

SECTION **SEC**

SECURITY CONTROL SYSTEM

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PRECAUTION

PRECAUTIONS

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

INFOID:000000009756664

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.

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COMPONENT PARTS

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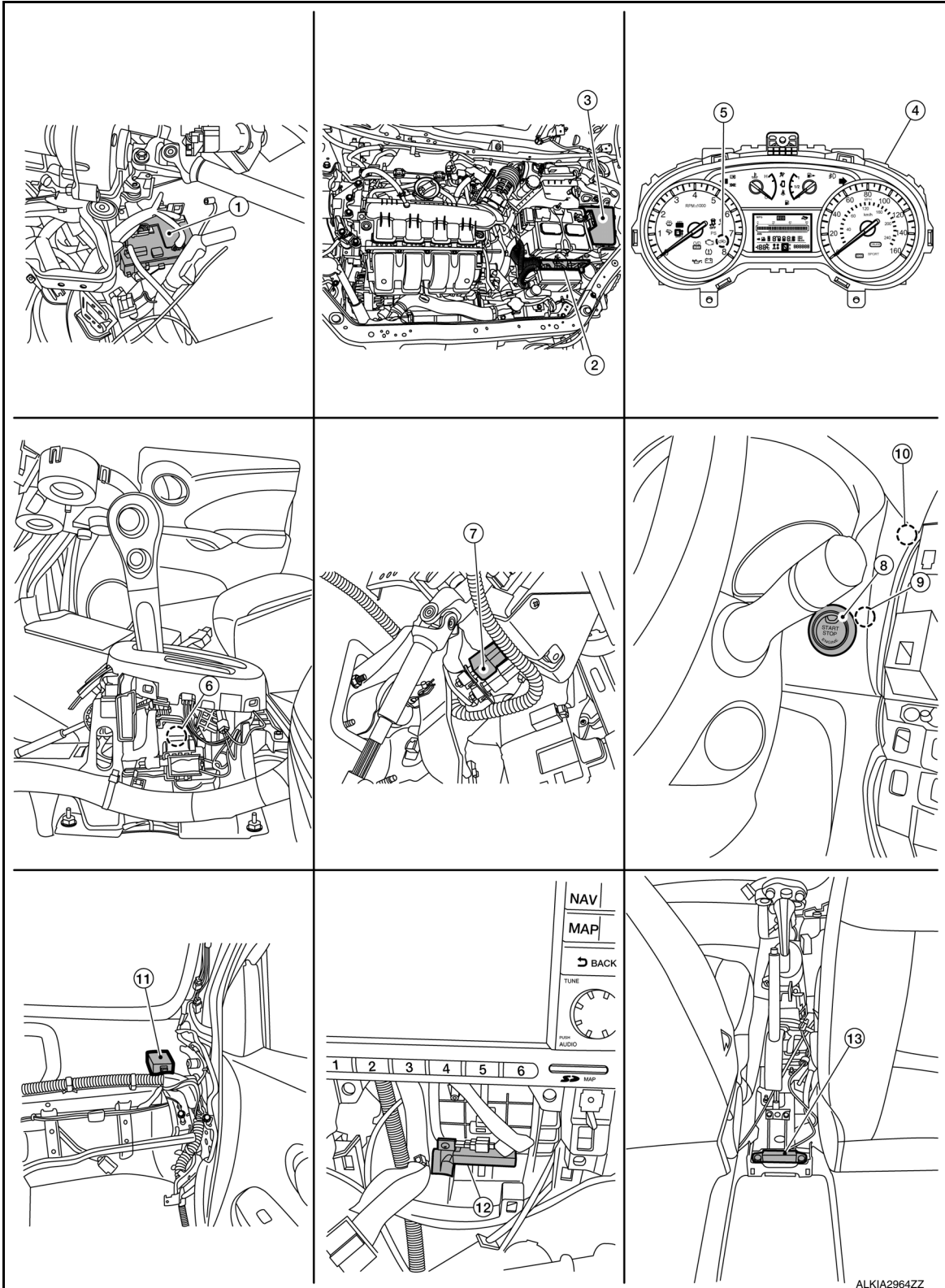
[WITH INTELLIGENT KEY SYSTEM]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000009756665

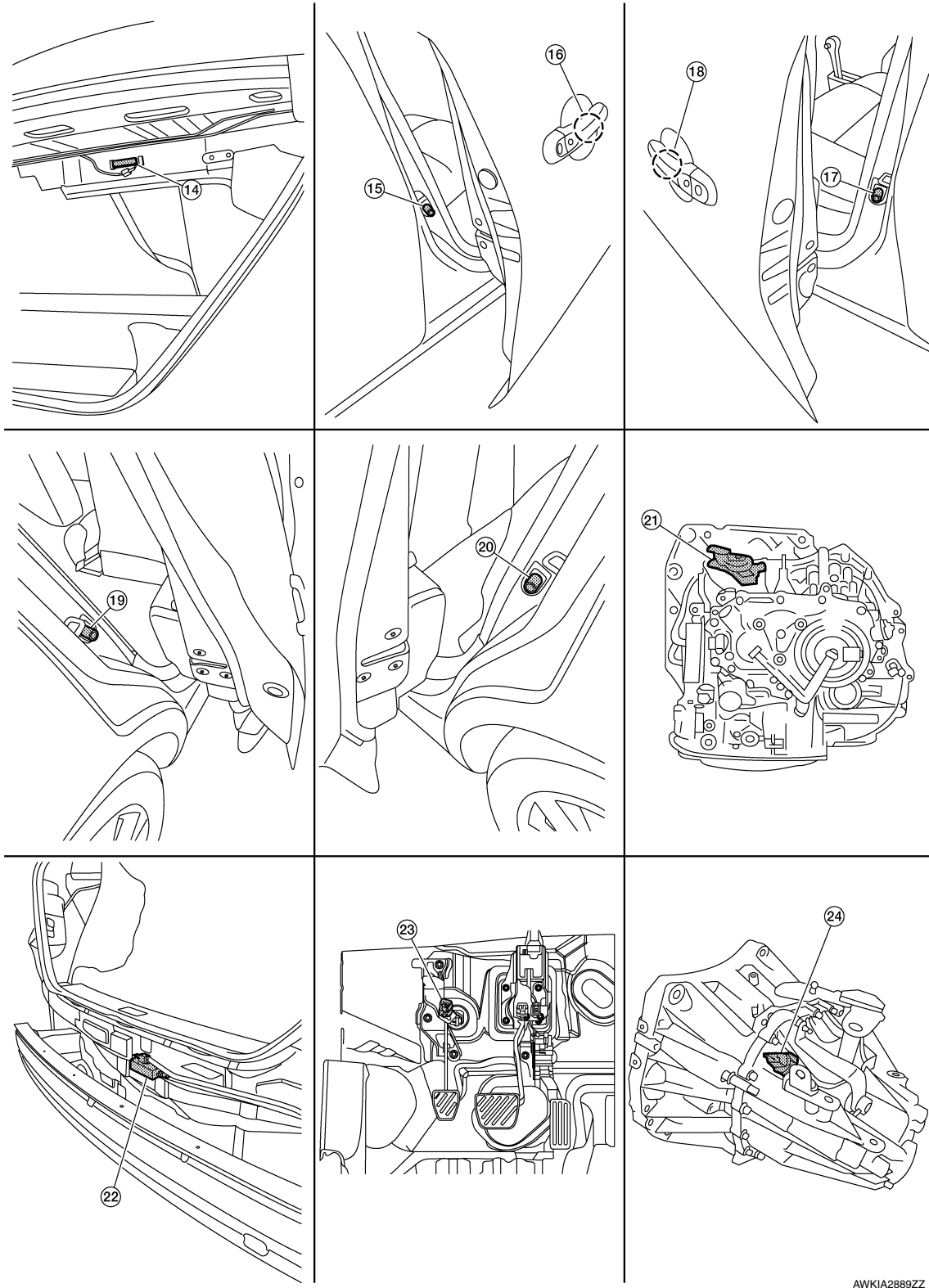


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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]



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- | | | |
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| 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. |

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- | | | |
|---|--|---|
| 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) | 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:000000009756666

| 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:000000009756667

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:000000009756668

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.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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.

A

ECM

INFOID:000000009756669

ECM controls the engine.

B

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.

C

IPDM E/R

INFOID:000000009756670

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.

D

NATS Antenna Amp.

INFOID:000000009756671

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.

E

F

Combination Meter

INFOID:000000009756672

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.

G

Door Switch

INFOID:000000009756673

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

H

Outside Key Antenna

INFOID:000000009756674

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.

I

J

Inside Key Antenna

INFOID:000000009756675

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.

SEC

Remote Keyless Entry Receiver

INFOID:000000009756676

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

L

M

Intelligent Key

INFOID:000000009756677

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.

N

Push-button Ignition Switch

INFOID:000000009756678

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.

O

P

Security Indicator Lamp

INFOID:000000009756679

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.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Starter Relay

INFOID:000000009756680

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:000000009756681

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

Transmission Range Switch

INFOID:000000009756682

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:0000000010288764

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:0000000010288765

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.

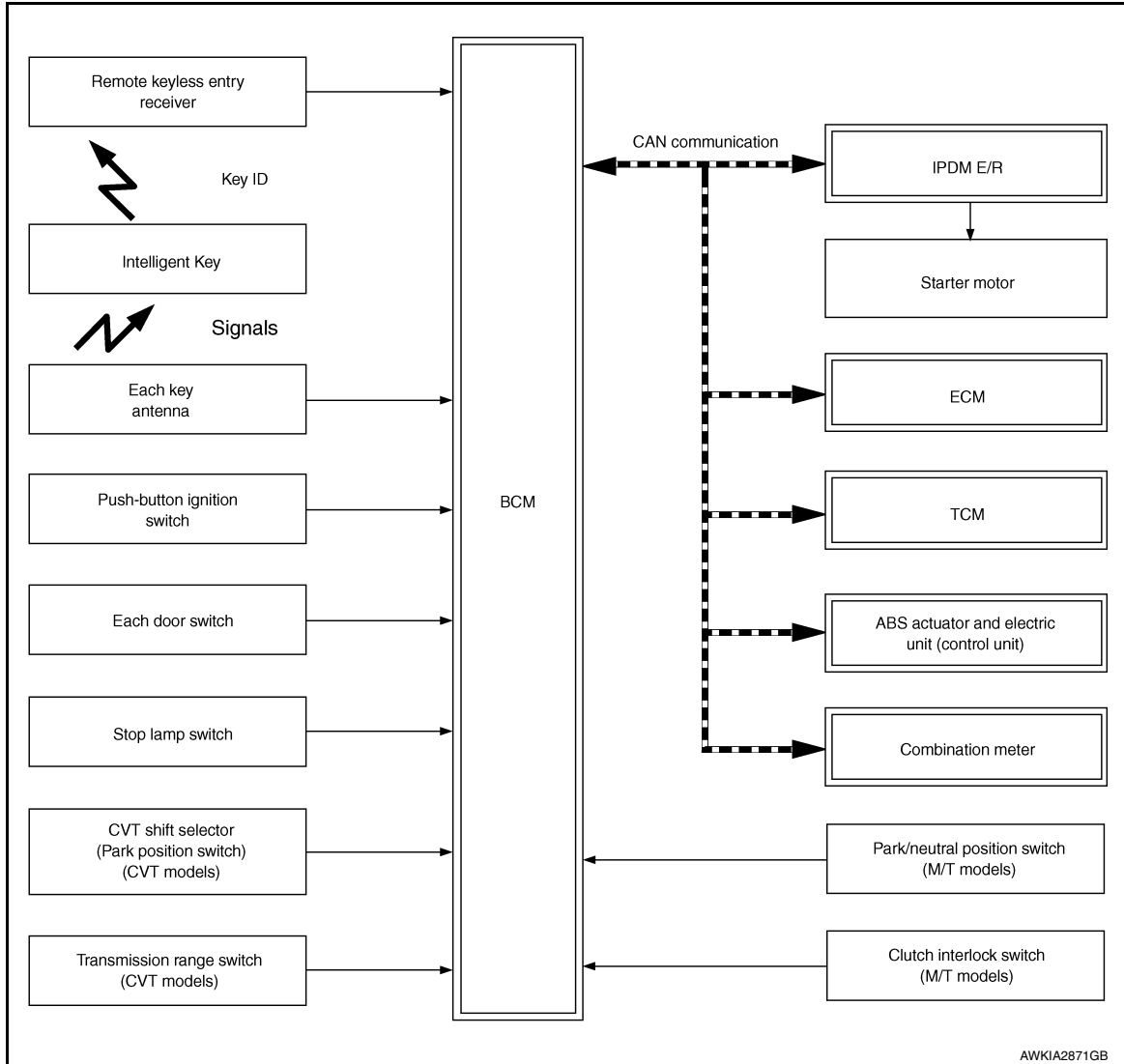
SYSTEM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:000000009756683

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.

NOTE:

Refer to [SEC-14, "NISSAN ANTI-THEFT SYSTEM : System Description"](#) for any functions other than engine start function of Intelligent Key system.

