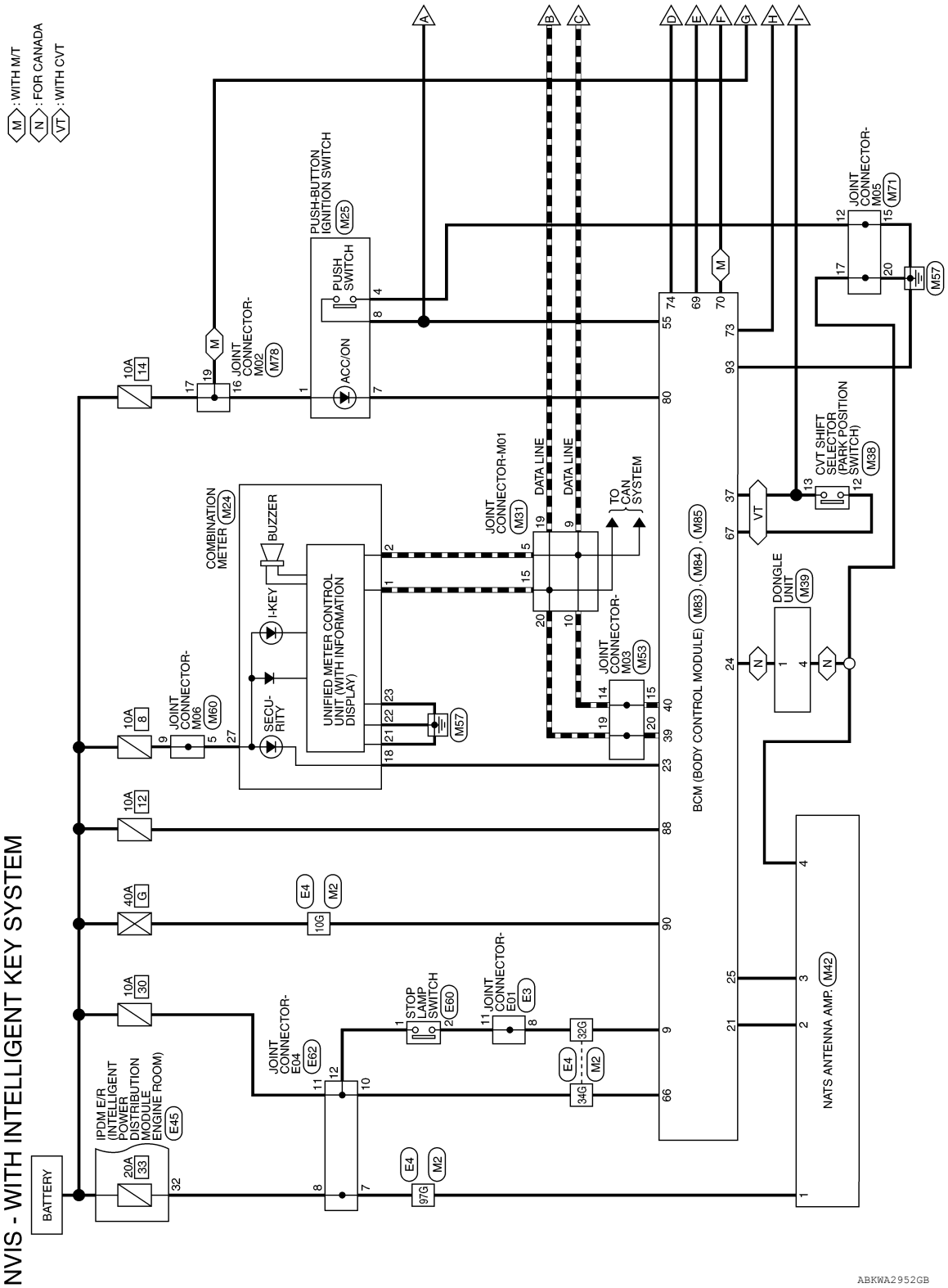
Terminal No.	Color of Wire	Signal Name
1	P	–
2	V	–

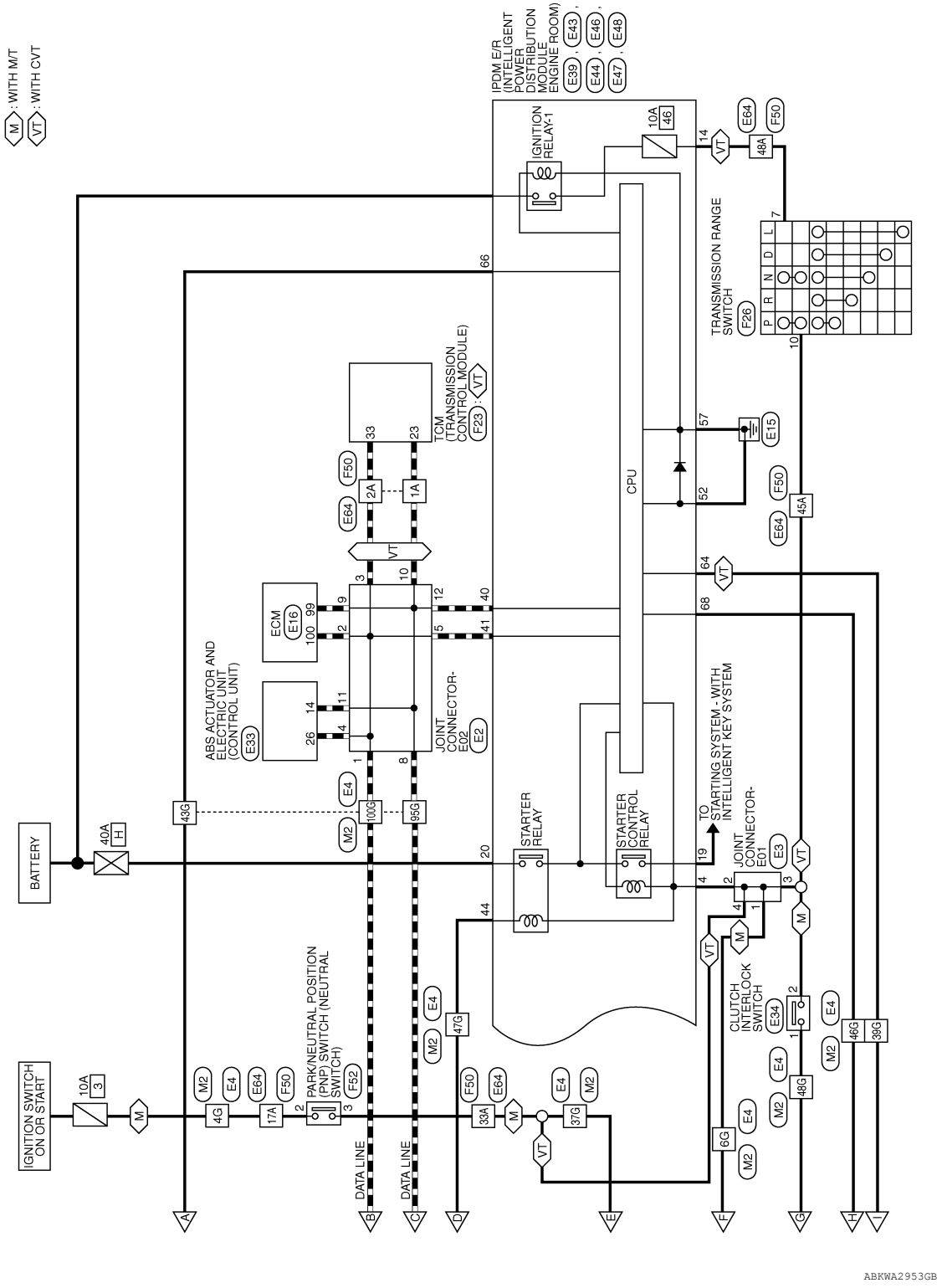
AAKIA1020GB

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram

INFOID:0000000011536774




M : WITH M/T
VT : WITH CVT
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E39, E43, E44, E46, E47, E48
IGNITION RELAY-1
10A 46
TRANSMISSION RANGE SWITCH F26
P R N D L
CPU
TCM (TRANSMISSION CONTROL MODULE) F23 : VT
ECM E16
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) E33
JOINT CONNECTOR-E02 E2
BATTERY
40A H
IGNITION SWITCH ON OR START
10A 3
PARK/NEUTRAL POSITION (PNP) SWITCH (NEUTRAL SWITCH)
DATA LINE
STARTER RELAY
STARTER CONTROL RELAY
TO STARTING SYSTEM - WITH INTELLIGENT KEY SYSTEM
JOINT CONNECTOR-E01 E3
CLUTCH INTERLOCK SWITCH E34
A B C D E F G H I
ABKWA2953GB

NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4G	GR	–
6G	O	–
10G	Y	–
32G	R	–
34G	V	–
37G	L	–
39G	P	–
43G	LG	–
46G	V	–
47G	SB	–
48G	G	–
95G	P	–
97G	V	–
100G	L	–

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
18	Y	SECURITY
21	B	GND (ILL)
22	B	GND2 (POWER)
23	B	GND3 (CIRCUIT)
27	LG	BAT

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

H.S.

Terminal No.	Color of Wire	Signal Name
12	SB	–
13	P	–

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
5	P	–
9	P	–
10	P	–
15	L	–
19	L	–
20	L	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
1	Y	–
4	B	–
7	V	–
8	LG	–

ABKIA5415GB

Connector No.	M39
Connector Name	DONGLE UNIT
Connector Color	WHITE

H.S.

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

Connector No.	M42
Connector Name	NATS ANTENNA AMP.
Connector Color	WHITE

H.S.

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

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.

Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
5	LG	–
9	W	–

Connector No.	M71
Connector Name	JOINT CONNECTOR-M05
Connector Color	PINK

H.S.

Terminal No.	Color of Wire	Signal Name
12	B	–
15	B	–
17	B	–
20	B	–

Connector No.	M78
Connector Name	JOINT CONNECTOR-M02
Connector Color	PINK

H.S.

Terminal No.	Color of Wire	Signal Name
16	Y	–
17	SB	–
19	G	–

ABKIA6752GB

Terminal No.	Color of Wire	Signal Name
73	V	IGN RELAY OUTPUT1 (USM)
74	SB	STARTER RELAY OUTPUT
80	V	POWER POSITION LED (LOCK POSITION LED)

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

Terminal No.	Color of Wire	Signal Name
55	LG	ENGINE START SW
66	V	BRAKE SW2
67	SB	AT DEVICE OUTPUT
69	L	SHIFT N, P (WITH CVT)
69	L	NEUTRAL SW (WITH M/T)
70	O	CLUTCH SW (WITH M/T)

Terminal No.	Color of Wire	Signal Name
23	Y	SECURITY INDICATOR OUTPUT
24	SB	AUDIO/DONGLE LINK (SERIAL)
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
37	P	SHIFT P POSITION, PARKING POSITION SW (WITH CVT)
39	L	CAN-H
40	P	CAN-L

Connector No.	M83
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

Terminal No.	Color of Wire	Signal Name
9	R	BRAKE SW1
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)

ABKIA5416GB

Connector No.	E3
Connector Name	JOINT CONNECTOR-E01
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	BR	–
2	BR	–
3	BR	–
4	BR	–
8	SB	–
11	SB	–

Connector No.	E16
Connector Name	ECM
Connector Color	GRAY

H.S.

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

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

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

H.S.

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

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

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4G	GR	–
6G	BR	–
10G	G	–
32G	SB	–
34G	W	–
37G	BR	–
39G	Y	–
43G	L	–
46G	O	–
47G	V	–
48G	LG	–
95G	P	–
97G	Y	–
100G	L	–

ABKIA6753GB

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

H.S.

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

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

H.S.

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

Connector No.	E39
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
64	Y	DETENT SW
66	L	PUSH START SW
68	O	IGN SIGNAL

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

H.S.

Terminal No.	Color of Wire	Signal Name
4	BR	NP SW
14	LG	REVERSE LAMP IGN

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

H.S.

Terminal No.	Color of Wire	Signal Name
19	R	STARTER MOTOR
20	P	F/L IGN SW

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

H.S.

Terminal No.	Color of Wire	Signal Name
32	Y	ECM BAT

ABKIA6754GB

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
40	P	CAN-L
41	L	CAN-H
44	V	START CONT

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

H.S.

51		50	49
56	55	54	53	52

Terminal No.	Color of Wire	Signal Name
52	B/Y	GND (SIGNAL)

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
57	B/Y	GND (POWER)

Connector No.	E60
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE

H.S.

3	4
1	2

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

Connector No.	E62
Connector Name	JOINT CONNECTOR-E04
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	Y	–
8	Y	–
10	W	–
11	W	–
12	W	–

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

H.S.

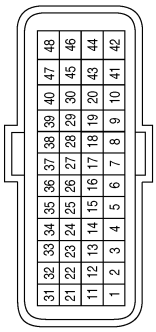
40A	31A		19A		10A	1A
41A	32A			26A	20A	11A	2A
42A	33A					12A	3A
43A	34A			27A	21A	13A	4A
44A	35A			28A	22A	14A	5A
45A	36A			29A	23A	15A	6A
46A	37A					16A	7A
47A	38A			30A	24A	17A	8A
48A	39A				25A	18A	9A

Terminal No.	Color of Wire	Signal Name
1A	P	–
2A	L	–
17A	GR	–
33A	BR	–
45A	BR	–
48A	LG	–

ABKIA6755GB

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

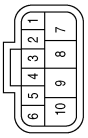
H.S.



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

Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK

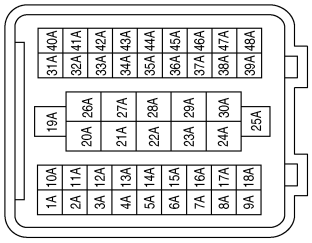
H.S.



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

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
1A	P	–
2A	L	–
17A	SB	–
33A	BR	–
45A	BR	–
48A	GR	–

Connector No.	F52
Connector Name	PARK/NEUTRAL POSITION (PNP) SWITCH
Connector Color	GREEN

H.S.