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SYSTEM

< SYSTEM DESCRIPTION >

[WITH 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

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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

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SYSTEM

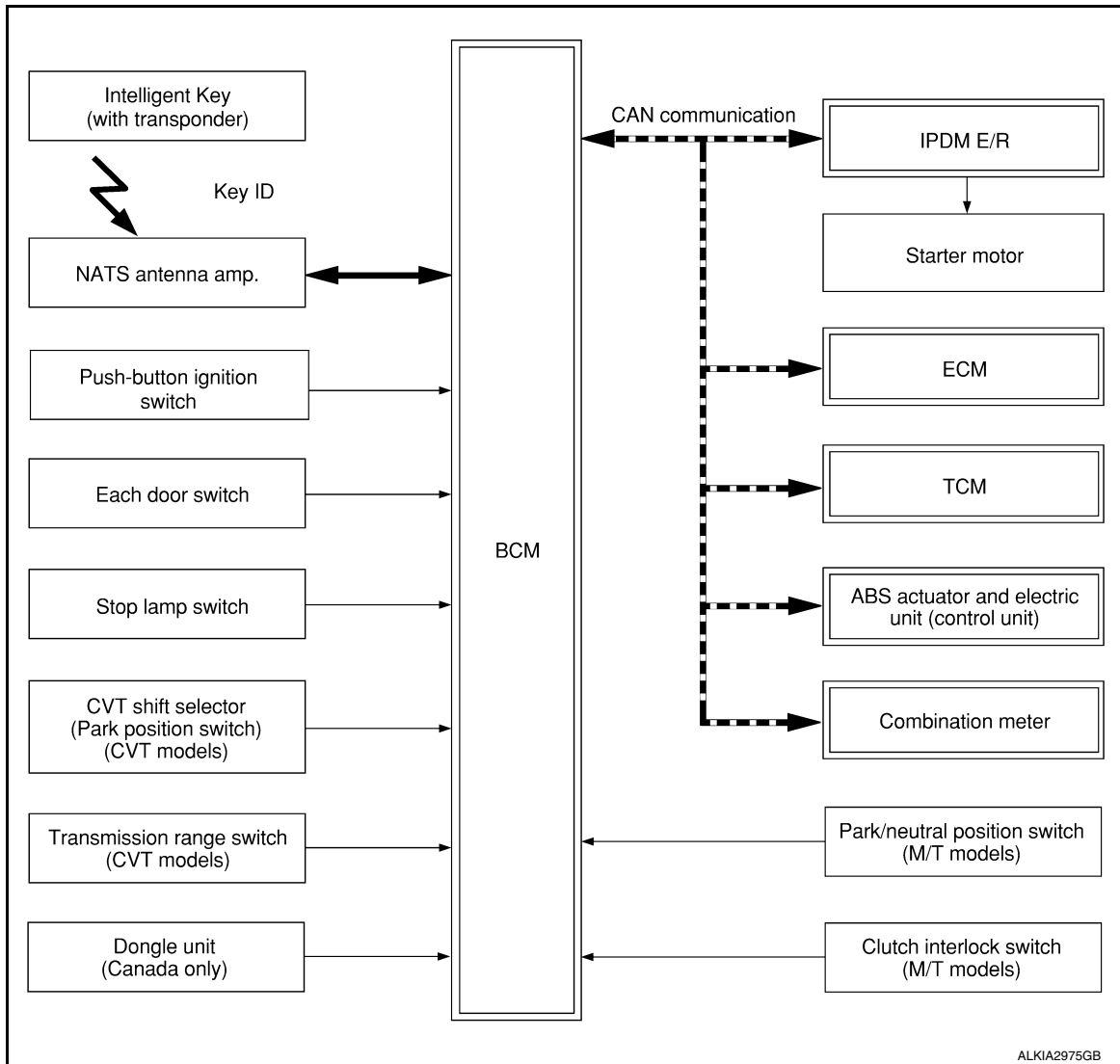
< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

NISSAN ANTI-THEFT SYSTEM : System Description

INFOID:00000009756684

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.
- 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-35. "Work Flow"](#).
- If ECM other than genuine part is installed, the engine cannot be started.
For ECM replacement procedure, refer to [EC-485. "Removal and Installation"](#).

PRECAUTIONS FOR KEY REGISTRATION

SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

- 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 |

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

| 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 → 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:000000009756685

- 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

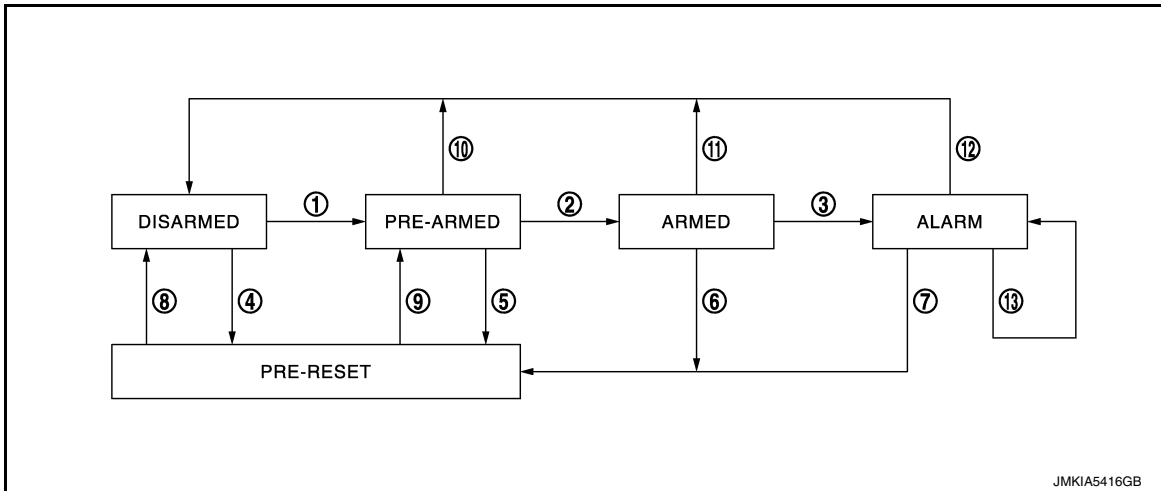
- The theft warning alarm function activates horns and headlamps intermittently when BCM detects that any door is opened by unauthorized means while the system is in the ARMED state.
- Security indicator lamp on combination meter always blinks when power supply position is any position other than ON.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

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Operation Flow



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| No. | System state | Switching condition | | | | | |
|--|--|--|--|---|---|--|--|
| 1 | DISARMED to PRE-ARMED | When all conditions of A and one condition of B is satisfied. | <table border="1" style="width: 100%;"> <tr> <th style="width: 50%;">A</th> <th style="width: 50%;">B</th> </tr> <tr> <td> <ul style="list-style-type: none"> Power supply position: OFF/LOCK All doors: Closed </td> <td> <ul style="list-style-type: none"> All doors are locked by: <ul style="list-style-type: none"> Door key cylinder LOCK switch LOCK button of Intelligent Key Door request switch </td> </tr> </table> | A | B | <ul style="list-style-type: none"> Power supply position: OFF/LOCK All doors: Closed | <ul style="list-style-type: none"> All doors are locked by: <ul style="list-style-type: none"> Door key cylinder LOCK switch LOCK button of Intelligent Key Door request switch |
| A | B | | | | | | |
| <ul style="list-style-type: none"> Power supply position: OFF/LOCK All doors: Closed | <ul style="list-style-type: none"> All doors are locked by: <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Power supply position: OFF/LOCK All doors: Locked | | | | |
| 3 | ARMED to ALARM | When one condition of A and one condition of B are satisfied. | <table border="1" style="width: 100%;"> <tr> <th style="width: 50%;">A</th> <th style="width: 50%;">B</th> </tr> <tr> <td>Intelligent Key: Not used</td> <td> <ul style="list-style-type: none"> Any door: Open </td> </tr> </table> | A | B | Intelligent Key: Not used | <ul style="list-style-type: none"> Any door: Open |
| A | B | | | | | | |
| Intelligent Key: Not used | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Any door: Open | | | | |

NOTE:

SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- 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)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010288775

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 | <ul style="list-style-type: none"> 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 | | × | × | × | × | | |

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DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000010288776

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. |
| PRMT RKE STRT [Set/Reset] | | Indicates condition of engine start possibility from Intelligent Key. |
| RKE OPE COUN1 [0-19] | × | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| RKE OPE COUN2 [0-19] | × | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| TRNK/HAT MNTR [On/Off] | | Indicates condition of trunk room lamp 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. |

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

| Monitor Item [Unit] | Main | Description |
|-----------------------|------|---|
| 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 INDICATOR | This test is able to check interior room lamp operation [On/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. |
| ENGINE START BY I-KEY | On* | Engine start function from Intelligent Key ON. |
| | Off | Engine start function from Intelligent Key OFF. |
| 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. |

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

| Support Item | Setting | | Description |
|--------------------------|---------|----------|--|
| 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 | | — |
| 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:0000000010288777

SELF DIAGNOSTIC RESULT

Refer to [BCS-49, "DTC Index"](#).

DATA MONITOR

| Monitor Item [Unit] | Description |
|---------------------------|--|
| CONFIRM ID ALL [Yet/DONE] | Switches to DONE when an Intelligent Key is registered. |
| CONFIRM ID4 [Yet/DONE] | |
| CONFIRM ID3 [Yet/DONE] | |
| CONFIRM ID2 [Yet/DONE] | |
| CONFIRM ID1 [Yet/DONE] | |
| TP 4 [Yet/DONE] | DONE indicates the number of Intelligent Key ID which has been registered. |
| TP 3 [Yet/DONE] | |
| TP 2 [Yet/DONE] | |
| TP 1 [Yet/DONE] | |
| PUSH SW [On/Off] | Indicates condition of push-button ignition switch. |

ACTIVE TEST

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

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

| Support Item | Setting | Description |
|-------------------|---------|-----------------------------|
| CONFIRM DONGLE ID | — | Dongle ID code can be read. |

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT)

INFOID:000000010288778

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 room lamp 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]. |
| HEADLAMP(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:000000009756690

| 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" |

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

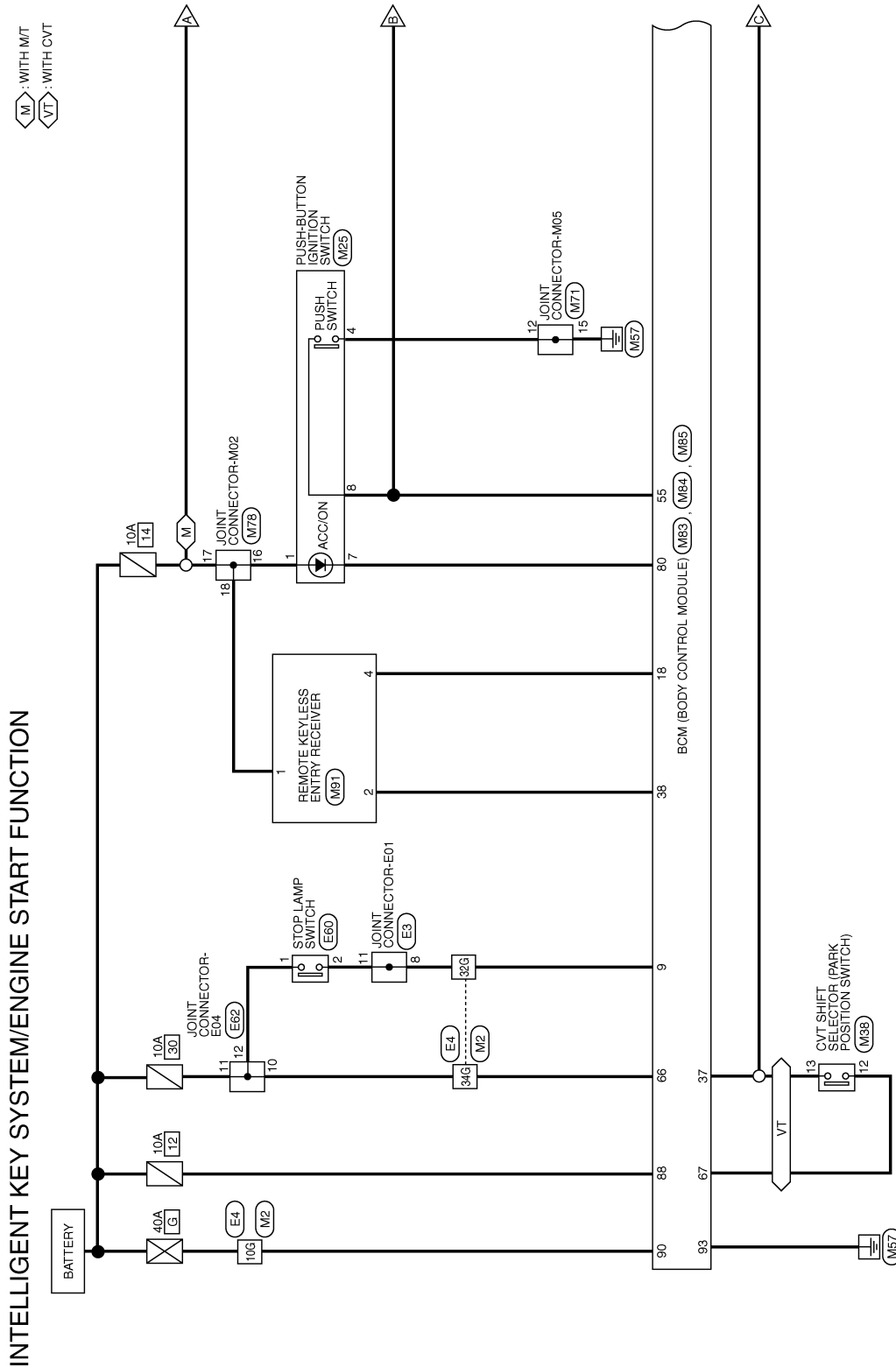
[WITH INTELLIGENT KEY SYSTEM]