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

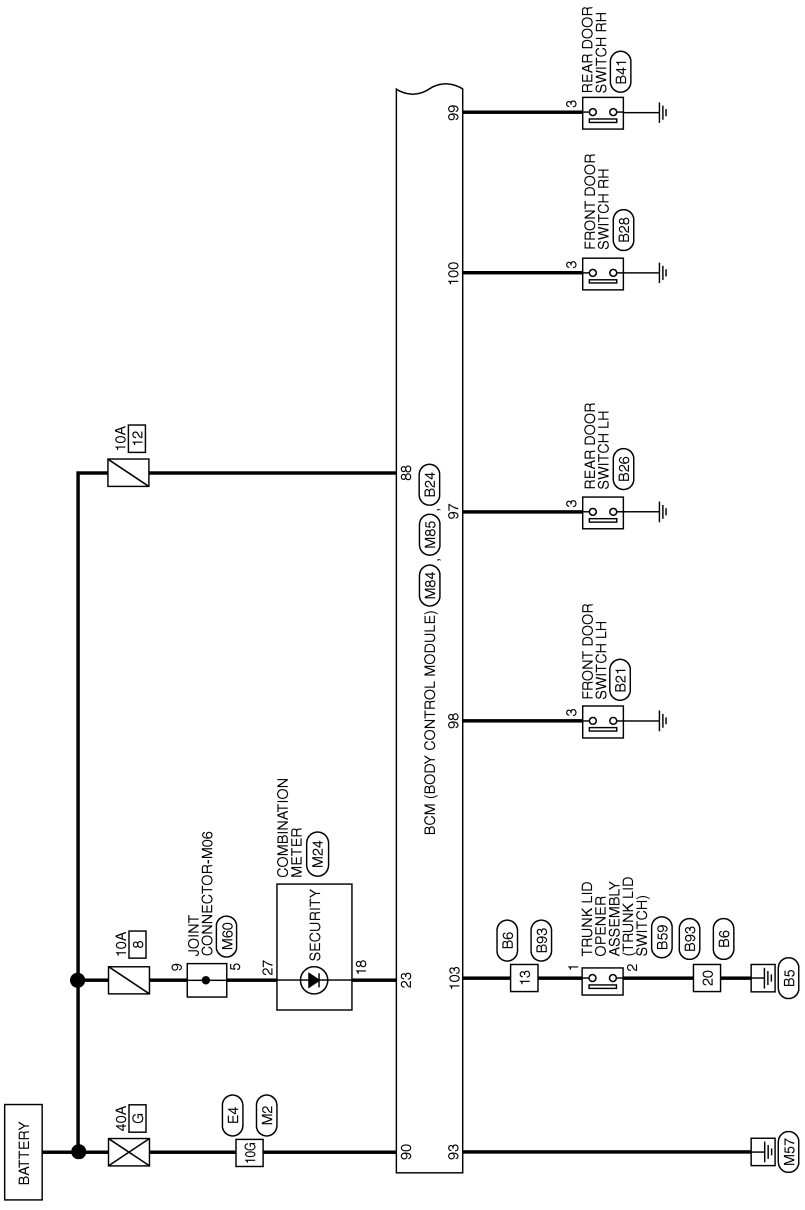
ABKIA6756GB

VEHICLE SECURITY SYSTEM

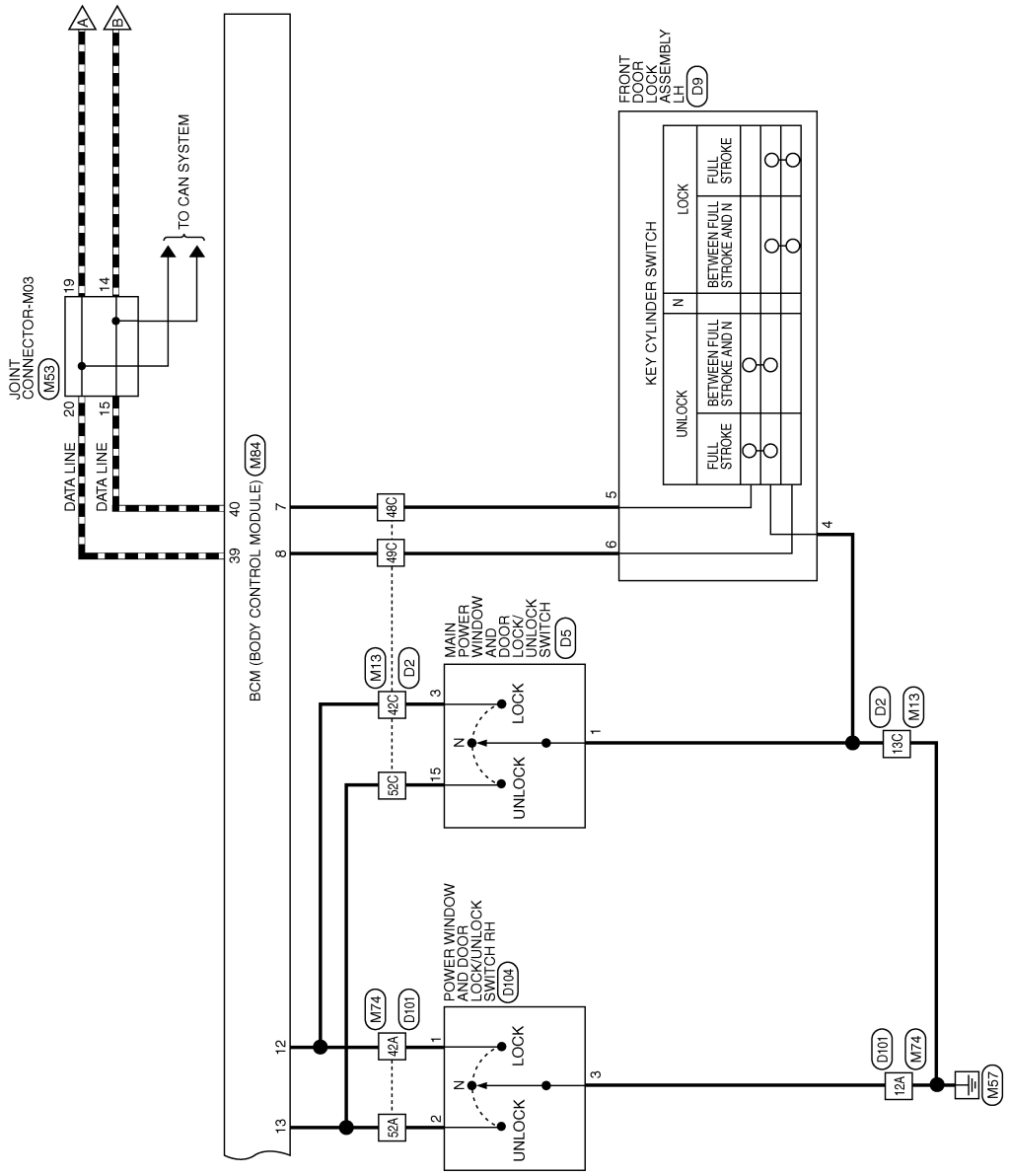
Wiring Diagram

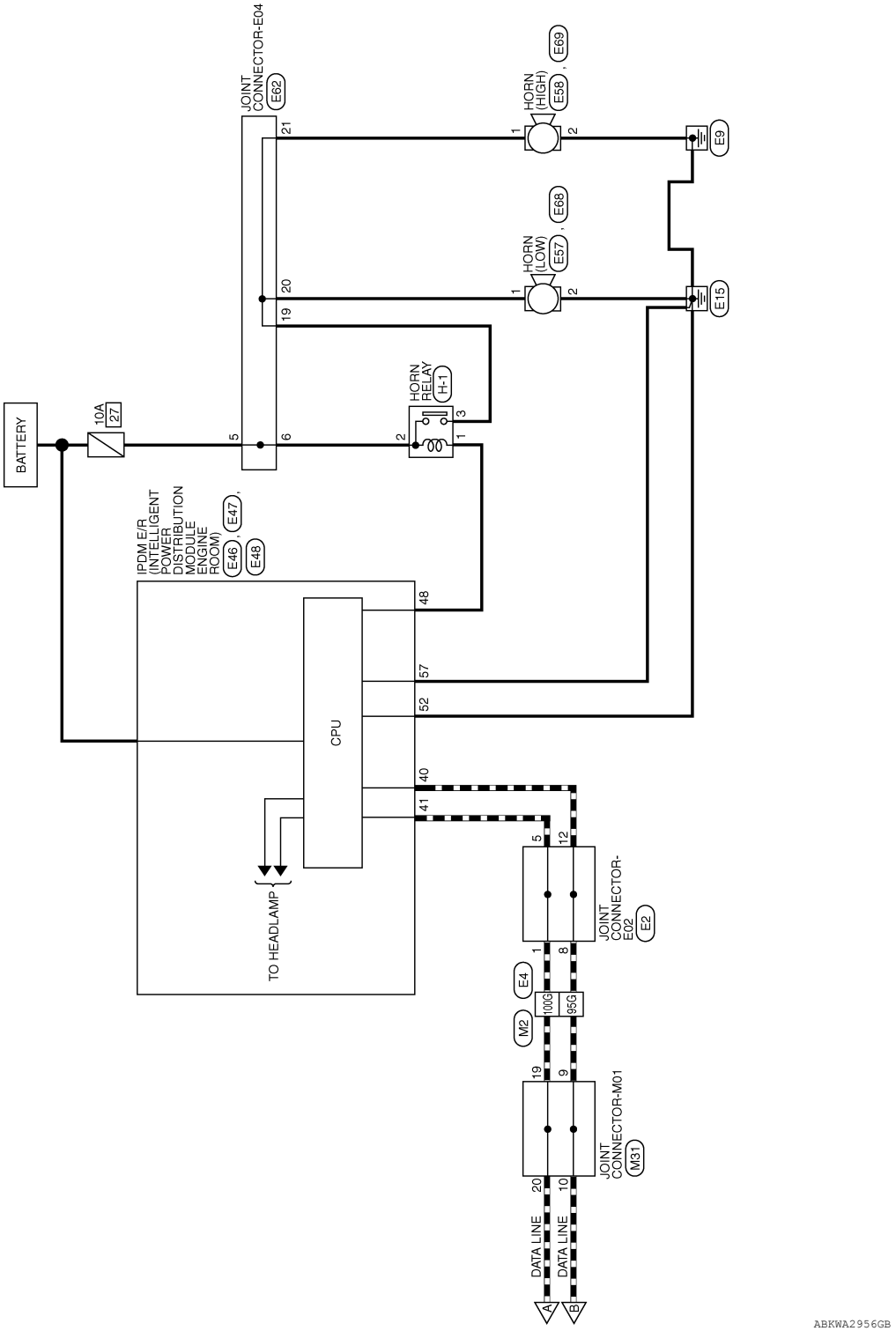
INFOID:0000000011536775

VEHICLE SECURITY SYSTEM - WITH INTELLIGENT KEY SYSTEM



ABKWA2954GB

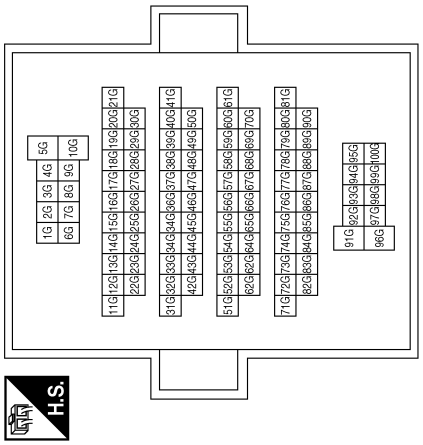

A
B
TO CAN SYSTEM
JOINT CONNECTOR-M03
M53
19
14
20
15
DATA LINE
DATA LINE
BCM (BODY CONTROL MODULE)
M84
40
39
7
8
48C
49C
FRONT DOOR LOCK ASSEMBLY LH
D9
KEY CYLINDER SWITCH
UNLOCK
LOCK
N
FULL STROKE
BETWEEN FULL STROKE AND N
5
6
4
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
D5
M13
D2
42C
52C
3
15
1
LOCK
N
UNLOCK
D2
M13
13C
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
D104
M74
D101
42A
52A
12
13
1
2
3
LOCK
N
UNLOCK
D101
M74
12A
M57
ABKWA2955GB


JOINT CONNECTOR-E04
E62
21
20
19
HORN (HIGH)
E58
E69
HORN (LOW)
E57
E68
E9
E15
BATTERY
10A
27
HORN RELAY
H-1
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E46, E47, E48
CPU
48
57
52
40
41
TO HEADLAMP
JOINT CONNECTOR-E02
E2
E4
M2
100G
95G
JOINT CONNECTOR-M01
M31
DATA LINE
ABKWA2956GB

VEHICLE SECURITY SYSTEM CONNECTORS - WITH INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

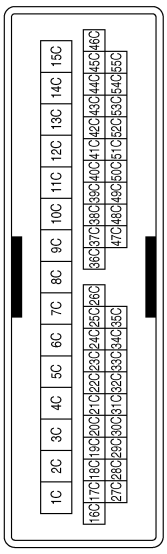
H.S.



Terminal No.	Color of Wire	Signal Name
10G	Y	–
95G	P	–
100G	L	–

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
13C	B	–
42C	GR	–
48C	L	–
49C	V	–
52C	BR	–

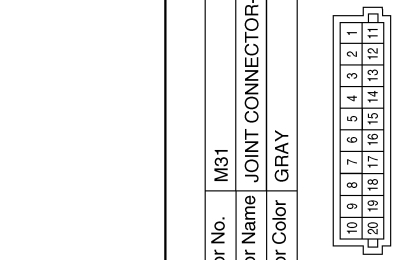
Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
18	Y	SECURITY
27	LG	BAT

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

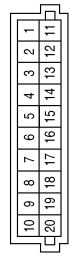
H.S.



Terminal No.	Color of Wire	Signal Name
9	P	–
10	P	–
19	L	–
20	L	–

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.



Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

ABKIA5430GB

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	LG	–
9	W	–

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A	12A	13A	14A	15A
16A	17A	18A	19A	20A	21A	22A	23A	24A	25A	26A	36A	37A	38A	39A
27A	28A	29A	30A	31A	32A	33A	34A	35A			47A	48A	49A	50A

40A	41A	42A	43A	44A	45A	46A
51A	52A	53A	54A	55A		

Terminal No.	Color of Wire	Signal Name
12A	B	–
42A	GR	–
52A	BR	–

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	L	KEY CYLINDER UNLOCK SW
8	V	KEY CYLINDER LOCK SW
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW

Terminal No.	Color of Wire	Signal Name
23	Y	SECURITY INDICATOR OUTPUT
39	L	CAN-H
40	P	CAN-L

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
88	O	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND (POWER)

ABKIA5431GB

Terminal No.	Color of Wire	Signal Name
10G	G	–
95G	P	–
100G	L	–

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
57	B/Y	GND (POWER)

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

H.S.

Terminal No.	Color of Wire	Signal Name
52	B/Y	GND (SIGNAL)

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
5	L	–
8	P	–
12	P	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
40	P	CAN-L
41	L	CAN-H
48	L	HORN RLY CONT

ABKIA5432GB

Connector No.	E57
Connector Name	HORN (LOW)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–

Connector No.	E58
Connector Name	HORN (HIGH)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–

Connector No.	E62
Connector Name	JOINT CONNECTOR-E04
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
5	BR	–
6	BR	–
19	G	–
20	G	–
21	G	–

Connector No.	E68
Connector Name	HORN (LOW)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
2	B/Y	–

Connector No.	E69
Connector Name	HORN (HIGH)
Connector Color	BLACK

H.S.

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

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

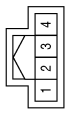
H.S.

Terminal No.	Color of Wire	Signal Name
13	V	–
20	B	–

ABKIA5436GB

Connector No.	B21
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

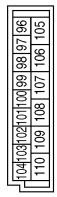
H.S.



Terminal No.	Color of Wire	Signal Name
3	Y	–

Connector No.	B24
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

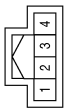
H.S.



Terminal No.	Color of Wire	Signal Name
97	GR	DOOR SW (RL)
98	Y	DOOR SW (DR)
99	P	DOOR SW (RR)
100	R	DOOR SW (AS)
103	V	TRUNK/GLASS HATCH SW

Connector No.	B26
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

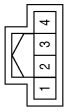
H.S.



Terminal No.	Color of Wire	Signal Name
3	GR	–

Connector No.	B28
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

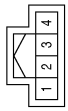
H.S.



Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	B41
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

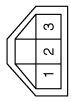
H.S.



Terminal No.	Color of Wire	Signal Name
3	P	–

Connector No.	B59
Connector Name	TRUNK LID OPENER ASSEMBLY
Connector Color	WHITE

H.S.



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

ABKIA5433GB

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
13	R	–
20	B	–

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

H.S.

Terminal No.	Color of Wire	Signal Name
13C	B	–
42C	L	–
48C	Y	–
49C	R	–
52C	BR	–

Connector No.	D5
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH
Connector Color	WHITE

H.S.

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

Connector No.	D9
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	GRAY

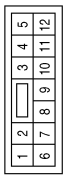
H.S.

Terminal No.	Color of Wire	Signal Name
4	B	–
5	Y	–
6	R	–

ABKIA5434GB

Connector No.	D104
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE

H.S.

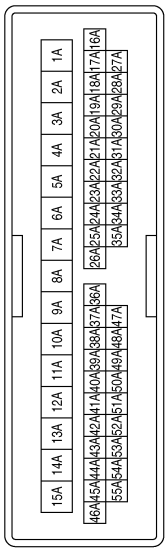


Terminal No.	Color of Wire	Signal Name
1	Y	–
2	BR	–
3	B	–

Terminal No.	Color of Wire	Signal Name
12A	B	–
42A	Y	–
52A	BR	–

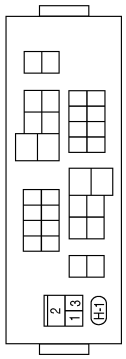
Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Connector No.	H-1
Connector Name	FUSE AND FUSIBLE LINK BOX (HORN RELAY)
Connector Color	–

T.S.