WIRING DIAGRAM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram

INFOID:000000009756691



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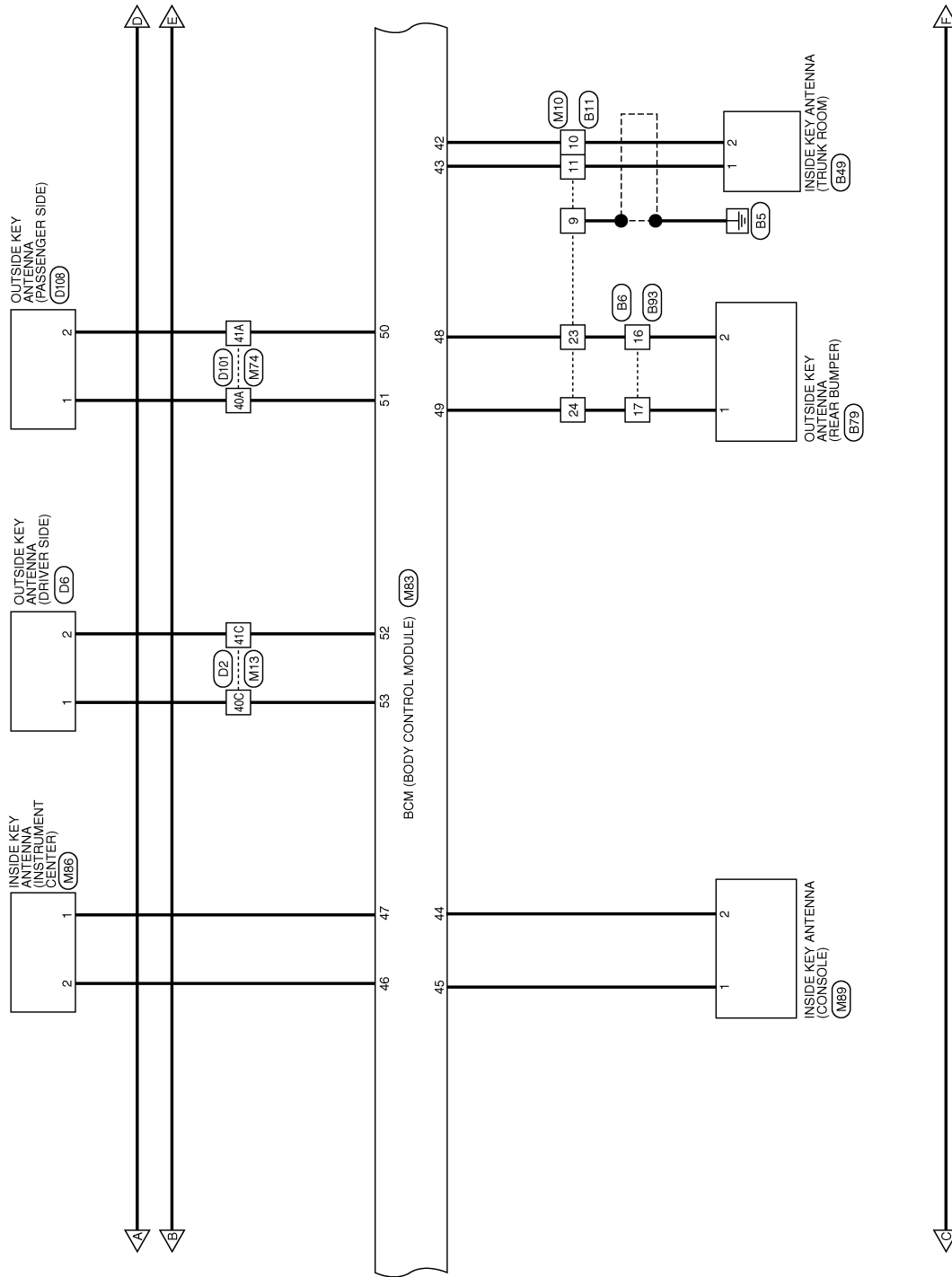
SEC

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

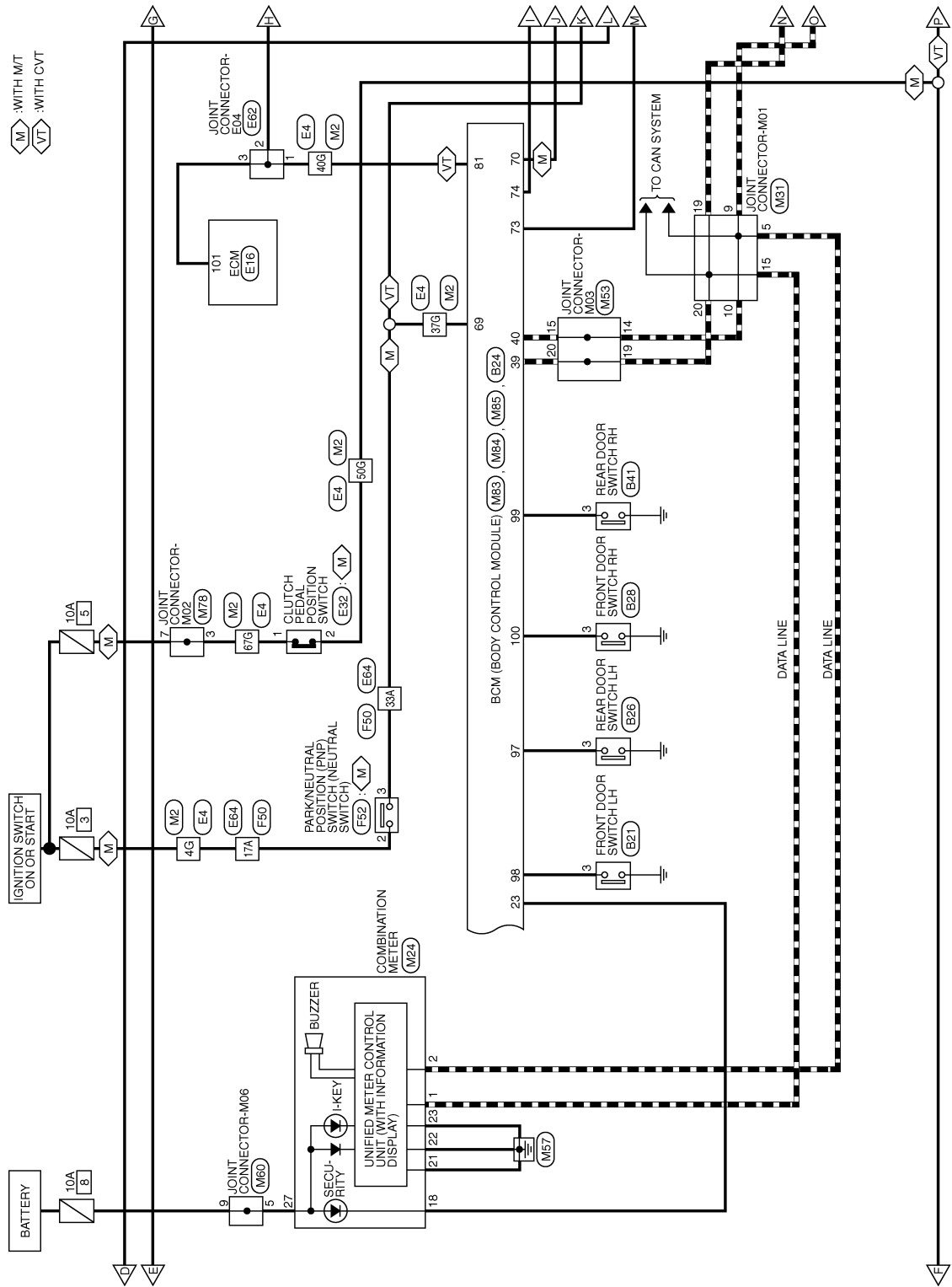


ABKWA2387GB

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



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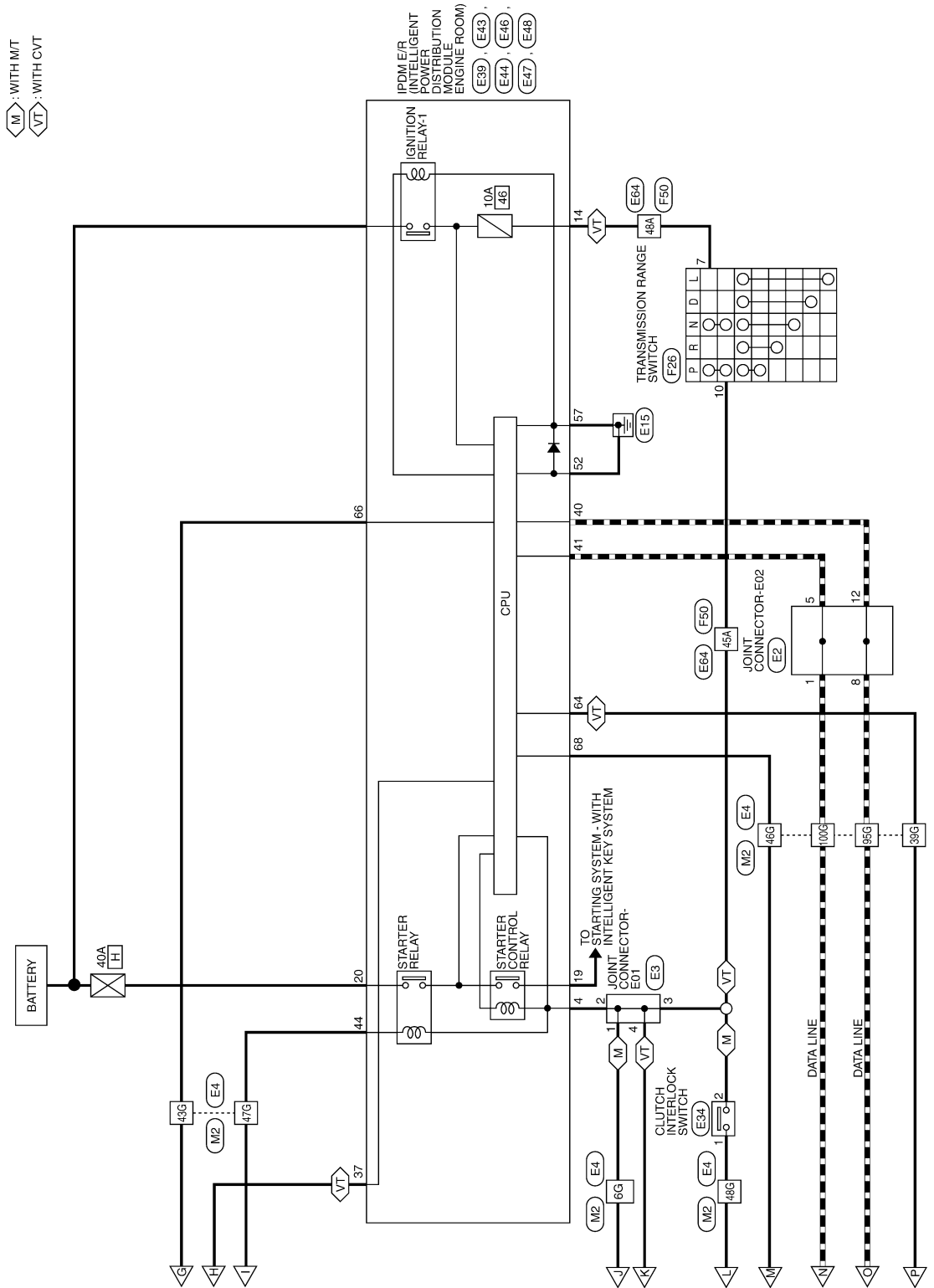
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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



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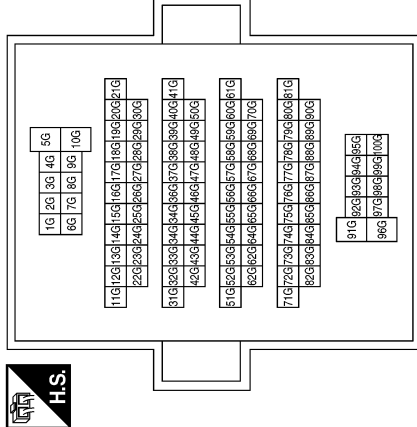
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

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



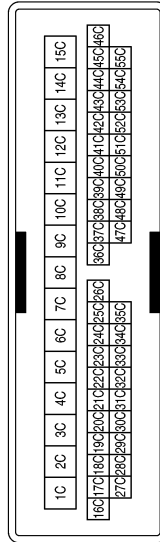
| | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|
| 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 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. | M10 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

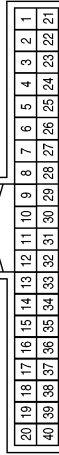
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10 | BR | - |
| 11 | Y | - |
| 23 | R | - |
| 24 | W | - |

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



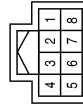
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 40C | P | - |
| 41C | LG | - |

| | |
|-----------------|-------------------|
| Connector No. | M24 |
| Connector Name | COMBINATION METER |
| Connector Color | WHITE |



| 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 |



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

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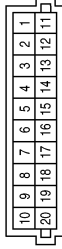
SEC

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

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



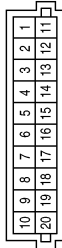
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14 | P | - |
| 15 | P | - |
| 19 | L | - |
| 20 | L | - |

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



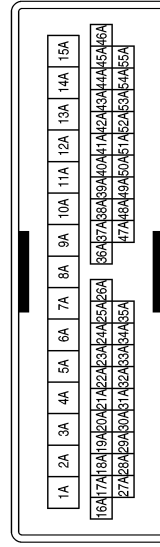
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12 | SB | - |
| 13 | P | - |

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



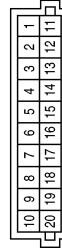
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | P | - |
| 9 | P | - |
| 10 | P | - |
| 15 | L | - |
| 19 | L | - |
| 20 | L | - |

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



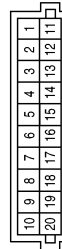
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 40A | BR | - |
| 41A | Y | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 12 | B | - |
| 15 | B | - |

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



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

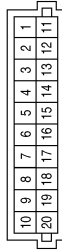
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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

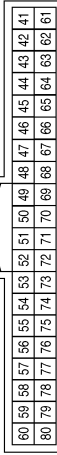
[WITH INTELLIGENT KEY SYSTEM]

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



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

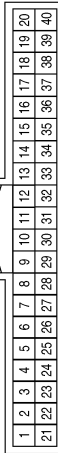
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|-----------------|---|
| Connector No. | M83 |
| Connector Name | BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM) |
| Connector Color | WHITE |



| 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 - |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--|
| 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) |

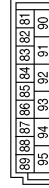
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|-----------------|---|
| Connector No. | M84 |
| Connector Name | BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM) |
| Connector Color | BLACK |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--------------------------------------|
| 9 | R | BRAKE SW1 |
| 18 | V | KEYLESS TUNER, AUTO LIGHT SENSOR GND |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--|
| 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 |



| 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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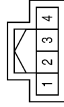
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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

| | |
|-----------------|---|
| Connector No. | M81 |
| Connector Name | REMOTE KEYLESS ENTRY RECEIVER (WITH INTELLIGENT KEY SYSTEM) |
| Connector Color | WHITE |



| 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 |



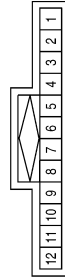
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | G | - |
| 2 | R | - |

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



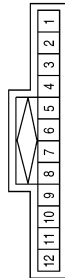
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | BR | - |
| 2 | GR | - |

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



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

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



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

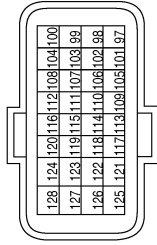
ABKIA5410GB

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

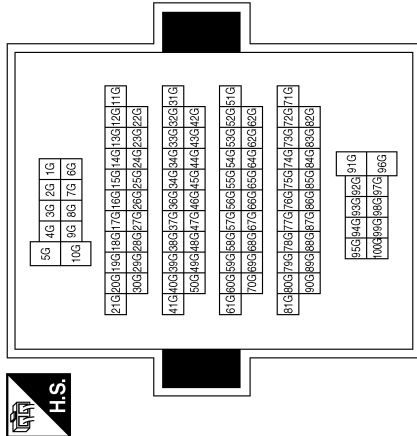
| | |
|-----------------|------|
| Connector No. | E16 |
| Connector Name | ECM |
| Connector Color | GRAY |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|------------------------------|
| 101 | SB | STARTER RELAY CUT OFF SIGNAL |

| 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. | E4 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



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



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

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



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

ABKIA5411GB

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

SEC

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

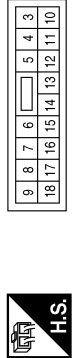
[WITH INTELLIGENT KEY SYSTEM]

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



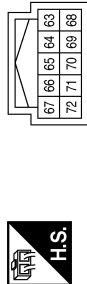
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|---------------|
| 19 | R | STARTER MOTOR |
| 20 | P | F/L IGN SW |

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



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

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



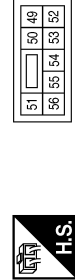
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|---------------|
| 64 | Y | DETENT SW |
| 66 | L | PUSH START SW |
| 68 | O | IGN SIGNAL |

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



| 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 |



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

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



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

ABKIA5412GB

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

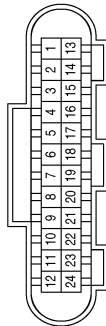
[WITH INTELLIGENT KEY SYSTEM]

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



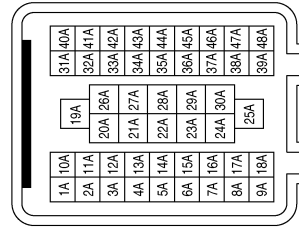
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | W | - |
| 2 | SB | - |

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



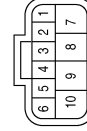
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | SB | - |
| 2 | SB | - |
| 3 | SB | - |
| 10 | W | - |
| 11 | W | - |
| 12 | W | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 17A | GR | - |
| 33A | BR | - |
| 45A | BR | - |
| 48A | LG | - |

| | |
|-----------------|---------------------|
| Connector No. | F26 |
| Connector Name | TRANSMISSION SWITCH |
| Connector Color | BLACK |



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

ABKIA5413GB

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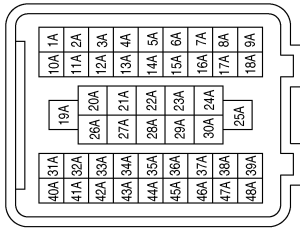
SEC

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

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



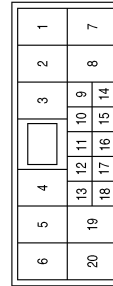
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 17A | SB | - |
| 33A | BR | - |
| 45A | BR | - |
| 48A | GR | - |

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



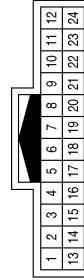
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 2 | SB | - |
| 3 | BR | - |

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



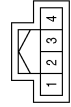
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 16 | Y | - |
| 17 | W | - |

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



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

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | Y | - |

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | R | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | GR | - |

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



| 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. | B79 |
| Connector Name | OUTSIDE KEY ANTENNA (REAR BUMPER) |
| Connector Color | BLUE |



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

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



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

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | P | - |

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

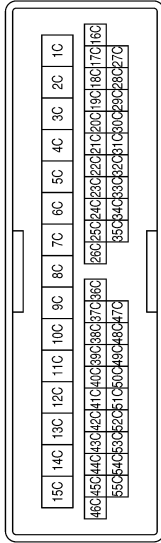
| | |
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| Connector No. | B93 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 16 | B | — |
| 17 | W | — |

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



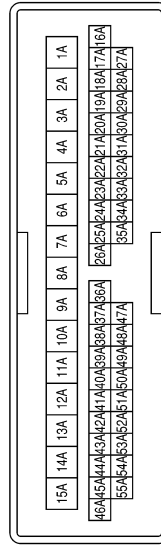
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 40C | P | — |
| 41C | V | — |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | P | — |
| 2 | V | — |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 40A | P | — |
| 41A | V | — |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | P | — |
| 2 | V | — |

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

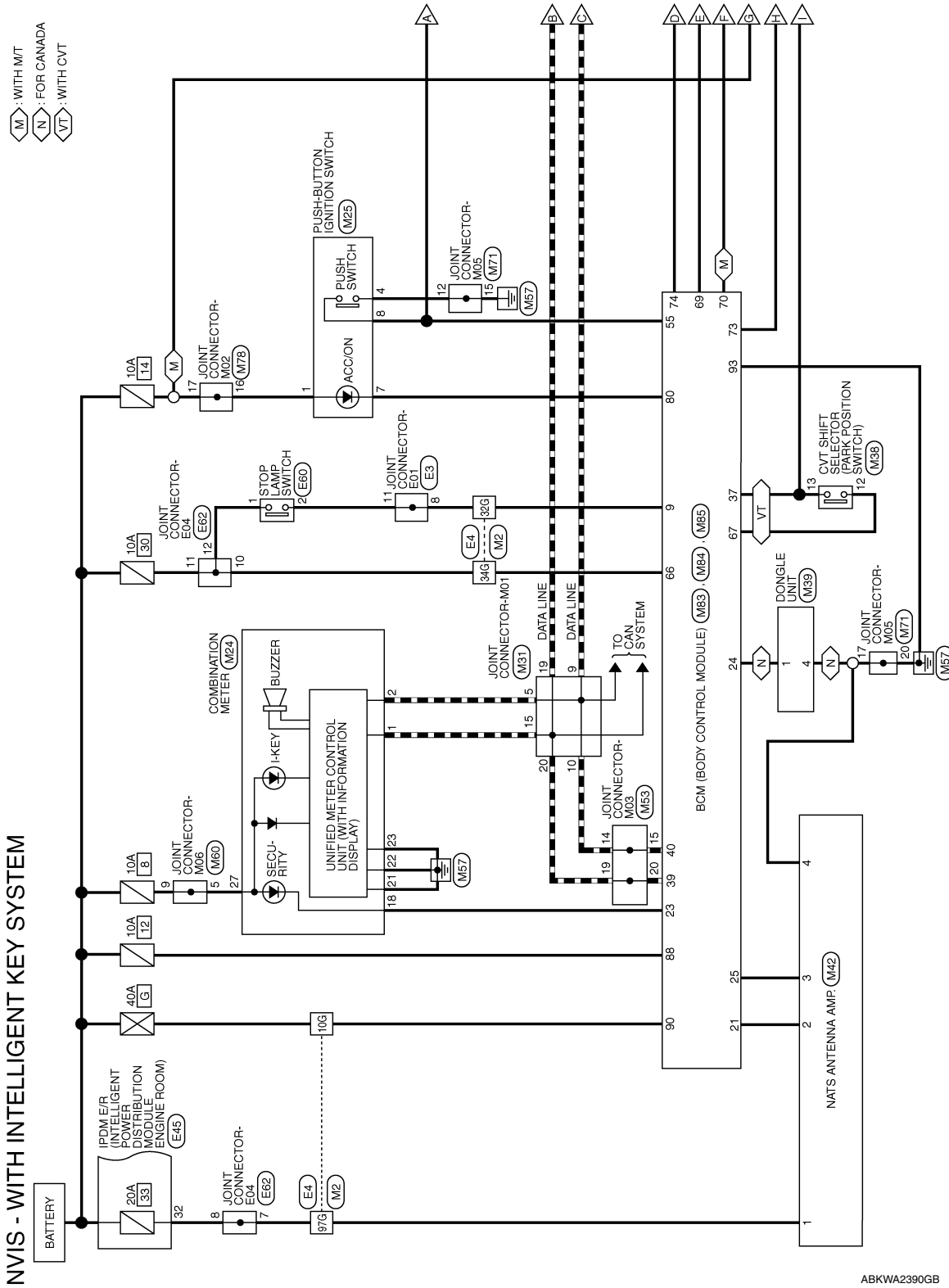
< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram