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

ABKIA5437GB

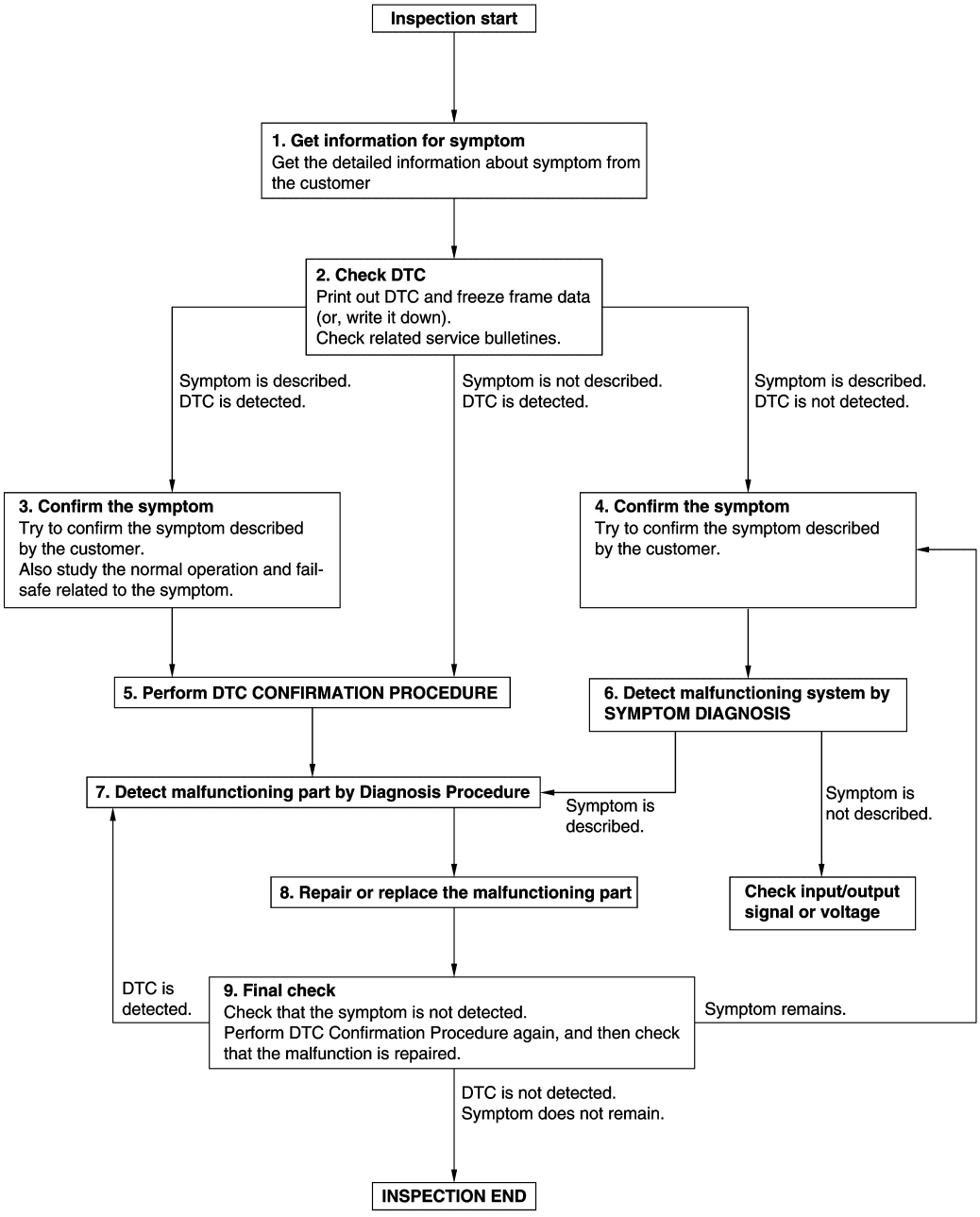
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000011536776

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-48, "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-40, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

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

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-40, "Intermittent Incident".

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

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

Is DTC detected and does symptom remain?

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM

ECM : Description

INFOID:0000000011536777

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

ECM : Work Procedure

INFOID:0000000011536778

1.PERFORM ECM RECOMMUNICATING FUNCTION

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

>> GO TO 2.

2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform additional service when replacing ECM. Refer to EC-136, "Work Procedure".

>> Inspection End

BCM

BCM : Description

INFOID:0000000011536779

BEFORE REPLACEMENT
When replacing BCM, save or print current vehicle specification with CONSULT configuration before replacement.
NOTE:
If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing BCM.

AFTER REPLACEMENT
CAUTION:
- **When replacing BCM, you must perform “After Replace ECU” with CONSULT.**
- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **When replacing BCM, perform the system initialization (NATS).**

BCM : Work Procedure

INFOID:0000000011536780

1.SAVING VEHICLE SPECIFICATION

CONSULT
Enter "Re/Programming, Configuration" and perform “Before Replace ECU” to save or print current vehicle specification.
NOTE:

If “Before Replace ECU” cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

>> GO TO 2.

2. REPLACE BCM

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

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to BCS-60, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to BCS-60, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure".

>> GO TO 4.

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

DTC/CIRCUIT DIAGNOSIS

P1610 LOCK MODE

Description

INFOID:0000000011536781

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:0000000011536782

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

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536783

1. CHECK ENGINE START FUNCTION

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

>> Inspection End.

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000011536784

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 mode of ENGINE using CONSULT.

Is DTC detected?

YES >> Go to SEC-64, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536785

1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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 mode of ENGINE using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-64, "DTC Logic".

Is DTC detected?

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

3.REPLACE BCM

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

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-488, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”.
   Refer to EC-136, "Work Procedure".

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000011536786

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

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	CHAIN OF 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 mode of ENGINE using CONSULT.

Is DTC detected?

YES >> Go to SEC-65, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536787

1.REPLACE BCM

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

Does the engine start?

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

2.REPLACE ECM

1. Replace ECM.
   Refer to EC-488, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”.
   Refer to EC-136, "Work Procedure".

>> Inspection End.

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:0000000011536788

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 mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-66, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536789

1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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” mode of “BCM” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2192. Refer to SEC-66, "DTC Logic".

Is DTC detected?

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

3.REPLACE BCM

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

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-488, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”.
   Refer to EC-136, "Work Procedure".

>> Inspection End.

B2193 CHAIN OF ECM-IMMU

DTC Logic

INFOID:0000000011536790

DTC DETECTION LOGIC

NOTE:

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

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to SEC-67, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536791

1.REPLACE BCM

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

Does the engine start?

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

2.REPLACE ECM

1. Replace ECM.
   Refer to EC-488, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”.
   Refer to EC-136, "Work Procedure".

>> Inspection End.

B2195 ANTI-SCANNING

DTC Logic

INFOID:0000000011536792

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 mode of BCM using CONSULT.

Is DTC detected?

YES >> Refer to SEC-68, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536793

1.CHECK SELF DIAGNOSTIC RESULT 1

1. Select Self Diagnostic Result mode of BCM using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-68, "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-68, "DTC Logic".

Is DTC detected?

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

4.REPLACE BCM

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

>> Inspection End.

B2196 DONGLE UNIT

Description

INFOID:0000000011536794

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

DTC Logic

INFOID:0000000011536795

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-diagnosis result mode of BCM using CONSULT.

Is the DTC detected?

YES >> Refer to SEC-69, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536796

Regarding Wiring Diagram information, refer to SEC-39, "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	
M84	24	M39	1	Yes

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M84	24		No

Is the inspection result normal?

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

3.CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dongle unit		Ground	Continuity
Connector	Terminal		
M39	4		Yes

Is the inspection result normal?

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

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:0000000011536797

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-8, "BODY CONTROL SYSTEM : System Description".
2. Turn ignition switch ON.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536798

Regarding Wiring Diagram information, refer to SEC-39, "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	33 (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		
M42	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.

IPDM E/R		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
E45	32	M42	1	Yes

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "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.

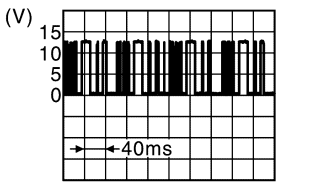
NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M42	4		Yes

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.

(+)		(–)	Condition		Voltage (V) (Approx.)
NATS antenna amp.					
Connector	Terminal				
M42	2	Ground	Intelligent Key: Intelligent Key battery is removed	Brake pedal: Depressed **NOTE:** Waveform varies each time when brake pedal is depressed	
				Brake pedal: Not depressed	12

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	
M42	2	M84	21	Yes

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

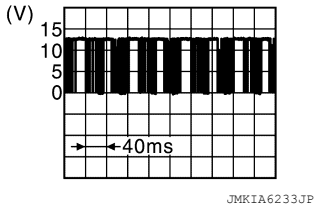
NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M42	2		No

Is the inspection result normal?

YES >> GO TO 9.
NO >> Repair or replace harness.

7. CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 2

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

(+) NATS antenna amp. Connector	(+) NATS antenna amp. Terminal	(–)	Condition		Voltage (V) (Approx.)
M42	3	Ground	During waiting	Brake pedal: Depressed **NOTE:** Waveform varies each time when brake pedal is depressed	 JMKIA6233JP
				Brake pedal: Not depressed	12

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to SEC-135, "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	
M42	3	M84	25	Yes

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

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M42	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-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End

B2555 STOP LAMP

DTC Logic

INFOID:0000000011536799

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 mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-74, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536800

Regarding Wiring Diagram information, refer to SEC-39, "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		
M83	66	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		
E60	1	Ground	Battery voltage

Is the inspection result normal?

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

3.CHECK STOP LAMP SWITCH 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				
M84	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-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> 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	
E60	2	M84	9	Yes

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

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E60	2		No

Is the inspection result normal?

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

6. CHECK STOP LAMP SWITCH

Refer to SEC-75, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace stop lamp switch. Refer to BR-21, "Exploded View".

7. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000011536801

1. CHECK STOP LAMP SWITCH

1. Turn ignition switch OFF.
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-21, "Exploded View".

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:0000000011536802

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 mode of BCM using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536803

Regarding Wiring Diagram information, refer to SEC-39, "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	12

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	M83	55	Yes

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

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

Is the inspection result normal?

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

3.REPLACE BCM

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

>> 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-78, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace push-button ignition switch. Refer to SEC-136, "Removal and Installation".

6.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000011536804

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-136, "Removal and Installation".

B2557 VEHICLE SPEED

DTC Logic

INFOID:0000000011536805

DTC DETECTION LOGIC

NOTE:

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

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536806

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

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to MWI-26, "DTC Index".
NO >> GO TO 3.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

B2601 SHIFT POSITION

DTC Logic

INFOID:0000000011536807

DTC DETECTION LOGIC

NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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 Park (P) position.
2. Turn ignition switch ON and wait 2 seconds or more.
3. Shift the selector lever to any position other than Park (P) and wait 2 seconds or more.
4. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536808

Regarding Wiring Diagram information, refer to SEC-39, "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	13	M84	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	13		No

Is the inspection result normal?

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

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	13	E39	64	Yes

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2601. Refer to SEC-80, "DTC Logic".

Is DTC B2601 detected again?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Inspection End.

B2602 SHIFT POSITION

DTC Logic

INFOID:0000000011536809

DTC DETECTION LOGIC

NOTE:

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

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT P DIAG	BCM detects the following status for 10 seconds. • Selector lever is in the Park (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 mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-82, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536810

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

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

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to MWI-26, "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. Turn ignition switch ON.
4. 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	12	Ground	12

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 4.

4. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. 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	12	M83	67	Yes

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

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M38	12		No

Is the inspection result normal?

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

5. REPLACE BCM

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

>> Inspection End.

6. CHECK CVT SHIFT SELECTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and IPDM E/R connector.
3. 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	13	M84	37	Yes

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

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M38	13		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-84, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.
NO >> Replace CVT shift selector. Refer to TM-256, "Removal and Installation".

8.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000011536811

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) Terminal		Condition		Continuity
12	13	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-256, "Removal and Installation".

B2603 SHIFT POSITION

DTC Logic

INFOID:0000000011536812

DTC DETECTION LOGIC

NOTE:

- If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to SEC-80, "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

1. Shift the selector lever to the Park (P) position.
2. Turn ignition switch ON and wait 1 second or more.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

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

2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Shift the selector lever to the position other than Park (P) and Neutral (N), and wait 1 second or more.
2. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-85, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536813

Regarding Wiring Diagram information, refer to SEC-39, "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

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

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

Is the inspection result normal?

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

3.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

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

(+)		(–)	Voltage (V) (Approx.)
Transmission range switch			
Connector	Terminal		
F26	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	
F26	7	E43	14	Yes

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "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				
M83	69	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	
F26	10	M83	69	Yes

Is the inspection result normal?

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

7. CHECK TRANSMISSION RANGE SWITCH

Refer to SEC-88, "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. Turn ignition switch ON.
4. 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	12	Ground	12

Is the inspection result normal?

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

9. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. 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	12	M83	67	Yes

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

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M38	12		No

Is the inspection result normal?

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

10. CHECK CVT SHIFT SELECTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. 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	13	M84	37	Yes

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

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M38	13		No

Is the inspection result normal?

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

11. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to SEC-88, "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-256, "Removal and Installation".

12. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

13. REPLACE BCM

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

>> Inspection End.

Component Inspection (Transmission Range Switch)

INFOID:0000000011536814

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:0000000011536815

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				
12	13	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-256, "Removal and Installation".

B2604 SHIFT POSITION

DTC Logic

INFOID:0000000011536816

DTC DETECTION LOGIC

NOTE:

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

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536817

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

1.CHECK DTC OF TCM

Check DTC in Self Diagnostic Result mode of TCM using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to TM-127, "DTC Index".
NO >> GO TO 2.

2.CHECK FUSE

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

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

Is the inspection result normal?

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

3.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

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

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

(+)		(–)	Voltage (V) (Approx.)
Transmission range switch			
Connector	Terminal		
F26	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	
F26	7	E43	14	Yes

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "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				
M83	69	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	
F26	10	M83	69	Yes

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

Transmission range switch		Ground	Continuity
Connector	Terminal		
F26	10		No

Is the inspection result normal?

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

7.CHECK TRANSMISSION RANGE SWITCH

Refer to SEC-92, "Component Inspection".

Is the inspection result normal?

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

8.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

9.REPLACE BCM

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

>> Inspection End.

Component Inspection

INFOID:0000000011536818

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 Logic

INFOID:0000000011536819

DTC DETECTION LOGIC

NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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 Park (P) position.
2. Turn ignition switch ON and wait 1 second or more.
3. Shift the selector lever to the Neutral (N) position and wait 1 second or more.
4. Shift the selector lever to any position other than Park (P) and Neutral (N), and wait 1 second or more.
5. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536820

Regarding Wiring Diagram information, refer to SEC-39, "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				
E43	4	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.

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	
E43	4	F26	10	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E43	4		No

Is the inspection result normal?

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

3.CHECK BCM INPUT SIGNAL

Check voltage between BCM harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
M83	69	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	
M83	69	F26	10	Yes

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

BCM		Ground	Continuity
Connector	Terminal		
M83	69		No

Is the inspection result normal?

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

5.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for B2605. Refer to SEC-93, "DTC Logic".

Is DTC B2605 detected again?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Inspection End.

B2608 STARTER RELAY

DTC Logic

INFOID:0000000011536821

DTC DETECTION LOGIC

NOTE:

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

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine.

CVT models
- Selector lever: In the Park (P) position
- Brake pedal: Depressed

M/T models
- Shift lever: in the neutral position
- Clutch pedal: Depressed

2. Wait 1 second after engine started.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-95, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536822

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

1.CHECK DTC OF IPDM E/R

Check DTC in Self Diagnostic Result mode 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 Connector	(+) BCM Terminal	(–)	Condition		Voltage (V) (Approx.)
M83	74	Ground	CVT selector lever	N or P position	Battery voltage
				Other than above	0
			M/T clutch pedal	Depressed	Battery voltage
				Released	0

Is the inspection result normal?

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

3.CHECK STARTER RELAY CIRCUIT

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

IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E46	44	M83	74	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E46	44		No

Is the inspection result normal?

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

4.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for B2605. Refer to SEC-93, "DTC Logic".

Is DTC B2605 detected again?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Inspection End.

B260F ENGINE STATUS

Description

INFOID:0000000011536823

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

DTC Logic

INFOID:0000000011536824

DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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 mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-97, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536825

1.INSPECTION START

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

Is DTC detected?

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

2.REPLACE ECM

1. Replace ECM.
   Refer to EC-488, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”.
   Refer to EC-136, "Work Procedure".

>> Inspection End.

B261F ASCD CLUTCH SWITCH

DTC Logic

INFOID:0000000011536826

DTC DETECTION LOGIC

NOTE:

- If DTC B261F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B261F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B261F	ASCD CNCL/CLTCH SW (ASCD cancel/clutch switch)	BCM detects the following status for 10 seconds 3 times • Clutch pedal position 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 pedal position switch circuit is open or shorted) • Clutch pedal 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” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-98, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536827

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK DTC OF COMBINATION METER

Check DTC in “Self Diagnostic Result” mode of “METER/M&A” using CONSULT.
Refer to MWI-26, "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	5 (10 A)

Is the inspection result normal?

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

3.CHECK CLUTCH PEDAL POSITION SWITCH POWER SUPPLY

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

(+)		(–)	Voltage (V) (Approx.)
Clutch pedal position switch			
Connector	Terminal		
E32	1	Ground	Battery voltage

Is the inspection result normal?

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

4.CHECK CLUTCH PEDAL POSITION SWITCH SIGNAL

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

(+)		(–)	Condition		Voltage
BCM					
Connector	Terminal				
M84	37	Ground	Clutch pedal	Released	Battery voltage
				Depressed	0 – 1.5 V

Is the inspection result normal?

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

5.REPLACE BCM

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

>> Inspection End

6.CHECK CLUTCH PEDAL POSITION SWITCH CIRCUIT

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

Clutch pedal position switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E32	2	M84	37	Yes

Is the inspection result normal?

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

7.CHECK CLUTCH PEDAL POSITION SWITCH

Refer to SEC-100, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.
NO >> Replace clutch pedal position switch. Refer to CL-10, "Exploded View".

8.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End

Component Inspection

INFOID:0000000011536828

1.CHECK CLUTCH PEDAL POSITION SWITCH

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

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

Is the inspection result normal?

YES >> Inspection End
NO >> Replace clutch pedal position switch. Refer to CL-10, "Exploded View".

B2620 PARK/NEUTRAL POSITION SWITCH

DTC Logic

INFOID:0000000011536829

NOTE:
- If DTC B2620 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B2620 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "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” mode of “BCM” using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536830

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK DTC OF COMBINATION METER

Check DTC in “Self Diagnostic Result” mode of “METER/M&A” using CONSULT.
Refer to MWI-26, "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.

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		
F52	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				
M83	69	Ground	Shift lever	Neutral position	Battery voltage
				Except neutral position	0 – 1.5 V

Is the inspection result normal?

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

5.REPLACE BCM

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

>> Inspection End

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	
F52	3	M83	69	Yes

Is the inspection result normal?

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

7.CHECK PARK/NEUTRAL POSITION SWITCH

Refer to SEC-103, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.
NO >> Replace park/neutral position switch. Refer to TM-21, "Removal and Installation" (With 6MT: RS6F94R).

8.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End

Component Inspection

INFOID:0000000011536831

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-21, "Removal and Installation" (With 6MT: RS6F94R).

B26E8 CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:0000000011536832

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

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

Is DTC detected?

YES >> Go to SEC-104, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Release clutch pedal and wait 2 seconds or more.
2. Check DTC in “Self Diagnostic Result” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Go to SEC-104, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536833

Regarding Wiring Diagram information, refer to SEC-25, "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 7.

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	5 (10 A)

Is the inspection result normal?

YES >> GO TO 3.

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

3. CHECK CLUTCH PEDAL POSITION SWITCH POWER SUPPLY

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

(+)		(–)	Voltage (V) (Approx.)
Clutch pedal position switch			
Connector	Terminal		
E32	1	Ground	Battery voltage

Is the inspection result normal?

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

4. CHECK CLUTCH PEDAL POSITION SWITCH SIGNAL

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

(+)		(–)	Condition		Voltage
BCM					
Connector	Terminal				
M84	37	Ground	Clutch pedal	Depressed	0 – 1.5 V
				Not depressed	Battery voltage

Is the inspection result normal?

YES >> GO TO 13.
NO >> GO TO 5.

5. CHECK CLUTCH PEDAL POSITION SWITCH CIRCUIT

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

Clutch pedal position switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E32	2	M84	37	Yes

Is the inspection result normal?

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

6. CHECK CLUTCH PEDAL POSITION SWITCH

Refer to SEC-107, "Component Inspection (Clutch Pedal Position Switch)".

Is the inspection result normal?

YES >> GO TO 12.
NO >> Replace clutch pedal position switch. Refer to CL-10, "Exploded View".

7. 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.
Battery power supply	14 (10 A)

Is the inspection result normal?

YES >> GO TO 8.

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

8.CHECK CLUTCH INTERLOCK SWITCH POWER SUPPLY

1. Disconnect clutch interlock switch connector.
2. 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 9.
NO >> Repair or replace harness.

9.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				
M83	70	Ground	Clutch pedal	Depressed	Battery voltage
				Not depressed	0 – 0.5 V

Is the inspection result normal?

YES >> GO TO 13.
NO >> GO TO 10.

10.CHECK CLUTCH INTERLOCK SWITCH SIGNAL CIRCUIT

1. Disconnect clutch interlock switch connector.
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	M83	70	Yes

Is the inspection result normal?

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

11.CHECK CLUTCH INTERLOCK SWITCH

Refer to SEC-107, "Component Inspection (Clutch Interlock Switch)".

Is the inspection result normal?

YES >> GO TO 12.
NO >> Replace clutch interlock switch. Refer to CL-10, "Exploded View".

12.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End

13.REPLACE BCM

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

>> Inspection End

Component Inspection (Clutch Interlock Switch)

INFOID:0000000011536834

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-10, "Exploded View".

Component Inspection (Clutch Pedal Position Switch)

INFOID:0000000011536835

1.CHECK CLUTCH PEDAL POSITION SWITCH

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

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

Is the inspection result normal?

YES >> Inspection End
NO >> Replace clutch pedal position switch. Refer to CL-10, "Exploded View".

B26F3 STARTER CONTROL RELAY

DTC Logic

INFOID:0000000011536836

DTC DETECTION LOGIC

NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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.

CVT models

- Selector lever: In the Park (P) position
- Brake pedal: Not depressed

M/T models

- Shift lever: in the neutral position
- Clutch pedal: Not depressed

2. Wait 2 seconds after engine started.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536837

1.CHECK DTC OF IPDM E/R

Check DTC in Self Diagnostic Result mode 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-40, "Intermittent Incident".

>> Inspection End.

B26F4 STARTER CONTROL RELAY

DTC Logic

INFOID:0000000011536838

DTC DETECTION LOGIC

NOTE:

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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.

CVT models
- Selector lever: In the Park (P) position
- Brake pedal: Not depressed

M/T models
- Shift lever: in the neutral position
- Clutch pedal: Not depressed

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

Is DTC detected?

YES >> Go to SEC-109, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536839

1.CHECK DTC OF IPDM E/R

Check DTC in Self Diagnostic Result mode 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-40, "Intermittent Incident".

>> Inspection End.

B26F7 BCM

DTC Logic

INFOID:0000000011536840

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 mode of BCM using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000011536841

1.INSPECTION START

1. Turn ignition switch ON.
2. Select Self Diagnostic Result mode of BCM using CONSULT.
3. Touch ERASE.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B26F7. Refer to SEC-110, "DTC Logic".

Is DTC B26F7 detected again?

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

2.REPLACE BCM

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

>> Inspection End.

B26F8 BCM

DTC Logic

INFOID:0000000011536842

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26F8	BCM (Body control module)	Starter control replay control signal and feedback circuit signal (inside BCM) does not match.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 1 second.
2. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-111, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536843

1.INSPECTION START

1. Turn ignition switch ON.
2. Select Self Diagnostic Result mode of BCM using CONSULT.
3. Touch ERASE.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B26F8.
   Refer to SEC-111, "DTC Logic".

Is DTC detected?

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

2.REPLACE BCM

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

>> Inspection End

B26F9 CRANKING REQUEST CIRCUIT

DTC Logic

INFOID:0000000011536844

DTC DETECTION LOGIC

NOTE:

- If DTC B26F9 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B26F9 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26F9	CRANK REQ CIR SHORT (Cranking request circuit short)	BCM detects that the status of the following signals does not match. • Cranking request signal from ECM • Starter control relay control signal from ECM (CAN)	• Harness or connectors (Can communication line is open or shorted.) • Harness or connectors (Cranking request signal circuit is open or shorted.) • ECM • BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to EC-395, "DTC Logic".
2. Turn ignition switch ON.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-112, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536845

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK CRANKING REQUEST SIGNAL

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

(+) BCM Connector	(+) BCM Terminal	(–)	Condition		Voltage
M85	81	Ground	Ignition switch ON	• Engine: Stopped • Selector lever position: P	0 – 0.5 V
				• Engine: Stopped • Selector lever position: Other than P	9 – 16 V
				Engine running	9 – 16 V

Is the inspection result normal?

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

2.CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connector.
3. Disconnect ECM connector.
4. Check continuity between BCM harness connector and ECM harness connector.

BCM		ECM		Continuity
Connector	Terminal	Connector	Terminal	
M85	81	E16	101	Yes

5. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M85	81		No

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B26F9. Refer to SEC-112, "DTC Logic".

Is DTC detected?

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

4.REPLACE ECM

Replace ECM.
Refer to EC-488, "Removal and Installation".

>> Inspection End

B26FA CRANKING REQUEST CIRCUIT

DTC Logic

INFOID:0000000011536846

DTC DETECTION LOGIC

NOTE:

- If DTC B26FA is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B26FA is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26FA	CRANK REQ CIR OPEN (Cranking request circuit open)	BCM detects that the status of the following signals does not match. • Cranking request signal from ECM • Starter control relay control signal from ECM (CAN)	• Harness or connectors (Can communication line is open or shorted.) • Harness or connectors (Cranking request signal circuit is open or shorted.) • BCM • ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to EC-395, "DTC Logic".
2. Turn ignition switch ON.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-114, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536847

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK CRANKING REQUEST SIGNAL

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

(+) BCM Connector	(+) BCM Terminal	(–)	Condition		Voltage
M85	81	Ground	Ignition switch ON	• Engine: Stopped • Selector lever position: P	0 – 0.5 V
				• Engine: Stopped • Selector lever position: Other than P	9 – 16 V
				Engine running	9 – 16 V

Is the inspection result normal?

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

2.CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connector.
3. Disconnect ECM connector.
4. Check continuity between BCM harness connector and ECM harness connector.

BCM		ECM		Continuity
Connector	Terminal	Connector	Terminal	
M85	81	E16	101	Yes

5. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M85	81		No

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B26F9. Refer to SEC-112, "DTC Logic".

Is DTC detected?

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

4.REPLACE ECM

Replace ECM.
Refer to EC-488, "Removal and Installation".

>> Inspection End

B26FB CLUTCH SWITCH

DTC Logic

INFOID:0000000011536848

DTC DETECTION LOGIC

NOTE:

- If DTC B26FB is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B26FB is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "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 mode of BCM using CONSULT.

Is DTC detected?

YES >> Go to SEC-116, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536849

1.INSPECTION START

1. Turn ignition switch ON.
2. Select Self diagnostic result mode of BCM using CONSULT.
3. Touch ERASE.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B26FB. Refer to SEC-116, "DTC Logic".

Is DTC detected?

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

2.REPLACE ECM

Replace ECM. Refer to EC-488, "Removal and Installation"

>> Inspection End

B26FC KEY REGISTRATION

DTC Logic

INFOID:0000000011536850

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

Is DTC detected?

YES >> Go to SEC-117, "Diagnosis Procedure"
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536851

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.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

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

2.REPLACE BCM

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

>> Inspection End.

B209F CRANKING REQUEST CIRCUIT

DTC Logic

INFOID:0000000011536852

DTC DETECTION LOGIC

NOTE:
If DTC B209F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B209F	STR CUT OFF OPEN (Starter cut off open)	When the following items do not match, a malfunction is detected. • Cranking request signal from ECM • Starter control relay control signal from ECM (CAN)	• Harness or connectors (CAN communication line is open or shorted.) • Harness or connectors (Cranking request signal circuit is open or shorted.) • IPDM E/R • ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to EC-395, "DTC Logic".
2. Turn ignition switch ON.
3. Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

YES >> Refer to SEC-118, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536853

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK CRANKING REQUEST SIGNAL

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

(+)		(–)	Condition		Voltage
IPDM E/R					
Connector	Terminal				
E46	37	Ground	Ignition switch OFF		0 – 1 V
			Ignition switch ON	• Engine: Stopped • Selector lever position: P	0 – 1 V
				• Engine: Stopped • Selector lever position: Other than P	9 – 16 V
				Engine running	9 – 16 V

Is the inspection result normal?

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

2.CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.
3. Disconnect ECM connector.
4. Check continuity between IPDM E/R harness connector and ECM harness connector.

IPDM E/R		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E46	37	E16	101	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E46	37		No

Is the inspection result normal?

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

3.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
2. Perform DTC CONFIRMATION PROCEDURE for DTC B209F. Refer to SEC-118, "DTC Logic".

Is DTC detected?

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

4.REPLACE ECM

Replace ECM.
Refer to EC-488, "Removal and Installation".

>> Inspection End

B20A0 CRANKING REQUEST CIRCUIT

DTC Logic

INFOID:0000000011536854

DTC DETECTION LOGIC

NOTE:
If DTC B20A0 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B20A0	STR CUT OFF SHORT (Starter cut off short)	When the following items do not match, a malfunction is detected. • Cranking request signal from ECM • Starter control relay control signal from ECM (CAN)	• Harness or connectors (CAN communication line is open or shorted.) • Harness or connectors (Cranking request signal circuit is open or shorted.) • IPDM E/R • ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to EC-395, "DTC Logic".
2. Turn ignition switch ON.
3. Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

YES >> Refer to SEC-120, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536855

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK CRANKING REQUEST SIGNAL

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

(+)		(–)	Condition		Voltage
IPDM E/R					
Connector	Terminal				
E46	37	Ground	Ignition switch FF		0 – 1 V
			Ignition switch ON	• Engine: Stopped • Selector lever position: P	0 – 1 V
				• Engine: Stopped • Selector lever position: Other than P	9 – 16 V
				Engine running	9 – 16 V

Is the inspection result normal?

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

2.CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.
3. Disconnect ECM connector.
4. Check continuity between IPDM E/R harness connector and ECM harness connector.

IPDM E/R		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E46	37	E16	101	Yes

5. Check continuity between BCM harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E46	37		No

Is the inspection result normal?

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

3.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
2. Perform DTC CONFIRMATION PROCEDURE for DTC B20A0. Refer to SEC-120, "DTC Logic".

Is DTC detected?

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

4.REPLACE ECM

Replace ECM.
Refer to EC-488, "Removal and Installation".

>> Inspection End

B210B STARTER CONTROL RELAY

DTC Logic

INFOID:0000000011536856

DTC DETECTION LOGIC

NOTE:
If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210B	START CONT RLY ON	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)	• 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.

CVT models
- CVT selector lever is in the P (Park) position.
- Depress the brake pedal

M/T models
- Shift lever: in the neutral position
- Clutch pedal: Not depressed

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

Is DTC detected?

YES >> Go to SEC-122, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536857

1.INSPECTION START

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-31, "Removal and Installation".
NO >> Refer to GI-40, "Intermittent Incident".

B210C STARTER CONTROL RELAY

DTC Logic

INFOID:0000000011536858

DTC DETECTION LOGIC

NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "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.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210C	START CONT RLY OFF CIRC	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 PROCEDURE

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

CVT models
- CVT selector lever is in the P (Park) position.
- Depress the brake pedal

M/T models
- Shift lever: in the neutral position
- Clutch pedal: Not depressed

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

Is DTC detected?

YES >> Go to SEC-123, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536859

Regarding Wiring Diagram information, refer to SEC-25, "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-40, "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		
E46	44	—	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> GO TO 3.

3. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E46 and BCM connector M83.
2. Check continuity between IPDM E/R connector E46 and BCM connector M83.

IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E46	44	M83	74	Yes

3. Check continuity between IPDM E/R connector E46 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E46	44	—	No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation".
NO >> Repair or replace harness or connectors.

B210D STARTER RELAY

DTC Logic

INFOID:0000000011536860

DTC DETECTION LOGIC

NOTE:
If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210D	STARTER RELAY ON CIRC	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 PROCEDURE

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

CVT models
- CVT selector lever is in the P (Park) or N (Neutral) position
- Do not depress the brake pedal

M/T models
- Shift lever: in the neutral position
- Clutch pedal: Not depressed

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

Is DTC detected?

YES >> Go to SEC-125, "Diagnosis Procedure".
NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536861

Regarding Wiring Diagram information, refer to SEC-25, "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-40, "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		
E46	44	—	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> GO TO 3.

3.CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connectors E46 and BCM connector M83.
2. Check continuity between IPDM E/R connector E46 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E46	44	—	No

Is the inspection result normal?

YES >> Refer to SEC-95, "Diagnosis Procedure".
NO >> Repair or replace harness or connectors.

B210E STARTER RELAY

DTC Logic

INFOID:0000000011536862

DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".
- If DTC B210E is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to SEC-93, "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.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210E	STARTER RELAY OFF	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 PROCEDURE

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

CVT models
- CVT selector lever is in the P (Park) or N (Neutral) position
- Do not depress the brake pedal

M/T models
- Shift lever: in the neutral position
- Clutch pedal: Not depressed

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

Is DTC detected?

YES >> Go to SEC-127, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536863

Regarding Wiring Diagram information, refer to SEC-25, "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-40, "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		
E46	44	—	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> GO TO 3.

3. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E46 and BCM connector M83
2. Check continuity between IPDM E/R connector E46 and BCM connector M83.

IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E46	44	M83	74	Yes

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-76, "Removal and Installation".
NO >> Repair or replace harness or connectors.