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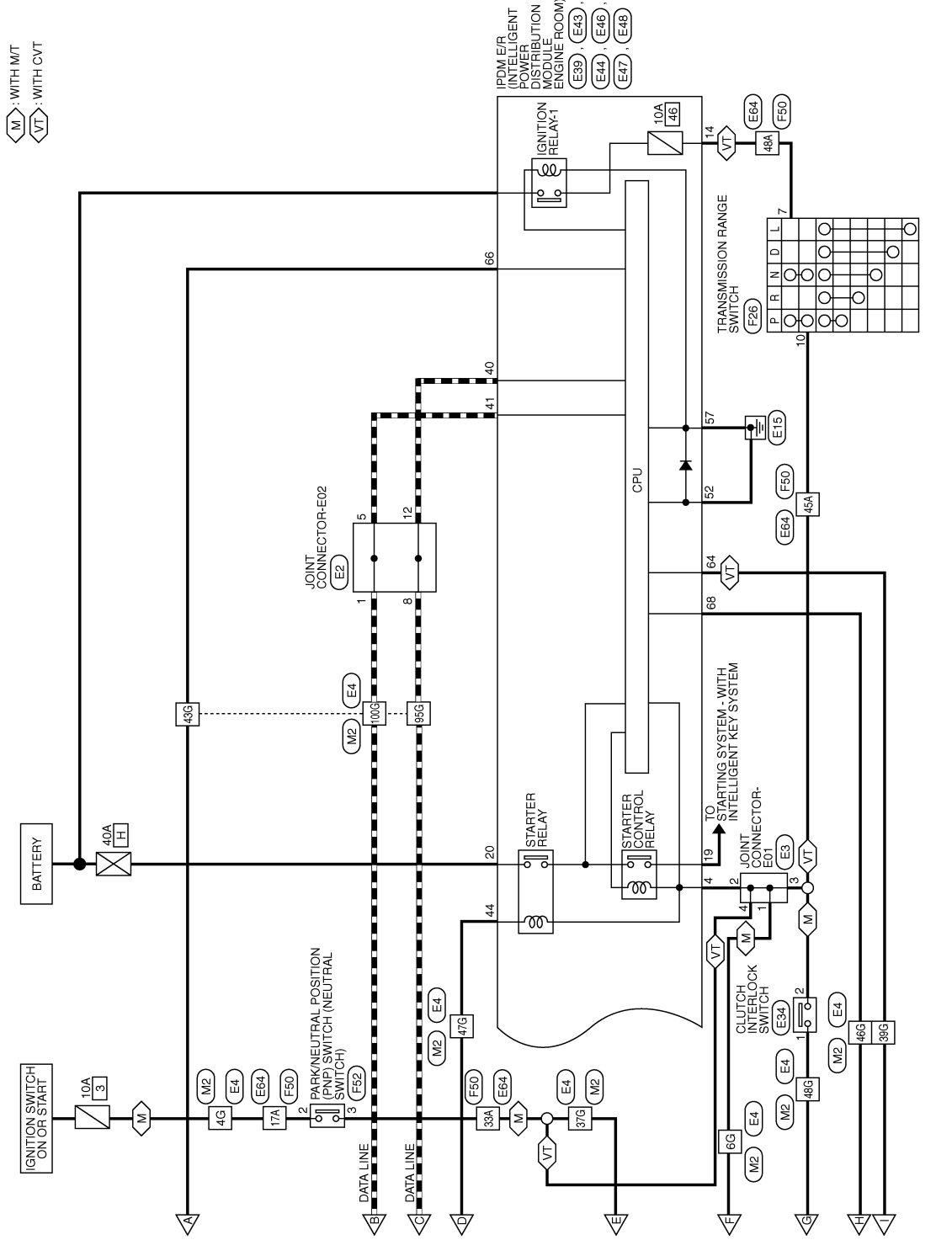
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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



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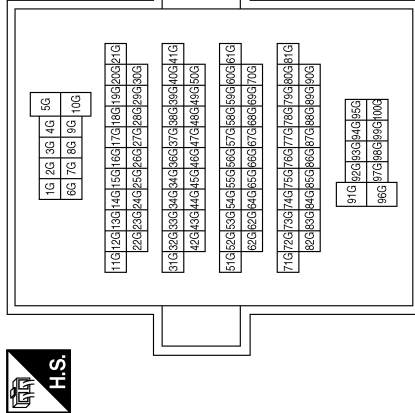
NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

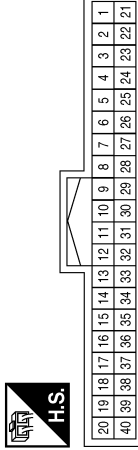
NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

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



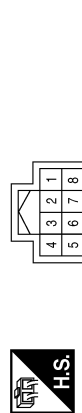
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 4G | GR | - |
| 6G | O | - |
| 10G | Y | - |
| 32G | R | - |
| 34G | V | - |
| 37G | L | - |
| 39G | P | - |
| 43G | LG | - |
| 46G | V | - |
| 47G | SB | - |
| 48G | G | - |
| 95G | P | - |
| 97G | V | -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

| | |
|-----------------|-------------------|
| Connector No. | M24 |
| Connector Name | COMBINATION METER |
| Connector Color | WHITE |



| 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 |



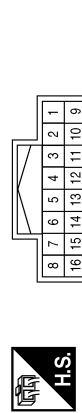
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | Y | - |
| 4 | B | - |
| 7 | V | - |
| 8 | LG | - |

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



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

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



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

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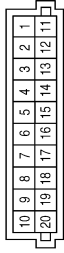
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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

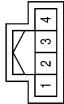
[WITH INTELLIGENT KEY SYSTEM]

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



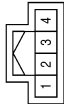
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 14 | P | - |
| 15 | P | - |
| 19 | L | - |
| 20 | L | - |

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



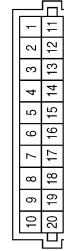
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--------------------------------|
| 1 | V | - |
| 2 | P | - |
| 3 | LG | -(WITH INTELLIGENT KEY SYSTEM) |
| 4 | B | -(WITH INTELLIGENT KEY SYSTEM) |

| | |
|-----------------|-------------|
| Connector No. | M39 |
| Connector Name | DONGLE UNIT |
| Connector Color | WHITE |



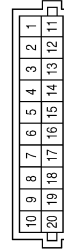
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | SB | - |
| 4 | B | - |

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



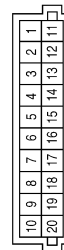
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 16 | Y | - |
| 17 | SB | - |

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



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

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



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

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

| 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) |

| 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) |

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



| | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 80 | 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 |

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



| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 89 | 88 | 87 | 86 | 85 | 84 | 83 | 82 | 81 |
| 75 | 74 | 73 | 72 | 71 | 70 | 69 | 68 | 67 |

| 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 |
|--------------|---------------|--|
| 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. | M84 |
| Connector Name | BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM) |
| Connector Color | BLACK |



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

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

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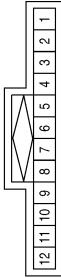
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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

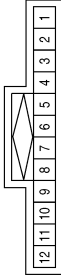
[WITH INTELLIGENT KEY SYSTEM]

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



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

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



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

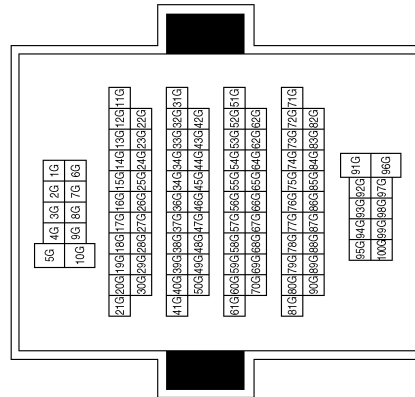
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| Connector No. | E34 |
| Connector Name | CLUTCH INTERLOCK SWITCH |
| Connector Color | BROWN |



| 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 | - |
| 43G | L | - |
| 46G | O | - |
| 47G | V | - |
| 48G | LG | - |
| 95G | P | - |
| 97G | Y | - |
| 100G | L | - |

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



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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

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



| | | |
|----|----|----|
| 21 | 20 | 19 |
| 24 | 23 | 22 |

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

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



| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 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. | E39 |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK |



| | | | | |
|----|----|----|----|----|
| 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. | E47 |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BROWN |



| | | | | |
|----|----|----|----|----|
| 51 | 50 | 49 | | |
| 56 | 55 | 54 | 53 | 52 |

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

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



| | | | | | |
|----|----|----|----|----|----|
| 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. | E45 |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BROWN |



| | | | | | | |
|----|----|----|----|----|----|----|
| 29 | 28 | 27 | 26 | 25 | | |
| 36 | 35 | 34 | 33 | 32 | 31 | 30 |

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

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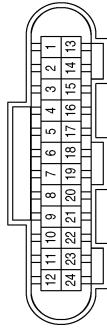
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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

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



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

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



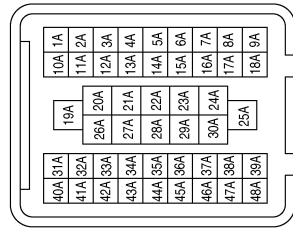
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | W | - |
| 2 | SB | - |

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



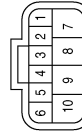
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 57 | B/Y | GND (POWER) |

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



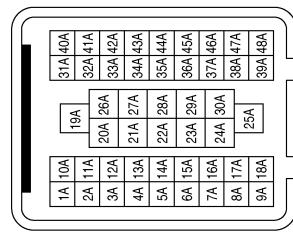
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 17A | SB | - |
| 33A | BR | - |
| 45A | BR | - |
| 48A | GR | - |

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



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

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 17A | GR | - |
| 33A | BR | - |
| 45A | BR | - |
| 48A | LG | - |