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:0000000011536864

DTC DETECTION LOGIC

NOTE:
If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "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 (CVT models) • Clutch pedal operation signal from clutch interlock switch and interlock signal (CAN) from BCM (M/T models)	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connectors (Transmission range switch circuit is open or shorted.) (Clutch interlock switch circuit is open or shorted.) • Transmission range switch • Clutch interlock switch • IPDM E/R • BCM

DTC CONFIRMATION PROCEDURE

CVT MODELS

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Shift selector lever to the Park (P) position.
2. Turn ignition switch ON and wait 1 second or more.
3. Shift selector lever to the Neutral (N) position and wait 1 second or more.
4. Shift selector lever to the position other than Park (P) and Neutral (N), and wait 1 second or more.
5. Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

YES >> Go to SEC-129, "Diagnosis Procedure (CVT Models)".
NO >> Inspection End.

M/T MODELS

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 1 second or more.
2. Depress the clutch pedal and wait 1 second or more.
3. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Go to SEC-130, "Diagnosis Procedure (M/T Models)".
NO >> INSPECTION END

Diagnosis Procedure (CVT Models)

INFOID:0000000011536865

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1. CHECK DTC OF BCM

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BCS-49, "DTC Index".
NO >> GO TO 2.

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

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Disconnect transmission range switch connector.
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	
E43	14	F26	7	Yes

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

(+)		(–)	Continuity
IPDM E/R			
Connector	Terminal		
E43	14	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness.

Diagnosis Procedure (M/T Models)

INFOID:0000000011536866

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK DTC OF BCM

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BCS-49, "DTC Index".
NO >> GO TO 2.

2.CHECK CLUTCH INTERLOCK SWITCH SIGNAL CIRCUIT

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

Clutch interlock switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	2	E43	4	Yes

5. Check continuity between clutch interlock switch harness connector and ground.

Clutch interlock switch		Ground	Continuity
Connector	Terminal		
E34	2		No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness.

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:0000000011536867

DTC DETECTION LOGIC

NOTE:
If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "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 (CVT models) • Clutch pedal operation signal from clutch interlock switch and interlock signal (CAN) from BCM (M/T models)	• Harness or connectors (The CAN communication line is open or shorted.) • Harness or connectors (Transmission range switch circuit is open or shorted.) (Clutch interlock switch circuit is open or shorted.) • Transmission range switch • Clutch interlock switch • IPDM E/R • BCM

DTC CONFIRMATION PROCEDURE

CVT MODELS

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Shift selector lever to the Park (P) position.
2. Turn ignition switch ON and wait 1 second or more.
3. Shift selector lever to the Neutral (N) position and wait 1 second or more.
4. Shift selector lever to the position other than Park (P) and Neutral (N), and wait 1 second or more.
5. Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

YES >> Go to SEC-131, "Diagnosis Procedure (CVT Models)".
NO >> Inspection End.

M/T MODELS

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON and wait 1 second or more.
2. Depress the clutch pedal and wait 1 second or more.
3. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R” using CONSULT.

Is DTC detected?

YES >> Go to SEC-132, "Diagnosis Procedure (M/T Models)".
NO >> INSPECTION END

Diagnosis Procedure (CVT Models)

INFOID:0000000011536868

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK DTC OF BCM

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BCS-49, "DTC Index".
NO >> GO TO 2.

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

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Disconnect transmission range switch connector.
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	
E43	14	F26	7	Yes

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

(+)		(–)	Continuity
IPDM E/R			
Connector	Terminal		
E43	14	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness.

Diagnosis Procedure (M/T Models)

INFOID:0000000011536869

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK DTC OF BCM

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BCS-49, "DTC Index".
NO >> GO TO 2.

2.CHECK CLUTCH INTERLOCK SWITCH SIGNAL CIRCUIT

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

Clutch interlock switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	2	E43	4	Yes

5. Check continuity between clutch interlock switch harness connector and ground.

Clutch interlock switch		Ground	Continuity
Connector	Terminal		
E34	2		No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:0000000011536870

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” mode of “INTELLIGENT KEY” of “BCM” is ON.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:0000000011536871

1.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” in “Work Support” mode 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-49, "DTC Index".
NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.
Refer to SEC-78, "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-40, "Intermittent Incident".
NO >> GO TO 1.

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:0000000011536872

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-58, "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:0000000011536873

1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp.

Refer to SEC-9, "Security Indicator Lamp".

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-40, "Intermittent Incident".

NO >> GO TO 1.

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

INFOID:0000000011536874

REMOVAL

1. Remove instrument finisher B. Refer to IP-14, "Exploded View".
2. Using a suitable tool release the pawls on either side and remove the NATS antenna amp. from the push-button ignition switch.

INSTALLATION

Installation is in the reverse order of removal.

PUSH-BUTTON IGNITION SWITCH

Removal and Installation

INFOID:0000000011536875

REMOVAL

1. Remove the NATS antenna amp. Refer to SEC-135, "Removal and Installation".
2. Using a suitable tool release the pawls and remove the push-button ignition switch from instrument finisher B.

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:0000000011536876

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.**

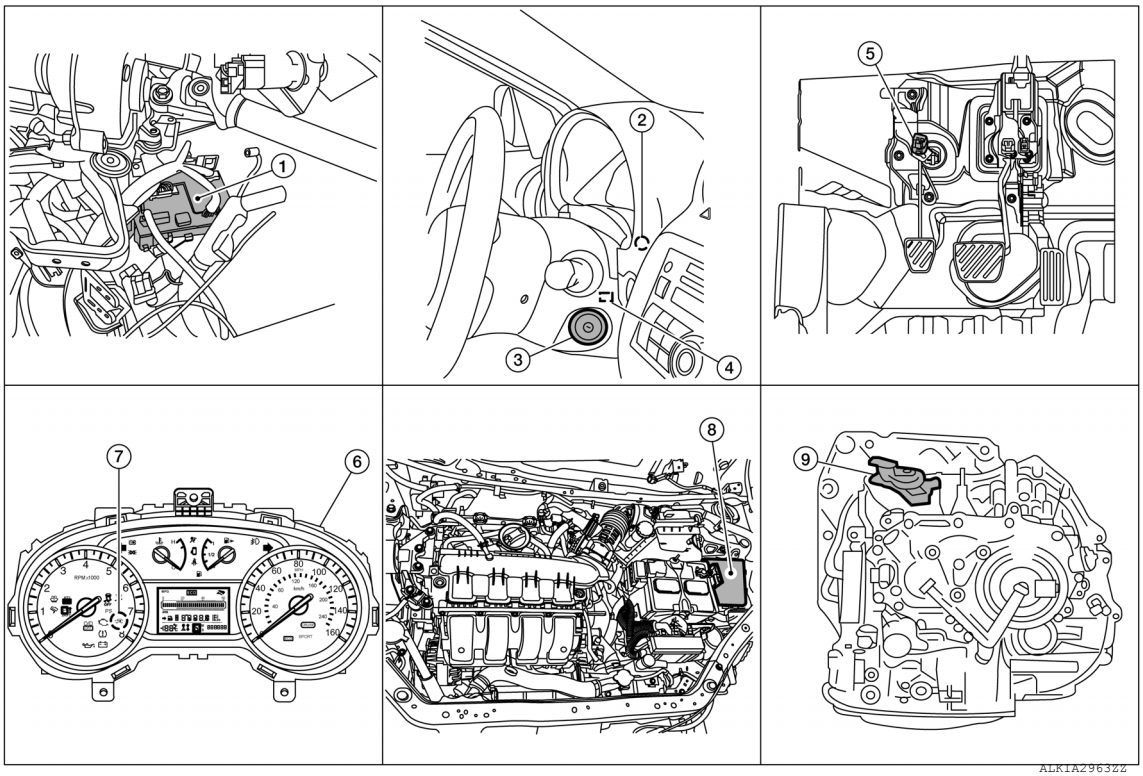
SYSTEM DESCRIPTION

COMPONENT PARTS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Parts Location

INFOID:0000000011536877



1. BCM (view with instrument panel removed)
2. Dongle unit (Canada only) (behind instrument panel LH)
3. Ignition switch
4. NATS antenna amp. (inside steering column)
5. Clutch interlock switch (M/T models)
6. Combination meter
7. Security indicator lamp
8. IPDM E/R
9. Transmission range switch (CVT models)

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Description

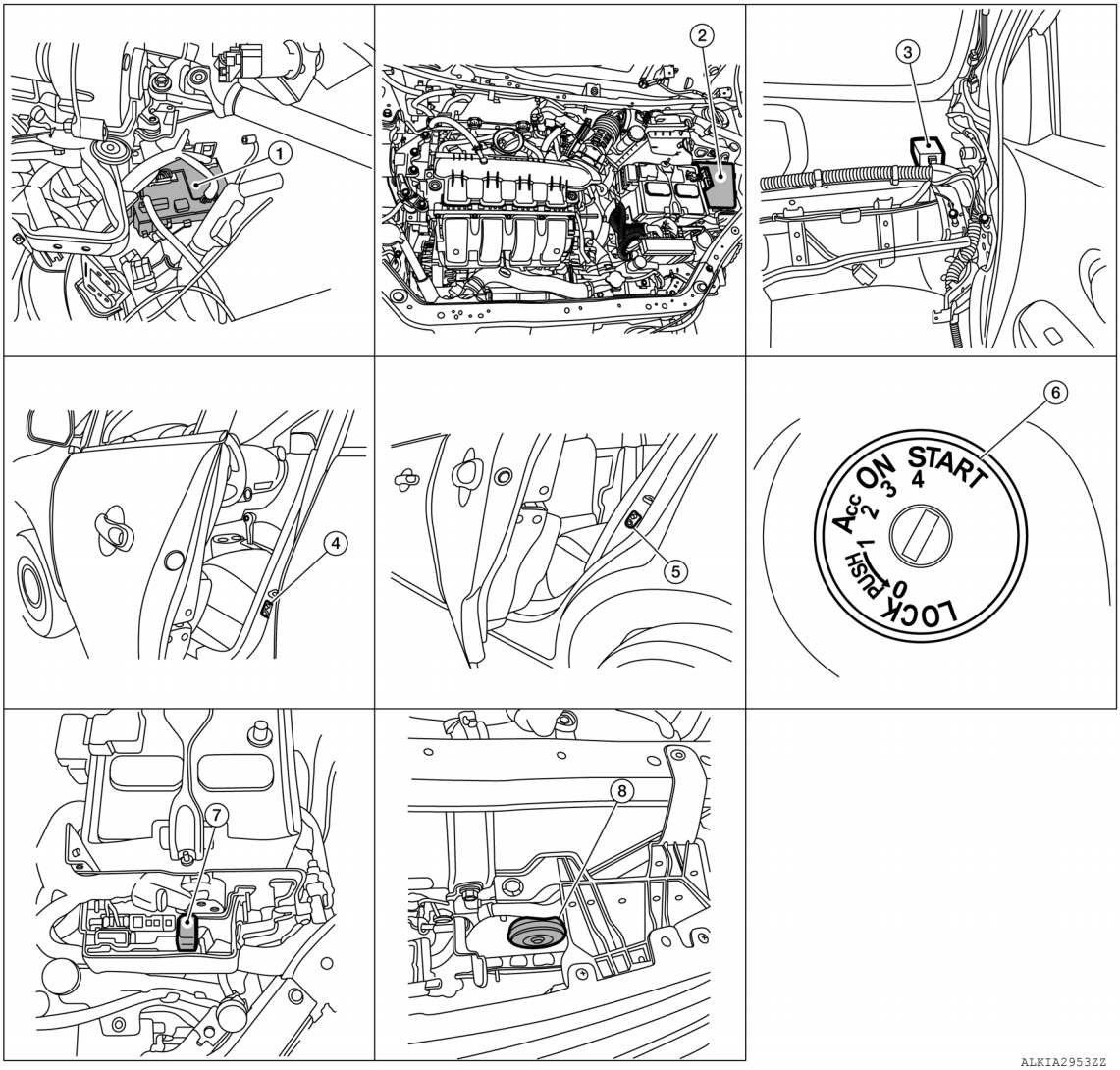
INFOID:0000000011536878

Item	Function
BCM	Verifies the received signal from the ignition key ID, then informs ECM whether to allow engine start.
Transmission range switch (CVT models)	Detects whether the shift lever is in park.
Clutch interlock switch (M/T models)	Detects whether the clutch pedal is depressed.
Dongle unit (Canada only)	Sends ID verification signal to the BCM.
Starter relay	Supplies battery voltage to the starter motor when enabled.
NATS antenna amp.	Detects the ignition key presence in the ignition key cylinder.
Security indicator	Indicates the status of the security system.
IPDM E/R	Supplies battery voltage from integrated starter control relay to the starter motor.

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : Component Parts Location

INFOID:0000000011536879



ALKIA2953ZZ

1. BCM (view with instrument panel removed)
2. IPDM E/R
3. Remote keyless entry receiver (view with instrument panel removed)
4. Front door switch LH (RH similar)
5. Rear door switch LH (RH similar)
6. Key switch
7. Horn relay
8. Horn

VEHICLE SECURITY SYSTEM : Component Description

INFOID:0000000011536880

Item	Function
BCM	Controls the door lock function.
Door lock and unlock switch	Input lock or unlock signal to BCM.
Door switch	Input door open/close condition to BCM.
Key switch	Input key switch condition to BCM.
Remote keyless entry receiver	Receives lock/unlock signal from the keyfob, and then transmits to BCM.

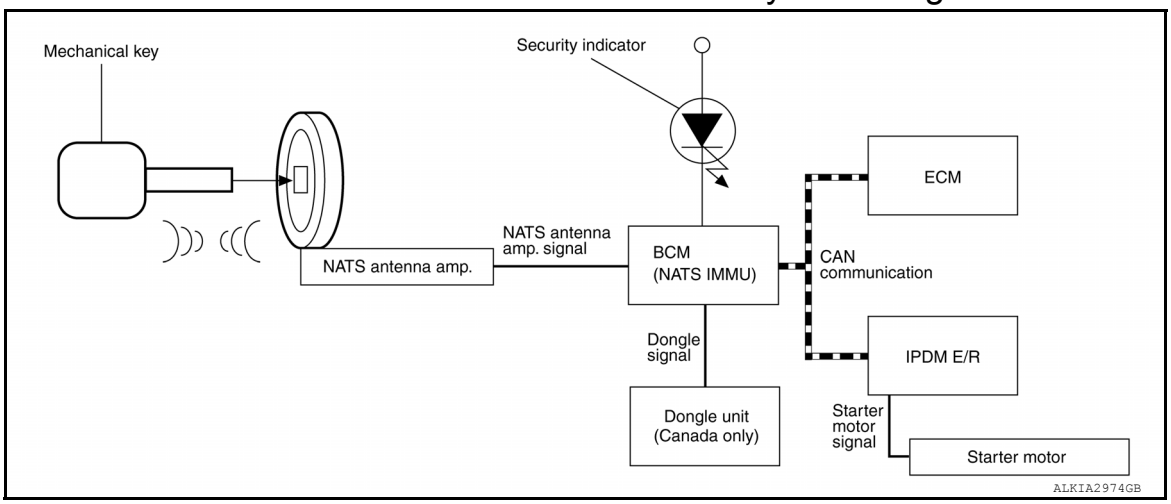
Item	Function
Key switch	Input key switch ON/OFF condition to BCM.
Horn	Provides audible warning in panic mode.

SYSTEM

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:0000000011536881



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:0000000011536882

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-170, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-488, "Removal and Installation".

PRECAUTIONS FOR KEY REGISTRATION

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

SECURITY INDICATOR

- Always flashes with ignition key in the OFF position.

MAINTENANCE INFORMATION

CAUTION:

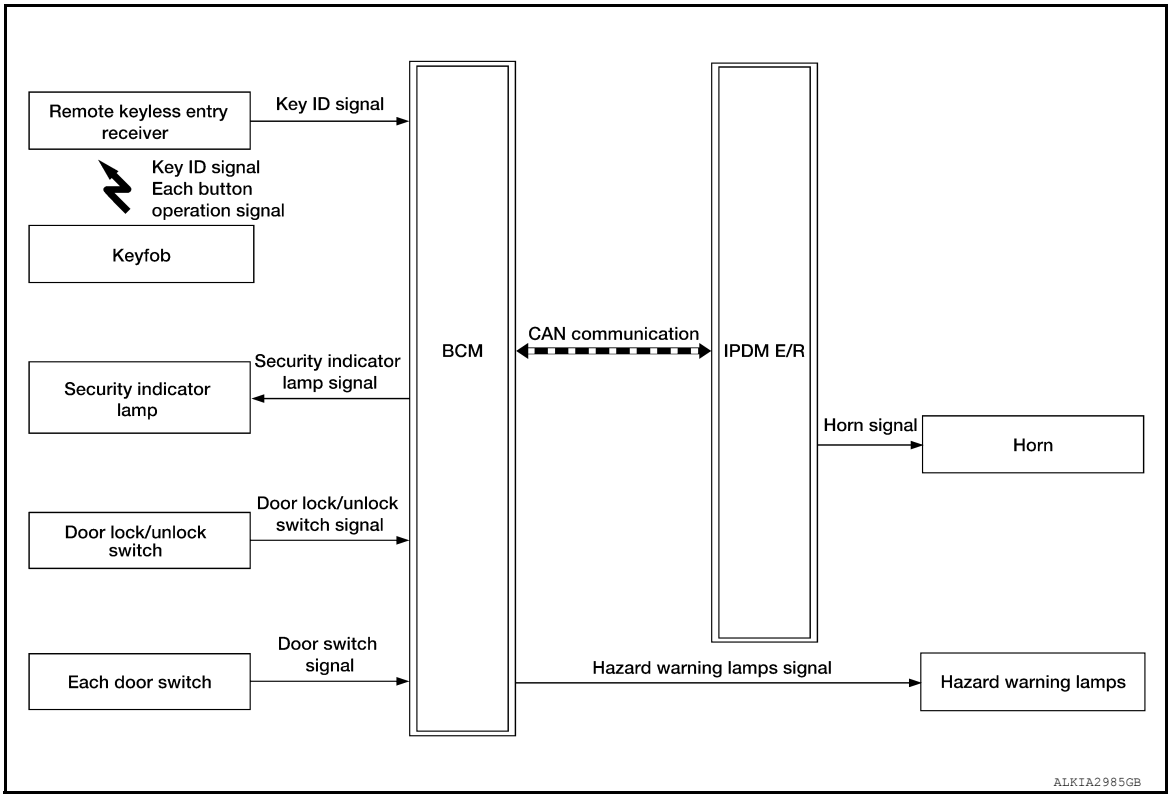
It is necessary to perform NATS ID registration when replacing any of the following parts.
If ID registration is mot performed the electrical system may not operate properly.

- **BCM**
- **ECM**
- **IPDM E/R**
- **Ignition key**
- **NATS antenna amp.**
- **Dongle unit (Canada only)**
- **Combination meter**

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Diagram

INFOID:0000000011536883



VEHICLE SECURITY SYSTEM : System Description

INFOID:0000000011536884

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

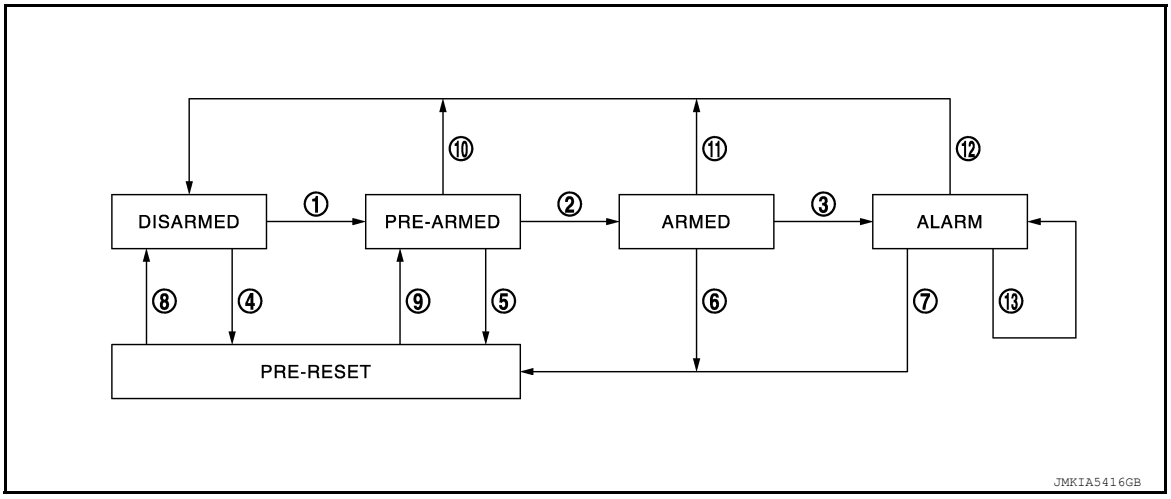
The priority of the functions are as per the following.

Priority	Function
1	Theft warning alarm
2	Panic alarm

THEFT WARNING ALARM

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

Operation Flow



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

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

NOTE:

- BCM ignores the door key cylinder UNLOCK switch signal input for 1 second after the door key cylinder LOCK switch signal input.
- To lock/unlock all doors by operating remote controller button of Keyfob, the Keyfob must be within the detection area of remote keyless entry receiver. For details, refer to SEC-141, "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description".

DISARMED Phase

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

PRE-ARMED Phase

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

ARMED Phase

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

ALARM Phase

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

NOTE:

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

PRE-RESET Phase

The PRE-RESET phase is the transient state between each phase and DISARMED phase.
PRE-ARMED phase is not available for this models.

PANIC ALARM

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

- LOCK button of Keyfob: ON
- UNLOCK button of Keyfob: ON
- PANIC ALARM button of Keyfob: Long pressed

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

INFOID:0000000011900764

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

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

SYSTEM APPLICATION
BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN DIAG SUPPORT MNTR
Door lock	DOOR LOCK			×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×		×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Trunk open	TRUNK			×				
RAP system	RETAINED PWR			×		×		
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000011900765

SELF DIAGNOSTIC RESULT

Refer to BCS-113, "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:0000000011900766

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
- License plate lamp
- Tail lamp
- Front fog lamp (if equipped)
- Headlamp (LO, HI)
- A/C compressor (magnet clutch) (if equipped)
- 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:

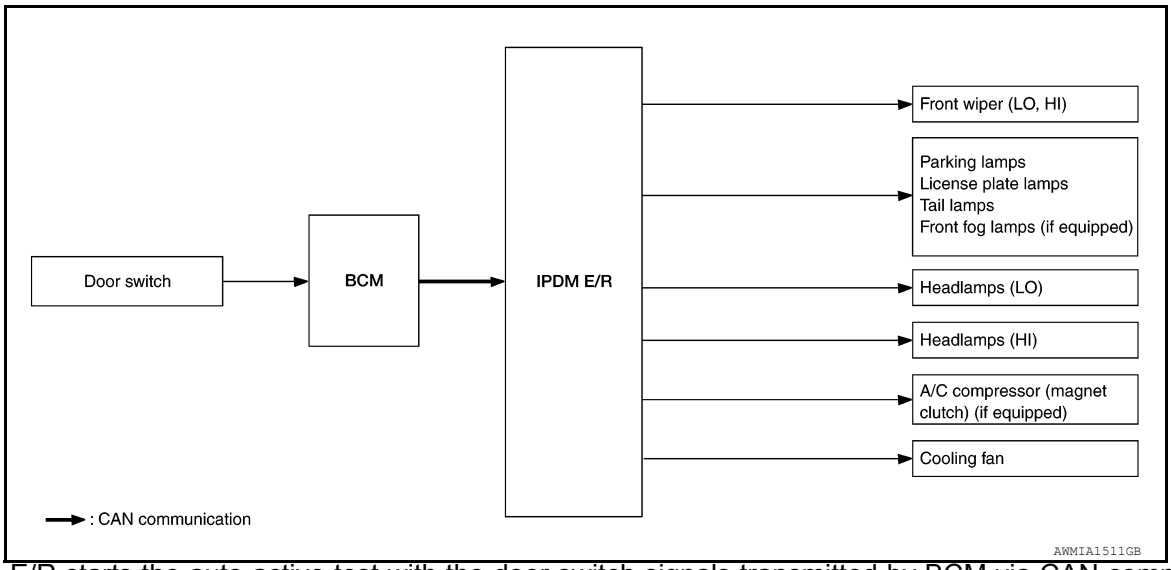
- When auto active test has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-262, "Component Inspection".

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 • 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) (if equipped)	ON ⇔ OFF 5 times
5	Cooling fan	LO for 5 seconds → MID for 3 seconds → HI for 2 seconds

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 • License plate lamp • Tail lamp • Front fog lamp (if equipped) • 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:0000000011900767

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The IPDM E/R part number is displayed.
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.

Direct Diagnostic Mode	Description
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-48, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [%]	×	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
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].
REAR DEFOGGER	This test is able to check rear window defogger operation [On/Off].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].
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:0000000011536889

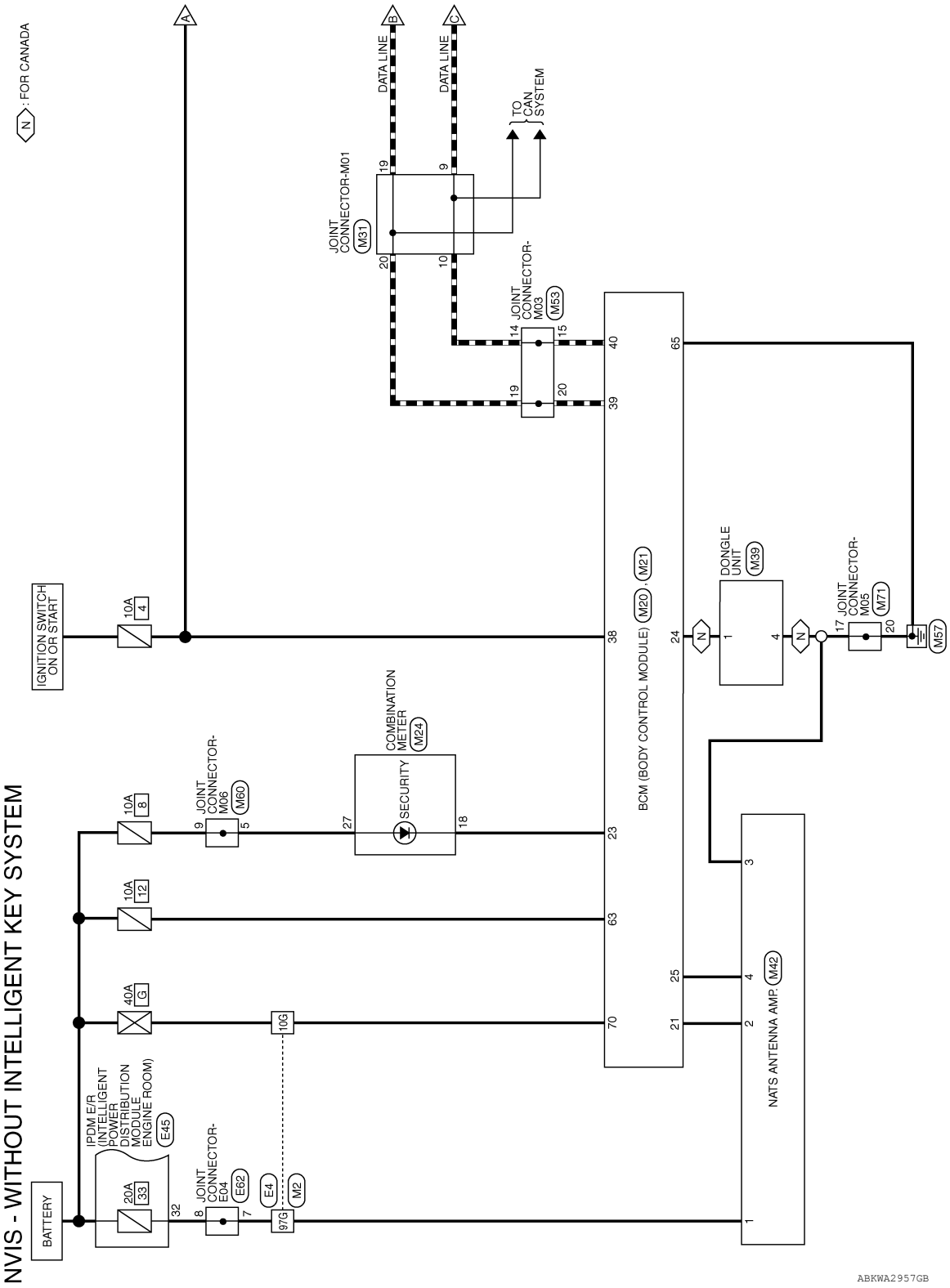
ECU		Reference
ECM	Reference Value	EC-77, "Reference Value"
	Fail Safe	EC-90, "Fail Safe"
	DTC Inspection Priority	EC-93, "DTC Inspection Priority Chart"
	DTC Index	EC-94, "DTC Index"
IPDM E/R	Reference Value	PCS-42, "Reference Value"
	Fail Safe	PCS-47, "Fail-Safe"
	DTC Index	PCS-48, "DTC Index"
BCM	Reference Value	BCS-101, "Reference Value"
	Fail Safe	BCS-112, "Fail-safe"
	DTC Inspection Priority	BCS-113, "DTC Inspection Priority Chart"
	DTC Index	BCS-113, "DTC Index"

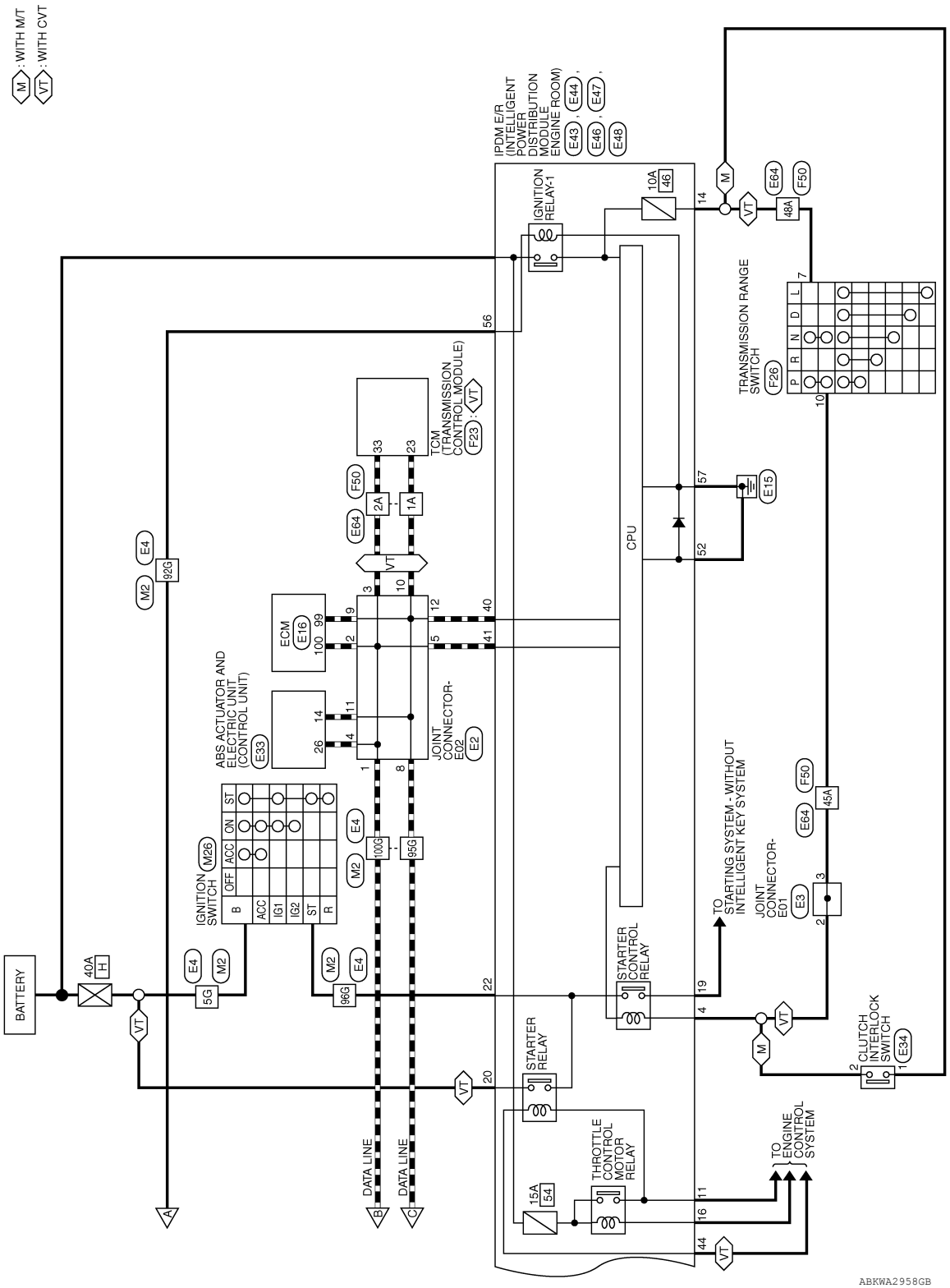
WIRING DIAGRAM

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

Wiring Diagram

INFOID:0000000011536890

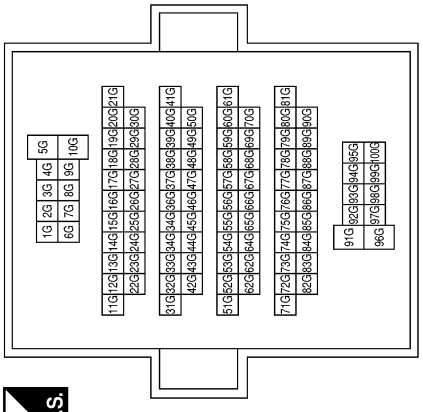



M : WITH M/T
VT : WITH CVT
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E43, E44, E46, E47, E48
IGNITION RELAY-1
10A 46
TRANSMISSION RANGE SWITCH F26
P R N D L 7 10
TCM (TRANSMISSION CONTROL MODULE) F23
ECM E16
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) E33
JOINT CONNECTOR-E02 E2
IGNITION SWITCH M26
OFF ACC ON ST
B ACC IG1 IG2 ST R
CPU
BATTERY
40A H
5G
96G
100G
95G
92G
E4
M2
F50
E64
2A
1A
E15
57
52
56
22
20
19
4
STARTER CONTROL RELAY
STARTER RELAY
TO STARTING SYSTEM - WITHOUT INTELLIGENT KEY SYSTEM
JOINT CONNECTOR-E01 E3
45A
CLUTCH INTERLOCK SWITCH E34
THROTTLE CONTROL MOTOR RELAY
15A 54
TO ENGINE CONTROL SYSTEM
DATA LINE
A
B
C
ABKWA2958GB

NVIS CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5G	G	–
10G	Y	–
92G	R	–
95G	P	–
96G	L	–
97G	V	–
100G	L	–

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
63	O	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

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

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
18	Y	SECURITY
27	LG	BAT

AAKIA2915GB

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE

H.S.