ABKIA5419GB

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

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



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



SEC

ABKIA5420GB

VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

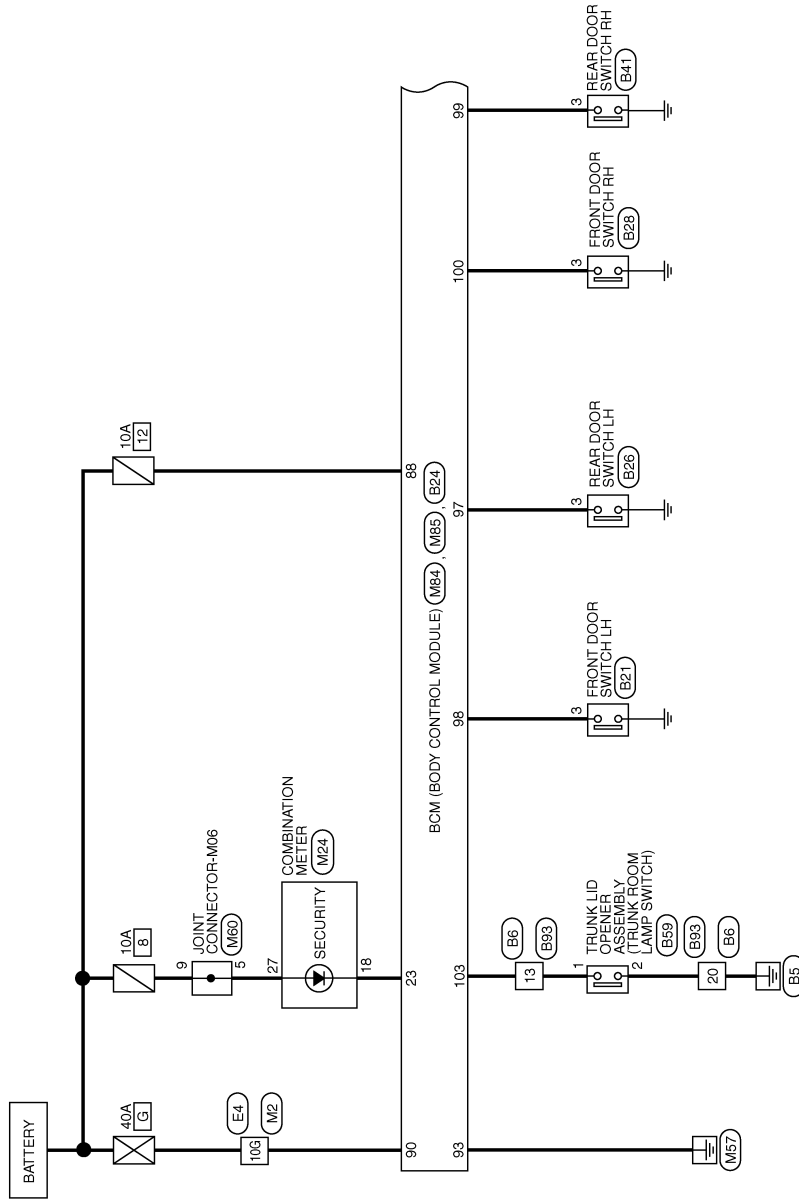
< WIRING DIAGRAM >

VEHICLE SECURITY SYSTEM

Wiring Diagram

INFOID:000000009756693

VEHICLE SECURITY SYSTEM - WITH INTELLIGENT KEY SYSTEM

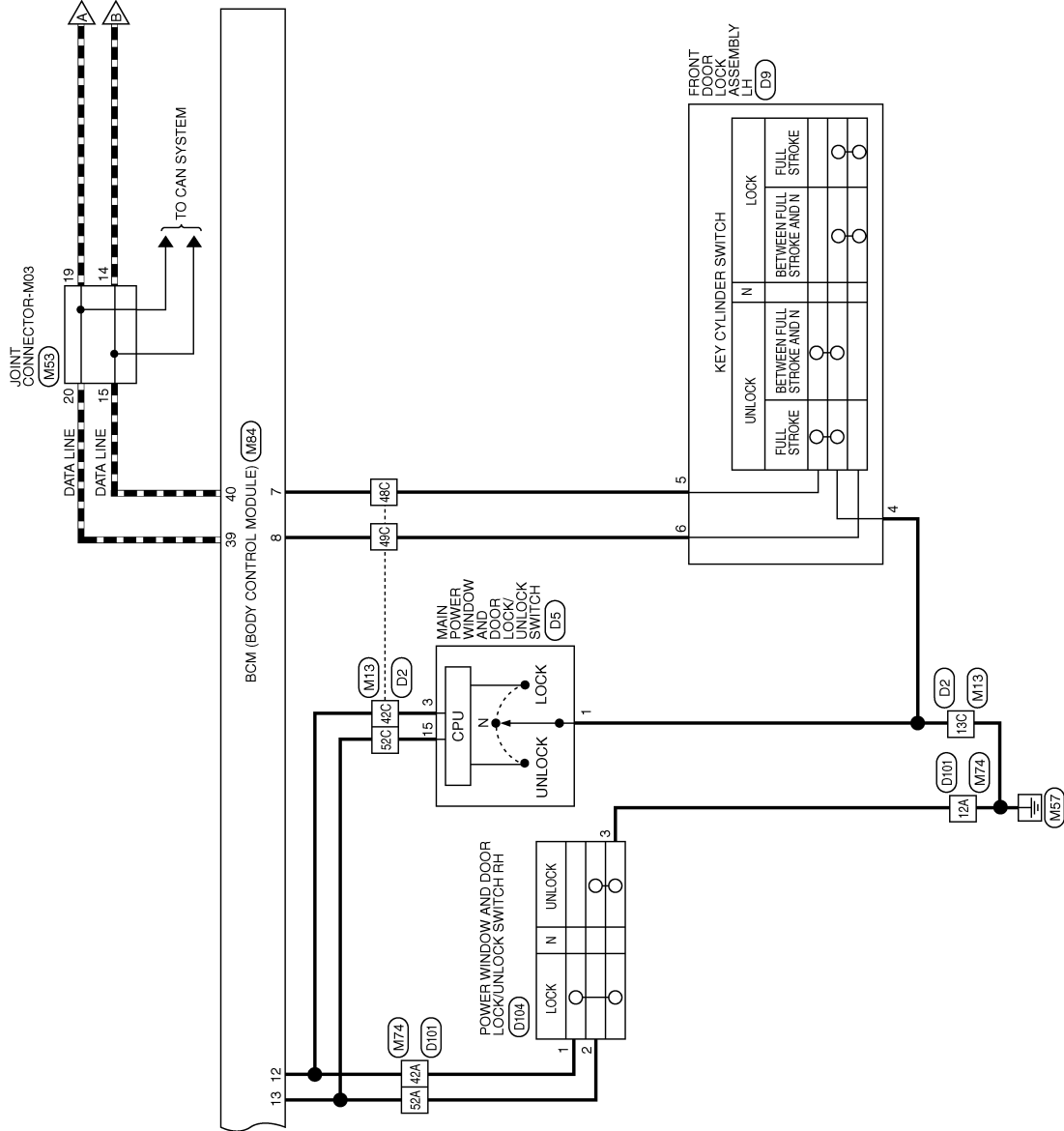


ABKWA2396GB

VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



ABKWA2397GB

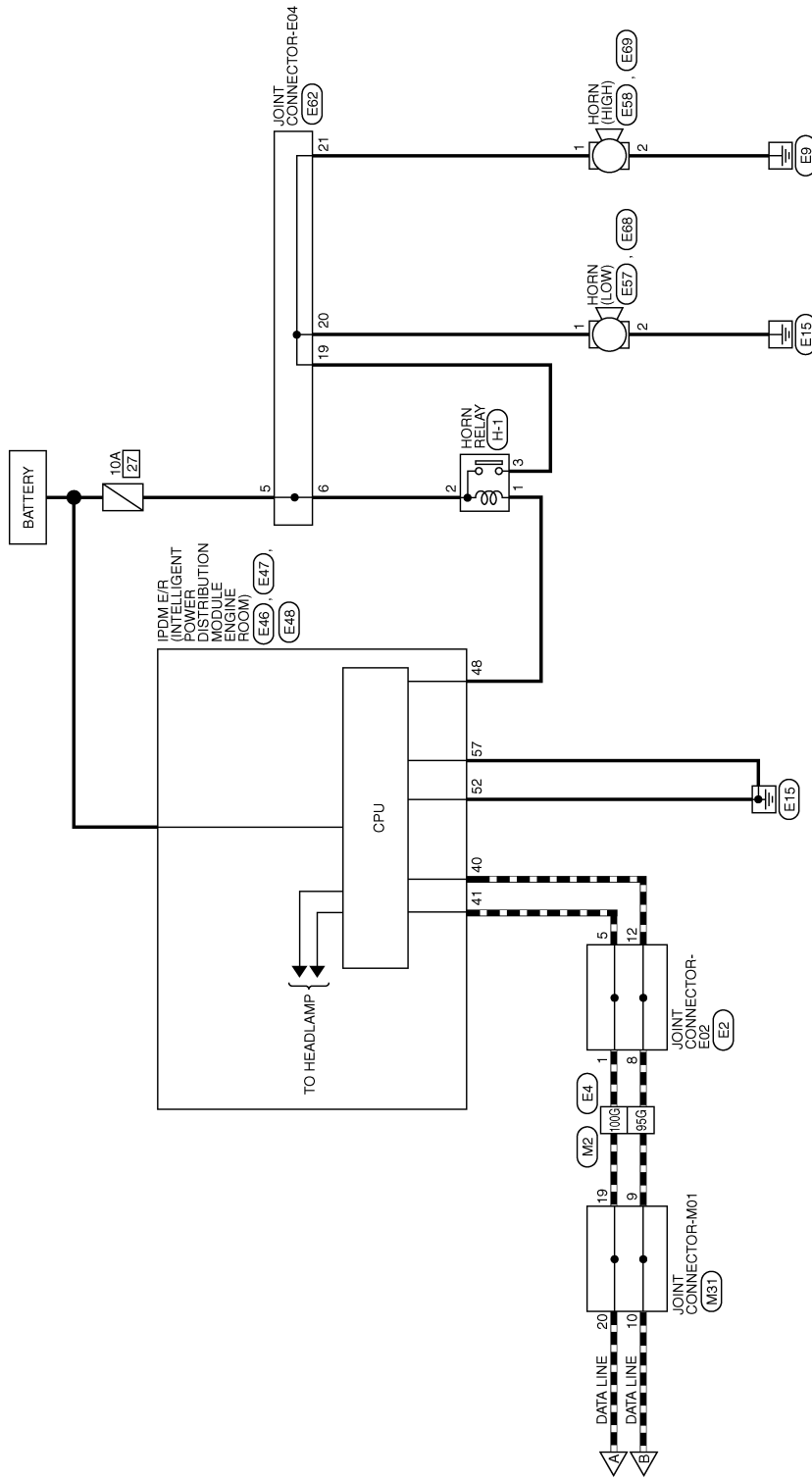
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SEC

VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



ABKWA2398GB

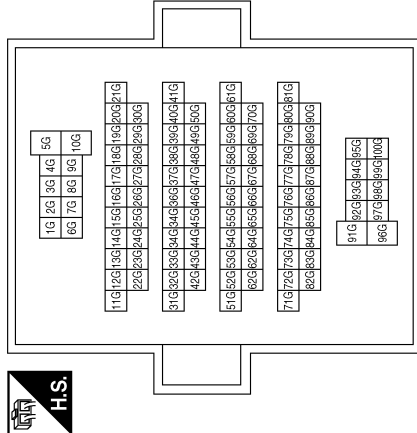
VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

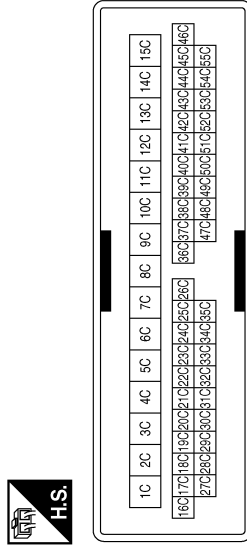
VEHICLE SECURITY SYSTEM CONNECTORS - WITH INTELLIGENT KEY SYSTEM

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



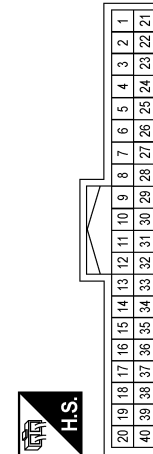
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10G | Y | - |
| 95G | P | - |
| 100G | L | - |

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



| 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 |



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

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



| 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 |



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

ABKIA5430GB

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VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

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

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



| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 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 | 56A | 57A | 58A | 59A | 60A |

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



| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 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. | M85 |
| Connector Name | BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM) |
| Connector Color | WHITE |



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

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

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



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

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

ABKIA5431GB

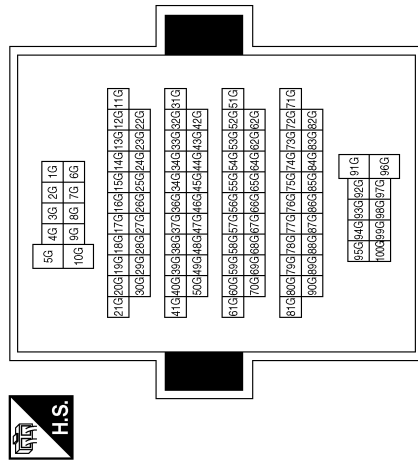
VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

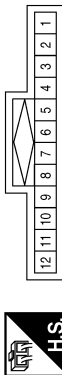
< WIRING DIAGRAM >

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

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



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



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

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



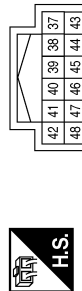
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 57 | B/Y | GND (POWER) |

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



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

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



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

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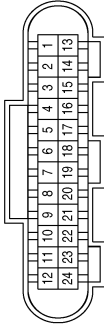
SEC

VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

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



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

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



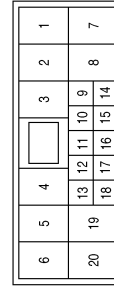
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | G | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | G | - |

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



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

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



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

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



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

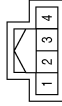
ABKIA5436GB

VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

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



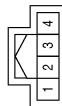
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | GR | - |

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



| 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. | B21 |
| Connector Name | FRONT DOOR SWITCH LH |
| Connector Color | WHITE |



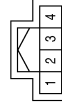
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | Y | - |

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



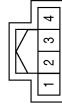
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | R | - |
| 2 | B | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | P | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3 | R | - |

ABKIA5433GB

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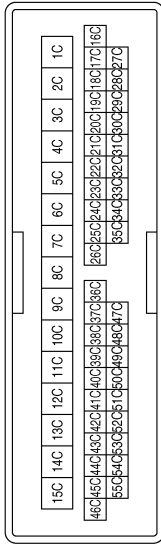
VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

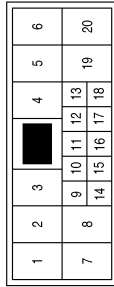
< WIRING DIAGRAM >

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

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

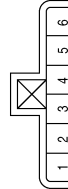


| Connector No. | B93 |
|-----------------|--------------|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

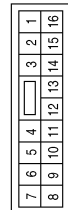


| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13 | R | - |
| 20 | B | - |

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



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



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

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

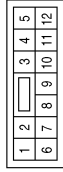
ABKIA5434GB

VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

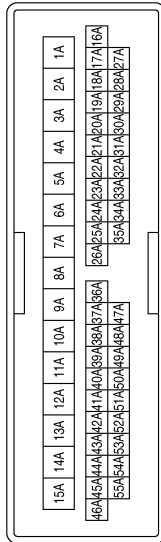
| | |
|-----------------|---|
| Connector No. | D104 |
| Connector Name | POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH |
| Connector Color | WHITE |



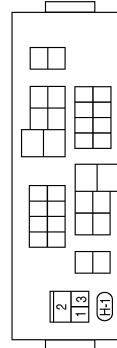
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | Y | - |
| 2 | BR | - |
| 3 | B | - |

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

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



| | |
|-----------------|--|
| 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 | - |