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

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
9	P	–
10	P	–
19	L	–
20	L	–

Connector No.	M39
Connector Name	DONGLE UNIT
Connector Color	WHITE

H.S.

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

Connector No.	M42
Connector Name	NATS ANTENNA AMP.
Connector Color	WHITE

H.S.

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

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.

Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

Terminal No.	Color of Wire	Signal Name
5	LG	–
9	W	–

AAKIA1028GB

Terminal No.	Color of Wire	Signal Name
5	L	–
8	P	–
9	P	–
10	P	–
11	P	–
12	P	–

Terminal No.	Color of Wire	Signal Name
5G	P	–
10G	G	–
92G	G	–
95G	P	–
96G	GR	–
97G	Y	–
100G	L	–

Connector No.	M71
Connector Name	JOINT CONNECTOR-M05
Connector Color	PINK

H.S.

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

Terminal No.	Color of Wire	Signal Name
17	B	–
20	B	–

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

H.S.

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

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

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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

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

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

81G 80G 79G 78G 77G 76G 75G 74G 73G 72G 71G
90G 89G 88G 87G 86G 85G 84G 83G 82G

95G 94G 93G 92G 91G
100G 99G 98G 97G 96G

Connector No.	E3
Connector Name	JOINT CONNECTOR-E01
Connector Color	BLUE

H.S.

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

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

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Connector No.	E16
Connector Name	ECM
Connector Color	GRAY

H.S.

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

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

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

H.S.

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

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

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

H.S.

2
1

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
4	BR	NP SW
11	GR	ETC VB
14	LG	REVERSE LAMP IGN
16	SB	ETC RLY CONT

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

H.S.

21	20	19
24	23	22

Terminal No.	Color of Wire	Signal Name
19	R	STARTER MOTOR
20	P	F/L IGN SW
22	GR	IGN SW (ST)

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
32	Y	ECM BAT

ABKIA6758GB

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
40	P	CAN-L
41	L	CAN-H
44	V	START CONT

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

H.S.

51		50	49
56	55	54	53	52

Terminal No.	Color of Wire	Signal Name
52	B/Y	GND (SIGNAL)
56	G	IGN SW (IG1)

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Color	BLACK

H.S.

59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
57	B/Y	GND (POWER)

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
1A	P	–
2A	L	–
45A	BR	–
48A	LG	–

Connector No.	E62
Connector Name	JOINT CONNECTOR-E04
Connector Color	BLACK

H.S.

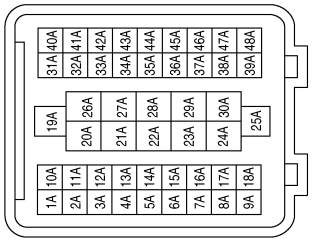
12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

Terminal No.	Color of Wire	Signal Name
7	Y	–
8	Y	–

ABKIA6759GB

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK

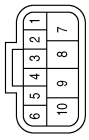
H.S.



Terminal No.	Color of Wire	Signal Name
1A	P	–
2A	L	–
45A	BR	–
48A	GR	–

Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK

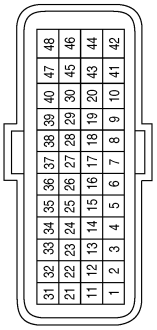
H.S.



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

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.



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

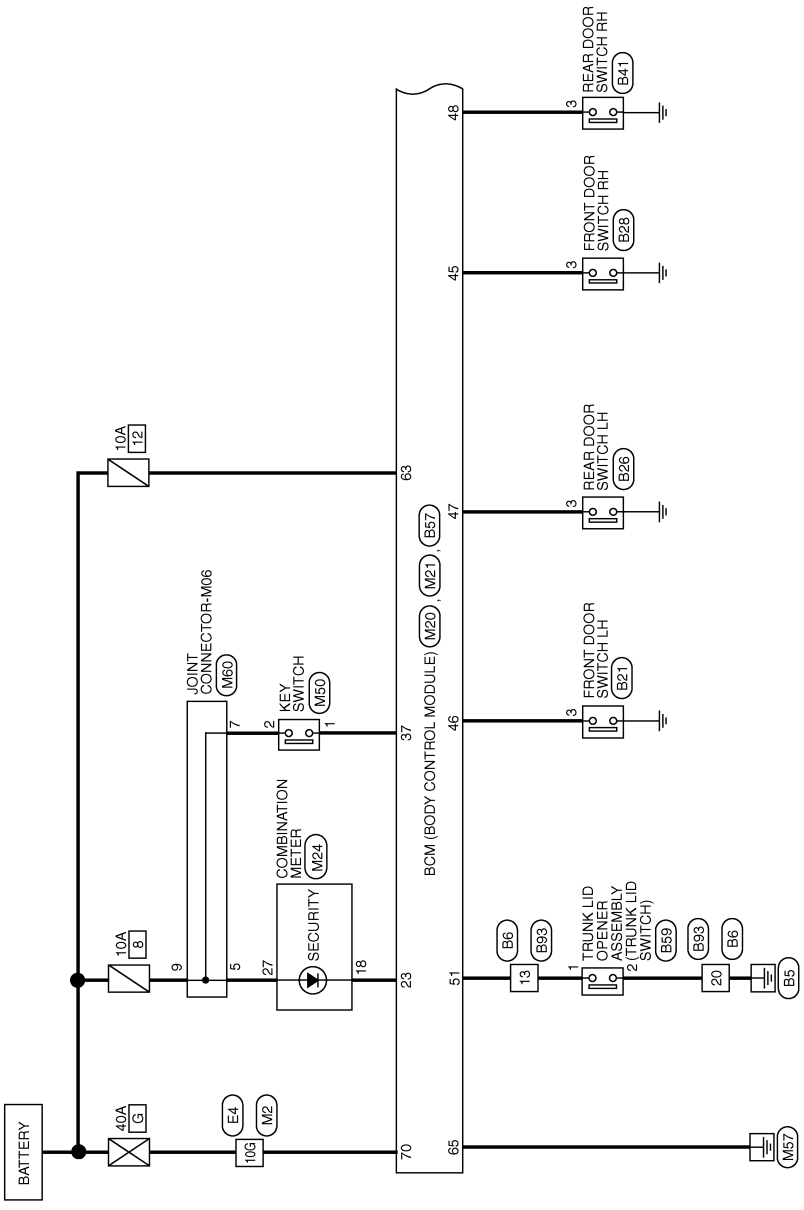
ABKIA6760GB

VEHICLE SECURITY SYSTEM

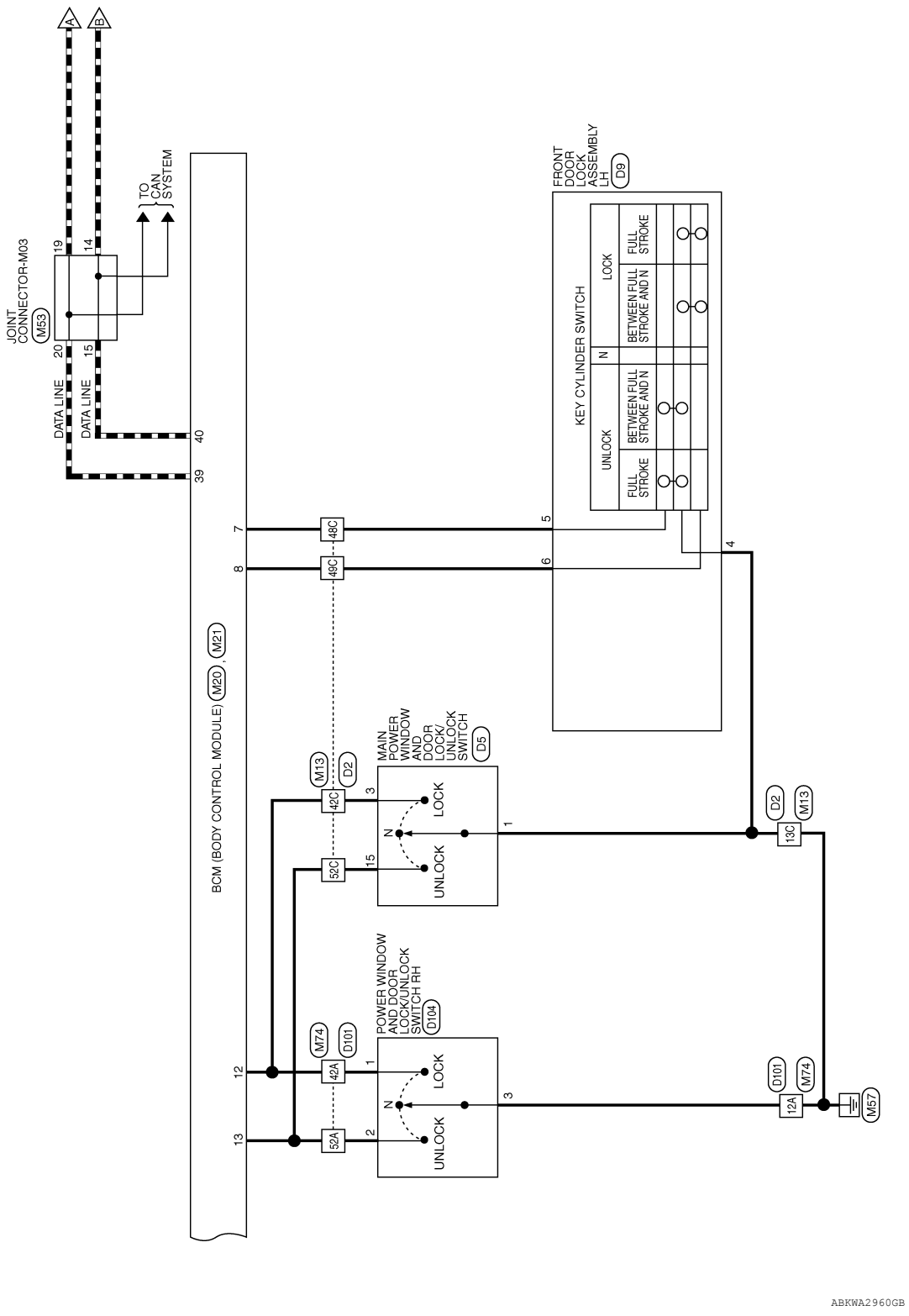
Wiring Diagram

INFOID:0000000011536891

VEHICLE SECURITY SYSTEM - WITHOUT INTELLIGENT KEY SYSTEM



ABKWA2959GB



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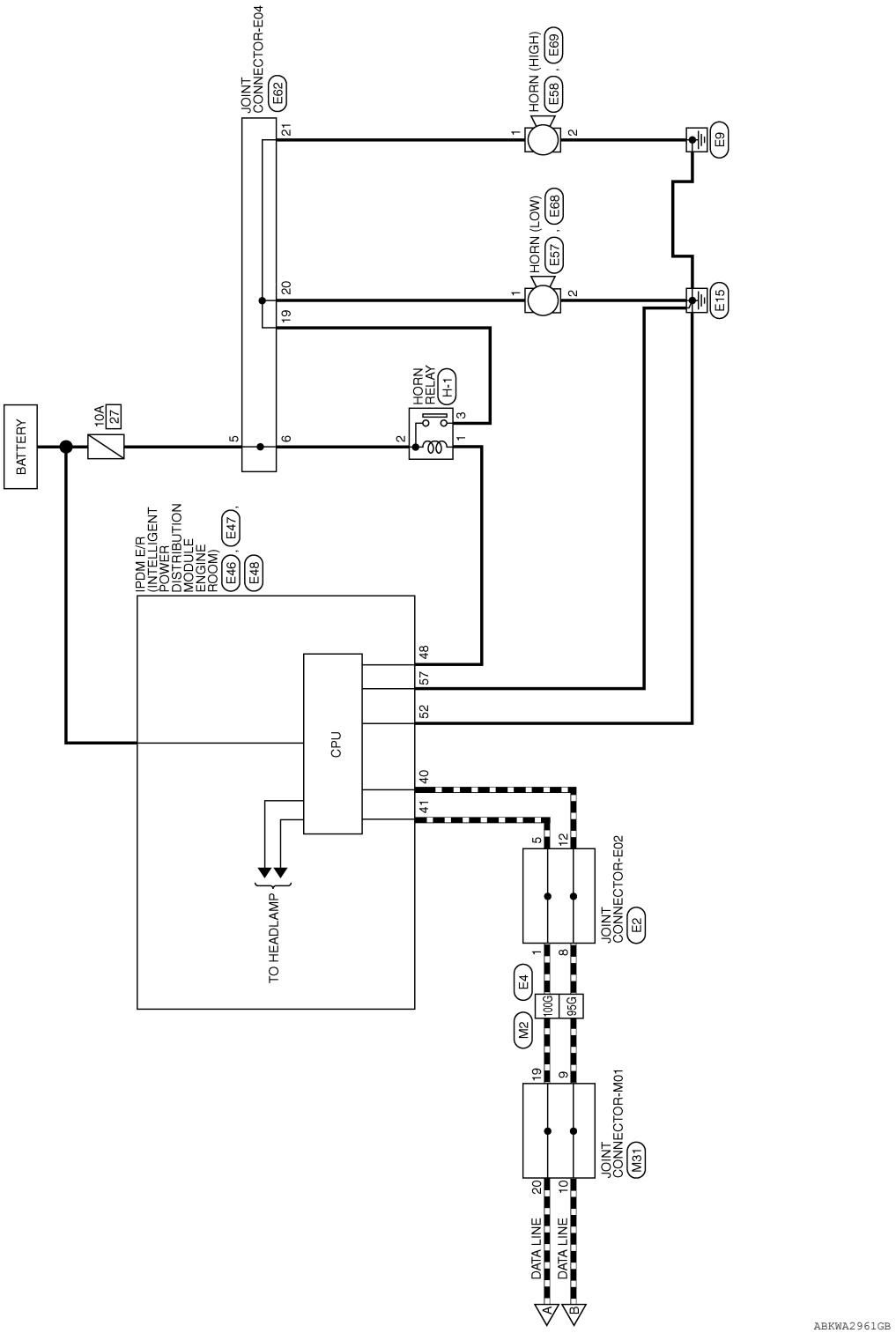

JOINT CONNECTOR-E04
E62
21
20
19
HORN (HIGH)
E69
E58
HORN (LOW)
E68
E57
E9
E15
BATTERY
10A
27
5
6
HORN RELAY
H-1
2
1
3
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E46
E47
E48
CPU
48
57
52
40
41
TO HEADLAMP
JOINT CONNECTOR-E02
E2
E4
M2
100G
95G
JOINT CONNECTOR-M01
M31
DATA LINE
A
B
ABKWA2961GB

VEHICLE SECURITY SYSTEM CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

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

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

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

71G	72G	73G	74G	75G	76G	77G	78G	79G	80G	81G
82G	83G	84G	85G	86G	87G	88G	89G	90G		

91G	92G	93G	94G	95G
96G	97G	98G	99G	100G

Terminal No.	Color of Wire	Signal Name
10G	Y	–
95G	P	–
100G	L	–

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
13C	B	–
42C	GR	–
48C	L	–
49C	V	–
52C	BR	–

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
63	O	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	L	KEY CYLINDER UNLOCK SW
8	V	KEY CYLINDER LOCK SW
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
23	Y	SECURITY INDICATOR OUTPUT
37	GR	KEY SW
39	L	CAN-H
40	P	CAN-L

ABKIA6769GB

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
18	Y	SECURITY
27	LG	BAT

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

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

Terminal No.	Color of Wire	Signal Name
9	P	–
10	P	–
19	L	–
20	L	–

Connector No.	M50
Connector Name	KEY SWITCH
Connector Color	GRAY

H.S.