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SEC

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

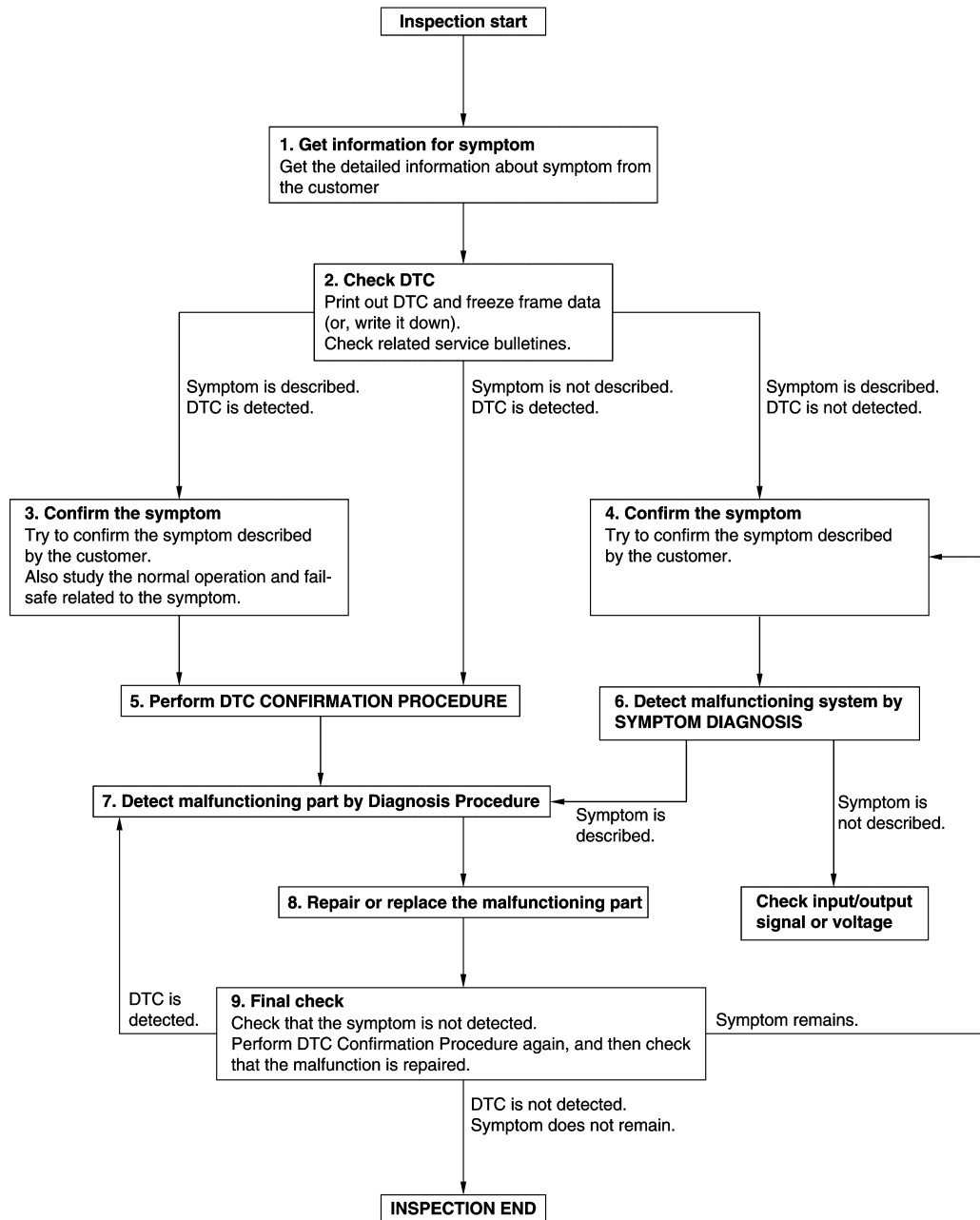
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000009756694

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

Revision: October 2013

SEC-58

2014 Sentra NAM

DIAGNOSIS AND REPAIR WORK FLOW

[WITH INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

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-39. "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

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DIAGNOSIS AND REPAIR WORK FLOW

[WITH INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-39. "Intermittent Incident"](#).

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.

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

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

YES-2 >> Symptom remains: GO TO 4.

NO >> Before returning the vehicle to the customer, always erase DTC.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM

ECM : Description

INFOID:000000009756695

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:000000009756696

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-135, "Work Procedure"](#).

>> Inspection End

BCM

BCM : Description

INFOID:000000009756697

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:000000009756698

1.SAVING VEHICLE SPECIFICATION

CONSULT

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

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ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

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-73, "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:000000009756699

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:000000009756700

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:000000009756701

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, IMMUECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

P1611 ID DISCORD, IMMUECM

DTC Logic

INFOID:000000009756702

DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|--|---|
| P1611 | ID DISCORD, IMMUECM | The ID verification results between BCM and ECM are invalid. | <ul style="list-style-type: none">• 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:000000009756703

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-73, "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-485, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-135, "Work Procedure"](#).

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

P1612 CHAIN OF ECM-IMMU

DTC Logic

INFOID:000000009756704

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|--|--|
| P1612 | CHAIN OF ECM-IMMU | Inactive communication between ECM and BCM | <ul style="list-style-type: none">• 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:000000009756705

1.REPLACE BCM

1. Replace BCM. Refer to [BCS-73, "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-485, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-135, "Work Procedure"](#).

>> Inspection End.

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B2192 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000009756706

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. | <ul style="list-style-type: none">• 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:000000009756707

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-73, "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-485, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-135, "Work Procedure"](#).

>> Inspection End.

B2193 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2193 CHAIN OF ECM-IMMU

DTC Logic

INFOID:000000009756708

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|--|--|
| B2193 | CHAIN OF BCM-ECM | Inactive communication between BCM and ECM | <ul style="list-style-type: none">• 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:000000009756709

1.REPLACE BCM

1. Replace BCM. Refer to [BCS-73, "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-485, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-135, "Work Procedure"](#).

>> Inspection End.

B2195 ANTI-SCANNING

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2195 ANTI-SCANNING

DTC Logic

INFOID:000000009756710

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:000000009756711

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-73, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2196 DONGLE UNIT

Description

INFOID:000000009756712

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

DTC Logic

INFOID:000000009756713

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. | <ul style="list-style-type: none">• 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:000000009756714

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?

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B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

| Dongle unit | | Ground | Continuity |
|-------------|----------|--------|------------|
| Connector | Terminal | | |
| M39 | 4 | | Yes |

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:000000009756715

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) | <ul style="list-style-type: none"> • 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:000000009756716

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.

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B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| 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-30, "Removal and Installation"](#).

NO >> Repair or replace harness.

4. CHECK NATS ANTENNA AMP. GROUND CIRCUIT

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

| NATS antenna amp. | | Ground | Continuity |
|-------------------|----------|--------|------------|
| Connector | Terminal | | |
| M42 | 4 | | Yes |

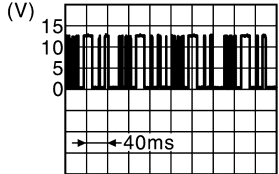
Is the inspection result normal?

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.

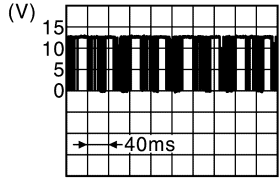
7. CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 2

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

| (+) | | (-) | Condition | | Voltage (V) (Approx.) |
|-------------------|----------|--------|----------------|--|---|
| NATS antenna amp. | | | | | |
| Connector | Terminal | | | | |
| M42 | 3 | Ground | During waiting | Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed |  |
| | | | | 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-73, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2555 STOP LAMP

DTC Logic

INFOID:000000009756717

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. | <ul style="list-style-type: none"> • 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:000000009756718

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 | Ground | Battery voltage |
| M83 | 66 | | |

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 | Ground | Battery voltage |
| E60 | 1 | | |

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

B2555 STOP LAMP

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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-73. "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-22. "Exploded View"](#).

7. CHECK INTERMITTENT INCIDENT

Refer to [GI-39. "Intermittent Incident"](#).

>> Inspection End.

Component Inspection

INFOID:000000009756719

1. CHECK STOP LAMP SWITCH

1. Turn ignition switch OFF.
2. Disconnect stop lamp switch connector.
3. Check continuity between stop lamp switch terminals.

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| 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-22, "Exploded View"](#).

B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

INFOID:000000009756720

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. | <ul style="list-style-type: none"> Harness or connectors (Push-button ignition switch circuit is shorted.) Push-button ignition switch BCM |

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- Press push-button ignition switch under the following condition.
 - Brake pedal: Not depressed
- Release push-button ignition switch and wait 100 seconds or more.
- 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:000000009756721

Regarding Wiring Diagram information, refer to [SEC-39. "Wiring Diagram"](#).

1. CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

| (+) | | (-) | Voltage (V) (Approx.) |
|-----------------------------|----------|--------|--------------------------|
| Push-button ignition switch | | | |
| Connector | Terminal | Ground | 12 |
| M25 | 8 | | |

Is the inspection result normal?

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

2. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

- Disconnect BCM connector and IPDM E/R connector.
- 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 |

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

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

B2556 PUSH-BUTTON IGNITION SWITCH

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

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

3.REPLACE BCM

1. Replace BCM. Refer to [BCS-73. "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-39. "Intermittent Incident"](#).

>> Inspection End.

Component Inspection

INFOID:000000009756722

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/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2557 VEHICLE SPEED

DTC Logic

INFOID:000000009756723

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible causes |
|---------|------------------------|--|--|
| B2557 | VEHICLE SPEED | BCM detects one of the following conditions for 10 seconds continuously. <ul style="list-style-type: none">• 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 | <ul style="list-style-type: none">• 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:000000009756724

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-39, "Intermittent Incident"](#).

>> Inspection End.

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2601 SHIFT POSITION

DTC Logic

INFOID:000000009756725

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|---|--|
| B2601 | SHIFT P SIGNAL | When there is a difference between P range signal from CVT shift selector (park position switch) and P position signal from IPDM E/R (CAN). | <ul style="list-style-type: none"> • 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:000000009756726

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.

B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

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

| CVT shift selector (park position switch) | | IPDM E/R | | Continuity |
|---|----------|-----------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| M38 | 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-73, "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-30, "Removal and Installation"](#).
NO >> Inspection End.

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B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2602 SHIFT POSITION

DTC Logic

INFOID:000000009756727

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|---|--|
| B2602 | SHIFT P DIAG | BCM detects the following status for 10 seconds. <ul style="list-style-type: none">• 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 | <ul style="list-style-type: none">• 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:000000009756728

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.

B2602 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

| (+) | | (-) | Voltage (V) (Approx.) |
|---|----------|--------|--------------------------|
| CVT shift selector (park position switch) | | | |
| Connector | Terminal | Ground | 12 |
| M38 | 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-73, "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"](#).

B2602 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace CVT shift selector. Refer to [TM-253, "Removal and Installation"](#).

8. CHECK INTERMITTENT INCIDENT

Refer to [GI-39, "Intermittent Incident"](#).

>> Inspection End.

Component Inspection

INFOID:000000009756729

1. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

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

| CVT shift selector (park position switch) | | Condition | | Continuity |
|---|----|---------------------------------------|---------------------------|------------|
| Terminal | | | | |
| 12 | 13 | Selector lever: P 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-253, "Removal and Installation"](#).

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2603 SHIFT POSITION

DTC Logic

INFOID:000000009756730

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. <ul style="list-style-type: none">• Transmission range switch signal: approx. 0 V• CVT shift selector (park position switch) signal: approx. 0 V | <ul style="list-style-type: none">• 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:000000009756731

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?

B2603 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

- 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 | Ground | Battery voltage |
| F26 | 7 | | |

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-30. "Removal and Installation"](#).
NO >> Repair or replace harness.

5. CHECK BCM INPUT SIGNAL

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

| (+) | | (-) | Condition | | Voltage (V) (Approx.) |
|-----------|----------|--------|----------------|-----------------|--------------------------|
| BCM | | | | | |
| Connector | Terminal | Ground | Selector lever | P or N position | Battery voltage |
| M83 | 69 | | | | |

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?

B2603 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

- 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.) |
|-----------|----------|--------|--------------------------|
| 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.

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| 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-253. "Removal and Installation"](#).

12.CHECK INTERMITTENT INCIDENT

Refer to [GI-39. "Intermittent Incident"](#).

>> Inspection End.

13.REPLACE BCM

1. Replace BCM. Refer to [BCS-73. "Removal and Installation"](#).

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

>> Inspection End.

Component Inspection (Transmission Range Switch)

INFOID:000000009756732

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:000000009756733

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?

B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

YES >> Inspection End.

NO >> Replace CVT shift selector. Refer to [TM-253, "Removal and Installation"](#).

A

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B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2604 SHIFT POSITION

DTC Logic

INFOID:000000009756734

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|--|---|
| B2604 | SHIFT PN DIAG CAN | <p>The following states are detected for 5 seconds while ignition switch is ON.</p> <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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:000000009756735

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-126, "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.

B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

| (+) | | (-) | Voltage (V) (Approx.) |
|---------------------------|----------|--------|--------------------------|
| Transmission range switch | | | |
| Connector | Terminal | | |
| 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-30, "Removal and Installation"](#).
NO >> Repair or replace harness.

5. CHECK BCM INPUT SIGNAL

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

| (+) | | (-) | Condition | Voltage (V) (Approx.) | |
|-----------|----------|--------|----------------|--------------------------|-----------------|
| BCM | | | | | |
| Connector | Terminal | | | | |
| 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?

B2604 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

- 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-39. "Intermittent Incident"](#).

>> Inspection End.

9.REPLACE BCM

1. Replace BCM. Refer to [BCS-73. "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

Component Inspection

INFOID:000000009756736

1.CHECK TRANSMISSION RANGE SWITCH

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

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

Is the inspection result normal?

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

B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2605 SHIFT POSITION

DTC Logic

INFOID:000000009756737

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|--|---|
| B2605 | SHIFT PN DIAG IPDM | When ignition switch is ON, P/N position signal input from transmission range switch and P/N position signal (CAN) input from IPDM E/R do not match. | <ul style="list-style-type: none"> • 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:000000009756738

SEC

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.

B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

| IPDM E/R | | Transmission range switch | | Continuity |
|-----------|----------|---------------------------|----------|------------|
| Connector | Terminal | Connector | Terminal | |
| 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-73, "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-30, "Removal and Installation"](#).

NO >> Inspection End.

B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2608 STARTER RELAY

DTC Logic

INFOID:000000009756739

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).
- If DTC B2608 is displayed with other DTC (BCM), first perform the trouble diagnosis for other DTC detected.