1	2	3	4	5	6

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

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	PINK

H.S.

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

Terminal No.	Color of Wire	Signal Name
14	P	–
15	P	–
19	L	–
20	L	–

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	BLUE

H.S.

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

Terminal No.	Color of Wire	Signal Name
5	LG	–
7	BR	–
9	W	–

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

36A	37A	38A	39A	40A	41A	42A	43A	44A	45A	46A
47A	48A	49A	50A	51A	52A	53A	54A	55A		

Terminal No.	Color of Wire	Signal Name
12A	B	–
42A	GR	–
52A	BR	–

ABKIA6770GB

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

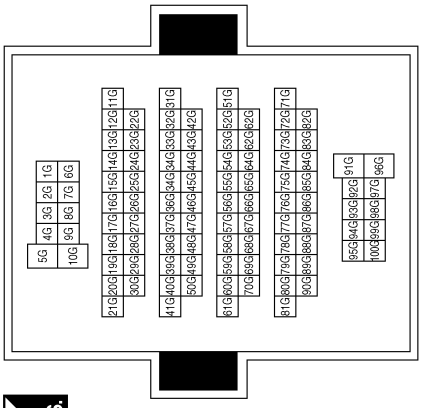
H.S.

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

Terminal No.	Color of Wire	Signal Name
1	L	–
5	L	–
8	P	–
12	P	–

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
10G	G	–
95G	P	–
100G	L	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
40	P	CAN-L
41	L	CAN-H
48	L	HORN RLY CONT

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

H.S.

51		50	49
56	55	54	53	52

Terminal No.	Color of Wire	Signal Name
52	B/Y	GND (SIGNAL)

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
57	B/Y	GND (POWER)

ABKIA6771GB

Connector No.	E57
Connector Name	HORN (LOW)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–

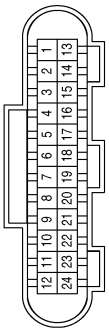
Connector No.	E58
Connector Name	HORN (HIGH)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–

Connector No.	E62
Connector Name	JOINT CONNECTOR-E04
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
5	BR	–
6	BR	–
19	G	–
20	G	–
21	G	–

Connector No.	E68
Connector Name	HORN (LOW)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
2	B/Y	–

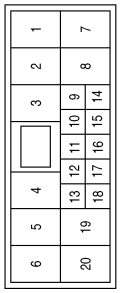
Connector No.	E69
Connector Name	HORN (HIGH)
Connector Color	BLACK

H.S.

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

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
13	V	–
20	B	–

ABKIA6772GB

Connector No.	B21
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	Y	–

Connector No.	B26
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	GR	–

Connector No.	B28
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	B41
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	P	–

Connector No.	B57
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
45	R	DOOR SW (AS)
46	Y	DOOR SW (DR)
47	GR	DOOR SW (RL)
48	P	DOOR SW (RR)
51	V	TRUNK SW

Connector No.	B59
Connector Name	TRUNK LID OPENER ASSEMBLY
Connector Color	WHITE

H.S.

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

ABKIA6773GB

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
13	R	–
20	B	–

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
13C	B	–
42C	L	–
48C	Y	–
49C	R	–
52C	BR	–

Connector No.	D5
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH
Connector Color	WHITE

H.S.

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

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

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

H.S.

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

Terminal No.	Color of Wire	Signal Name
3A	Y	–
4A	V	–
12A	B	–
42A	Y	–
52A	BR	–

Connector No.	D9
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	GRAY

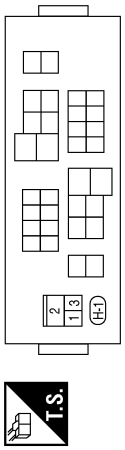
H.S.

1	2	3	4	5	6

Terminal No.	Color of Wire	Signal Name
4	B	–
5	Y	–
6	R	–

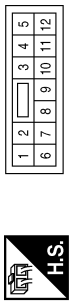
ABKIA6774GB

Connector No.	H-1
Connector Name	FUSE AND FUSIBLE LINK BOX (HORN RELAY)
Connector Color	–



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

Connector No.	D104
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE



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

ABKIA6775GB

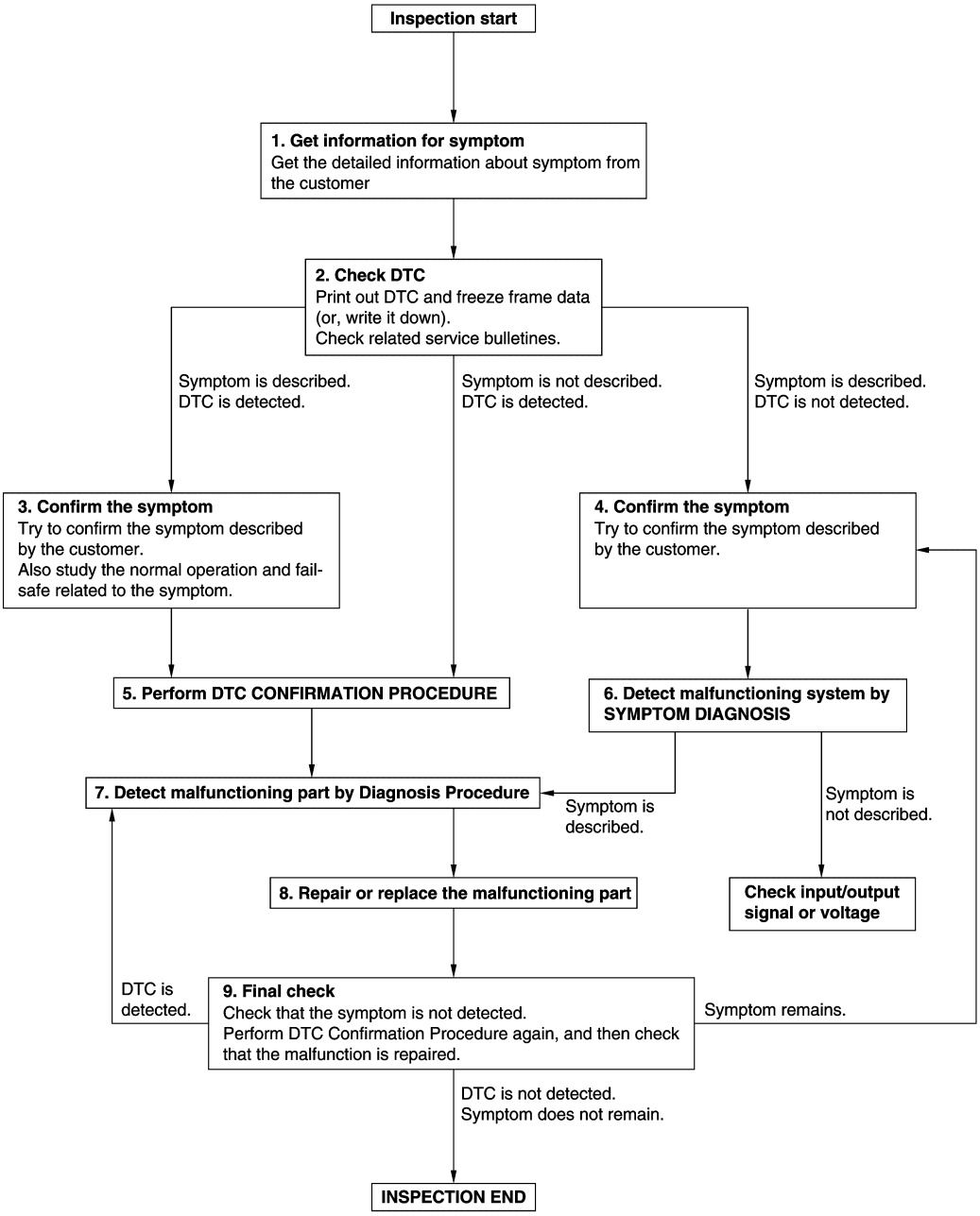
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000011536892

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-113, "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-40, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

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

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-40, "Intermittent Incident".

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

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

Is DTC detected and does symptom remain?

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM

ECM : Description

INFOID:0000000011536893

Performing the following procedure can automatically activate re-communication of ECM and BCM, but only when the ECM is replaced with a new one*.
*: New one means an ECM that has never been energized on-board.
NOTE:
- **When the replaced ESM is not a brand new, the specified procedure (Initialization of BCM and registration of ignition keys) using CONSULT is necessary.**
- **If multiple keys are attached to the key holder, separate them before beginning work.**
- **Distinguish keys with unregistered key IDs from those with registered IDs.**

ECM : Work Procedure

INFOID:0000000011536894

1.PERFORM ECM RECOMMUNICATING FUNCTION

1. Install ECM.
2. Insert the registered ignition key* into key cylinder, then turn ignition switch ON.
   *: To perform this step, use the key that is used before performing ECM replacement.
3. Maintain ignition switch in the ON position for at least 5 seconds.
4. Turn ignition switch OFF.
5. Start the engine.

>> GO TO 2.

2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform EC-136, "Work Procedure".

>> Inspection End

BCM

BCM : Description

INFOID:0000000011536895

BEFORE REPLACEMENT
When replacing BCM, save or print current vehicle specification with CONSULT configuration before replacement.
NOTE:
If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing BCM.

AFTER REPLACEMENT
CAUTION:
- **When replacing BCM, you must perform “After Replace ECU” with CONSULT.**
- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **When replacing BCM, perform the system initialization (NATS).**

BCM : Work Procedure

INFOID:0000000011536896

1.SAVING VEHICLE SPECIFICATION

CONSULT
Enter "Re/Programming, Configuration" and perform “Before Replace ECU” to save or print current vehicle specification.
NOTE:
If “Before Replace ECU” cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

>> GO TO 2.

2. REPLACE BCM

Replace BCM. Refer to BCS-133, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to BCS-120, "CONFIGURATION (BCM) : Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to BCS-120, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM

Description

INFOID:0000000011536897

Refer to LAN-7, "CAN COMMUNICATION SYSTEM : System Description".

DTC Logic

INFOID:0000000011536898

DTC DETECTION LOGIC

NOTE:
U1000 can be set if a module harness was disconnected and reconnected, perhaps during a repair. Confirm that there are actual CAN diagnostic symptoms and a present DTC by performing the Self Diagnostic Result procedure.

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	When any listed module cannot communicate with CAN communication signal continuously for 2 seconds or more with ignition switch ON	In CAN communication system, any item (or items) of the following listed below is malfunctioning. • Transmission • Receiving (ECM) • Receiving (VDC/TCS/ABS) • Receiving (METER/M&A) • Receiving (TCM) • Receiving (IPDM E/R)

Diagnosis Procedure

INFOID:0000000011536899

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 second or more.
2. Check “SELF- DIAG RESULTS”.

Is “CAN COMM CIRCUIT” displayed?

YES >> Perform CAN Diagnosis as described in DIAGNOSIS section of CONSULT operation manual.
NO >> Refer to GI-40, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:0000000011536900

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	BCM detected internal CAN communication circuit malfunction.	BCM

Diagnosis Procedure

INFOID:0000000011536901

1.REPLACE BCM

When DTC “U1010” is detected, replace BCM.

>> Replace BCM. Refer to BCS-133, "Removal and Installation".

P1610 LOCK MODE

Description

INFOID:0000000011536902

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 malfunctioning.

DTC Logic

INFOID:0000000011536903

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 malfunctioning.	• Mechanical key • BCM • ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-177, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536904

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-40, "Intermittent Incident".

>> Inspection End.

B2190, P1614 NATS ANTENNA AMP.

Description

INFOID:0000000011536905

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:0000000011536906

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-178, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536907

Regarding Wiring Diagram information, refer to SEC-152, "Wiring Diagram".

1.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to SEC-192, "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 M42 terminal 1 and ground.

1 - Ground : Battery voltage

Is the inspection result normal?

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

4. CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NATS antenna amp. connector.
3. Check continuity between NATS antenna amp. connector M42 terminal 3 and ground.

3 - Ground : Continuity should exist.

Is the inspection result normal?

YES >> GO TO 5
NO >> • Repair or replace harness.
NOTE:
If harness is OK, replace BCM BCS-133, "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 M42 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-133, "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 M42 terminal 4 and ground with analog tester.

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

Is the inspection result normal?

YES >> NATS antenna amp. is malfunctioning. Replace NATS antenna amp. Refer to SEC-192, "Removal and Installation".
NO >> • Repair or replace harness.
NOTE:

If harness is OK, replace BCM, refer to BCS-133, "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

Description

INFOID:0000000011536908

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:0000000011536909

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-181, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536910

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-133, "Removal and Installation".
- Perform initialization again.

B2192, P1611 ID DISCORD, IMMU-ECM

Description

INFOID:0000000011536911

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:0000000011536912

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-124, "DTC Logic".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-125, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-182, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536913

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-133, "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-488, "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

4. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

B2193, P1612 CHAIN OF ECM-IMMU

Description

INFOID:0000000011536914

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:0000000011536915

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-124, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-125, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-184, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536916

1.REPLACE BCM

1. Replace BCM. Refer to BCS-133, "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 Logic

INFOID:0000000011536917

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” mode of “BCM” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-185, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536918

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-185, "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-185, "DTC Logic".

Is DTC detected?

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

4.REPLACE BCM

1. Replace BCM. Refer to BCS-133, "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

Description

INFOID:0000000011536919

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

DTC Logic

INFOID:0000000011536920

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-diagnosis result” mode of “BCM” using CONSULT.

Is the DTC detected?

YES >> Refer to SEC-186, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011536921

Regarding Wiring Diagram information, refer to SEC-152, "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	
M21	24	M39	1	Yes

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M21	24		No

Is the inspection result normal?

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

3. CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dongle unit		Ground	Continuity
Connector	Terminal		
M39	4		Yes

Is the inspection result normal?

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

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000011900867

Regarding Wiring Diagram information, refer to BCS-115, "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.
63	Battery power supply	12 (10A)
70		G (40A)
11	Ignition switch ACC or ON	18 (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
M20	63	Ground	Battery voltage	Battery voltage	Battery voltage
	70				
M21	11	—	0 V	Battery voltage	Battery voltage

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		
M20	65	—	Yes

Is the inspection result normal?

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

VEHICLE SECURITY INDICATOR

Description

INFOID:0000000011536923

- 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:0000000011536924

1.CHECK FUNCTION

1. Perform Active Test of THEFT IND in the IMMU mode with 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-189, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000011536925

Regarding Wiring Diagram information, refer to SEC-152, "Wiring Diagram".

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V)
Combination meter			
Connector	Terminal		
M24	27	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No. 8, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between combination meter and fuse.

2.CHECK SECURITY INDICATOR LAMP SIGNAL

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

(+)		(–)	Voltage (V)
BCM			
Connector	Terminal		
M21	23	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-133, "Removal and Installation".
NO >> GO TO 3.

3.CHECK SECURITY INDICATOR LAMP CIRCUIT

1. Disconnect combination meter connector.

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

Combination meter		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M24	18	M21	23	Yes

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

Combination meter		Ground	Continuity
Connector	Terminal		
M24	18		No

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-77, "Removal and Installation".
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

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NOTE:
- Before performing the diagnosis in the following table, check “SEC-170, "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.

Symptom	Diagnosis/service procedure	Reference page
Security indicator does not turn ON or flash.	1. Check vehicle security indicator	SEC-189
	2. Check Intermittent Incident	GI-40

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

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REMOVAL

1. Remove instrument finisher B. Refer to IP-14, "Exploded View".
2. Using a suitable tool release the pawls on either side and remove the NATS antenna amp. from the push-button ignition switch.

INSTALLATION

Installation is in the reverse order of removal.