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|--|---|
| B2608 | STARTER RELAY | BCM outputs starter relay OFF signal but BCM receives starter relay ON signal from IPDM E/R (CAN). | <ul style="list-style-type: none">• 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:000000009756740

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.

B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| (+) | | (-) | Condition | | Voltage (V) (Approx.) |
|-----------|----------|--------|--------------------|------------------|--------------------------|
| BCM | | | | | |
| Connector | Terminal | | | | |
| 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-73, "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-30, "Removal and Installation"](#).

NO >> Inspection End.

B260F ENGINE STATUS

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B260F ENGINE STATUS

Description

INFOID:000000009756741

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

DTC Logic

INFOID:000000009756742

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|--|--|
| B260F | ECM CAN COMM | BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position. | <ul style="list-style-type: none">• 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:000000009756743

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-485, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".
Refer to [EC-135, "Work Procedure"](#).

>> Inspection End.

B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B261F ASCD CLUTCH SWITCH

DTC Logic

INFOID:000000009756744

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | CONSULT screen items (Trouble diagnosis content) | DTC detecting condition | Possible cause |
|---------|---|--|---|
| B261F | ASCD CNCL/CLTCH SW (ASCD cancel/clutch switch) | BCM detects the following status for 10 seconds 3 times <ul style="list-style-type: none">• Clutch pedal position switch input: 0 V• Vehicle speed: 40 km/h (24.8 MPH) or more | <ul style="list-style-type: none">• 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:000000009756745

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.

B261F ASCD CLUTCH SWITCH

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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 | Ground | Battery voltage |
| E32 | 1 | | |

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 | Ground | Clutch pedal | Released Depressed |
| M84 | 37 | | | |

Is the inspection result normal?

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

5. REPLACE BCM

1. Replace BCM. Refer to [BCS-73. "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-39. "Intermittent Incident"](#).

B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> Inspection End

Component Inspection

INFOID:000000009756746

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/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2620 PARK/NEUTRAL POSITION SWITCH

DTC Logic

INFOID:000000009756747

NOTE:

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

DTC DETECTION LOGIC

| DTC No. | CONSULT screen items (Trouble diagnosis content) | DTC detecting condition | Possible cause |
|---------|---|---|---|
| B2620 | NEUTRAL SW (Neutral switch) | BCM detects the following status for 10 seconds 3 times <ul style="list-style-type: none">• Park/neutral position switch input: Battery voltage• Vehicle speed: 40 km/h (24.8 MPH) or more | <ul style="list-style-type: none">• 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:000000009756748

SEC

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.

B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

3. CHECK PARK/NEUTRAL POSITION SWITCH POWER SUPPLY

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

| (+) | | (-) | Voltage (V) (Approx.) |
|------------------------------|----------|--------|--------------------------|
| Park/neutral position switch | | | |
| Connector | Terminal | Ground | Battery voltage |
| F52 | 2 | | |

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 | Ground | Shift lever | Neutral position Except neutral position |
| M83 | 69 | | | |

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 6.

5. REPLACE BCM

1. Replace BCM. Refer to [BCS-73, "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).

B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

8. CHECK INTERMITTENT INCIDENT

Refer to [GI-39, "Intermittent Incident"](#).

>> Inspection End

Component Inspection

INFOID:000000009756749

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).

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B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26E8 CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:000000009756750

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. <ul style="list-style-type: none">Clutch pedal position switch: ON (Clutch pedal is released)Clutch interlock switch: ON (Clutch pedal is depressed) | <ul style="list-style-type: none">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 switchClutch pedal position switchBCM |

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE 1

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

- Release clutch pedal and wait 2 seconds or more.
- 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:000000009756751

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

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

| Signal name | Fuse No. |
|-----------------------|----------|
| Ignition power supply | 5 (10 A) |

Is the inspection result normal?

- YES >> GO TO 3.

B26E8 CLUTCH INTERLOCK SWITCH

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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 | Ground | Battery voltage |
| E32 | 1 | | |

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 | Ground | Clutch pedal | Depressed |
| M84 | 37 | | | Not depressed |

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.

B26E8 CLUTCH INTERLOCK SWITCH

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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 | Ground | Battery voltage |
| E34 | 1 | | |

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 | Ground | Clutch pedal | Depressed Not depressed |
| M83 | 70 | | | |

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-39, "Intermittent Incident"](#).

>> Inspection End

13. REPLACE BCM

1. Replace BCM. Refer to [BCS-73, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> Inspection End

Component Inspection (Clutch Interlock Switch)

INFOID:000000009756752

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:000000009756753

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"](#).

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B26F3 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26F3 STARTER CONTROL RELAY

DTC Logic

INFOID:000000009756754

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|---|---|
| B26F3 | START CONT RLY ON | BCM requests IPDM E/R to turn starter control relay OFF, but BCM cannot receive starter control relay OFF state signal from IPDM E/R (CAN). | <ul style="list-style-type: none">• 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:000000009756755

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-39, "Intermittent Incident"](#).

>> Inspection End.

B26F4 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26F4 STARTER CONTROL RELAY

DTC Logic

INFOID:000000009756756

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|---|---|
| B26F4 | START CONT RLY OFF | BCM requests IPDM E/R to turn starter control relay ON, but BCM cannot receive starter control relay ON state signal from IPDM E/R (CAN). | <ul style="list-style-type: none">• 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:000000009756757

SEC

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-39, "Intermittent Incident"](#).

>> Inspection End.

B26F7 BCM**DTC Logic**

INFOID:000000009756758

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:000000009756759

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-73, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

B26F8 BCM

DTC Logic

INFOID:000000009756760

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:000000009756761

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-73, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End

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B26F9 CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26F9 CRANKING REQUEST CIRCUIT

DTC Logic

INFOID:000000009756762

DTC DETECTION LOGIC

NOTE:

- If DTC B26F9 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B26F9 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

| DTC No. | CONSULT screen items (Trouble diagnosis content) | DTC detecting condition | Possible cause |
|---------|---|---|--|
| B26F9 | CRANK REQ CIR SHORT (Cranking request circuit short) | BCM detects that the status of the following signals does not match. <ul style="list-style-type: none">• Cranking request signal from ECM• Starter control relay control signal from ECM (CAN) | <ul style="list-style-type: none">• 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-399, "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:000000009756763

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.

| (+) | | (-) | Condition | Voltage |
|-----------|----------|--------|--------------------|--|
| BCM | | | | |
| Connector | Terminal | | | |
| M85 | 81 | Ground | Ignition switch ON | <ul style="list-style-type: none">• Engine: Stopped• Selector lever position: P 0 – 0.5 V |
| | | | | <ul style="list-style-type: none">• Engine: Stopped• Selector lever position: Other than P 9 – 16 V |
| | | | | Engine running |

Is the inspection result normal?

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

2. CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

B26F9 CRANKING REQUEST CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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-73, "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-485, "Removal and Installation"](#).

>> Inspection End

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B26FA CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26FA CRANKING REQUEST CIRCUIT

DTC Logic

INFOID:000000009756764

DTC DETECTION LOGIC

NOTE:

- If DTC B26FA is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "DTC Logic"](#).
- If DTC B26FA is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-64, "DTC Logic"](#).

| DTC No. | CONSULT screen items (Trouble diagnosis content) | DTC detecting condition | Possible cause |
|---------|---|---|--|
| B26FA | CRANK REQ CIR OPEN (Cranking request circuit open) | BCM detects that the status of the following signals does not match. <ul style="list-style-type: none">• Cranking request signal from ECM• Starter control relay control signal from ECM (CAN) | <ul style="list-style-type: none">• 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-399, "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:000000009756765

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.

| (+) | | (-) | Condition | Voltage |
|-----------|----------|--------|--------------------|--|
| BCM | | | | |
| Connector | Terminal | | | |
| M85 | 81 | Ground | Ignition switch ON | <ul style="list-style-type: none">• Engine: Stopped• Selector lever position: P 0 – 0.5 V |
| | | | | <ul style="list-style-type: none">• Engine: Stopped• Selector lever position: Other than P 9 – 16 V |
| | | | | Engine running |

Is the inspection result normal?

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

2. CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

B26FA CRANKING REQUEST CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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-73, "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-485, "Removal and Installation"](#).

>> Inspection End

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B26FB CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26FB CLUTCH SWITCH

DTC Logic

INFOID:000000009756766

DTC DETECTION LOGIC

NOTE:

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

| DTC No. | CONSULT screen items (Trouble diagnosis content) | DTC detecting condition | Possible cause |
|---------|---|--|--|
| B26FB | CLUTCH SWITCH (Clutch switch) | BCM receives the abnormal signal of clutch pedal position switch from ECM via CAN communication. | <ul style="list-style-type: none">• 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:000000009756767

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-485, "Removal and Installation"](#)

>> Inspection End

B26FC KEY REGISTRATION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B26FC KEY REGISTRATION

DTC Logic

INFOID:000000009756768

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. | <ul style="list-style-type: none">• 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:000000009756769

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-73. "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

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B209F CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B209F CRANKING REQUEST CIRCUIT

DTC Logic

INFOID:000000009756770

DTC DETECTION LOGIC

NOTE:

If DTC B209F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-63, "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. <ul style="list-style-type: none">• Cranking request signal from ECM• Starter control relay control signal from ECM (CAN) | <ul style="list-style-type: none">• 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-399, "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:000000009756771

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: Other than P |
| Engine running | | | | |

Is the inspection result normal?

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

2. CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

B209F CRANKING REQUEST CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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-30, "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-485, "Removal and Installation"](#).

>> Inspection End

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B20A0 CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B20A0 CRANKING REQUEST CIRCUIT

DTC Logic

INFOID:000000009756772

DTC DETECTION LOGIC

NOTE:

If DTC B20A0 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-26, "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. <ul style="list-style-type: none">• Cranking request signal from ECM• Starter control relay control signal from ECM (CAN) | <ul style="list-style-type: none">• 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-399, "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:000000009756773

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: Other than P |
| Engine running | | | | |

Is the inspection result normal?

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

2. CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

B20A0 CRANKING REQUEST CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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-30, "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-485, "Removal and Installation"](#).

>> Inspection End

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B210B STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210B STARTER CONTROL RELAY

DTC Logic

INFOID:000000009756774

DTC DETECTION LOGIC

NOTE:

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

| 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. <ul style="list-style-type: none">• 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) | <ul style="list-style-type: none">• 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:000000009756775

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-30, "Removal and Installation"](#).
NO >> Refer to [GI-39, "Intermittent Incident"](#).

B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210C STARTER CONTROL RELAY

DTC Logic

INFOID:000000009756776

DTC DETECTION LOGIC

NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-26, "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. <ul style="list-style-type: none"> • 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) | <ul style="list-style-type: none"> • 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:000000009756777

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-39, "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 |

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B210C STARTER CONTROL RELAY

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-30, "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-73, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

B210D STARTER RELAY

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B210D STARTER RELAY

DTC Logic

INFOID:000000009756778

DTC DETECTION LOGIC

NOTE:

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

| 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. <ul style="list-style-type: none"> 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) | <ul style="list-style-type: none"> Harness or connectors (starter motor relay control circuit open or short) IPDM E/R BCM |

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 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
- 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:000000009756779

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-39. "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?

B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

YES >> Replace IPDM E/R. Refer to [PCS-30, "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/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210E STARTER RELAY

DTC Logic

INFOID:000000009756780

DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-26, "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. <ul style="list-style-type: none">• 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) | <ul style="list-style-type: none">• 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:000000009756781

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-39, "Intermittent Incident"](#).

2. CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

B210E STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

| 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-30, "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-73, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:000000009756782

DTC DETECTION LOGIC

NOTE:

If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-26. "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 <ul style="list-style-type: none">• 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) | <ul style="list-style-type: none">• 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:000000009756783

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

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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-30, "Removal and Installation"](#).
NO >> Repair or replace harness.

Diagnosis Procedure (M/T Models)

INFOID:000000010289403

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-30, "Removal and Installation"](#).
NO >> Repair or replace harness.

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:000000009756784

DTC DETECTION LOGIC

NOTE:

If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-26. "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 <ul style="list-style-type: none">• 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) | <ul style="list-style-type: none">• 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:000000009756785

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

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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-30, "Removal and Installation"](#).
NO >> Repair or replace harness.

Diagnosis Procedure (M/T Models)

INFOID:0000000010289404

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-30, "Removal and Installation"](#).
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:000000009756786

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:000000009756787

1.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” in “Work Support” mode of “INTELLIGENT KEY” of “BCM” using CONSULT.

Refer to [BCS-21, "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-39, "Intermittent Incident"](#).
NO >> GO TO 1.

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SEC

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:000000009756788

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:000000009756789

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-39, "Intermittent Incident"](#).

NO >> GO TO 1.

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

INFOID:000000009756790

REMOVAL

1. Remove instrument finisher B. Refer to [JP-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.

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SEC

PUSH-BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

PUSH-BUTTON IGNITION SWITCH

Removal and Installation

INFOID:000000009756791

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.

PRECAUTIONS

< PRECAUTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

PRECAUTION

PRECAUTIONS

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

INFOID:000000009756792

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.

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COMPONENT PARTS

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[WITHOUT INTELLIGENT KEY SYSTEM]

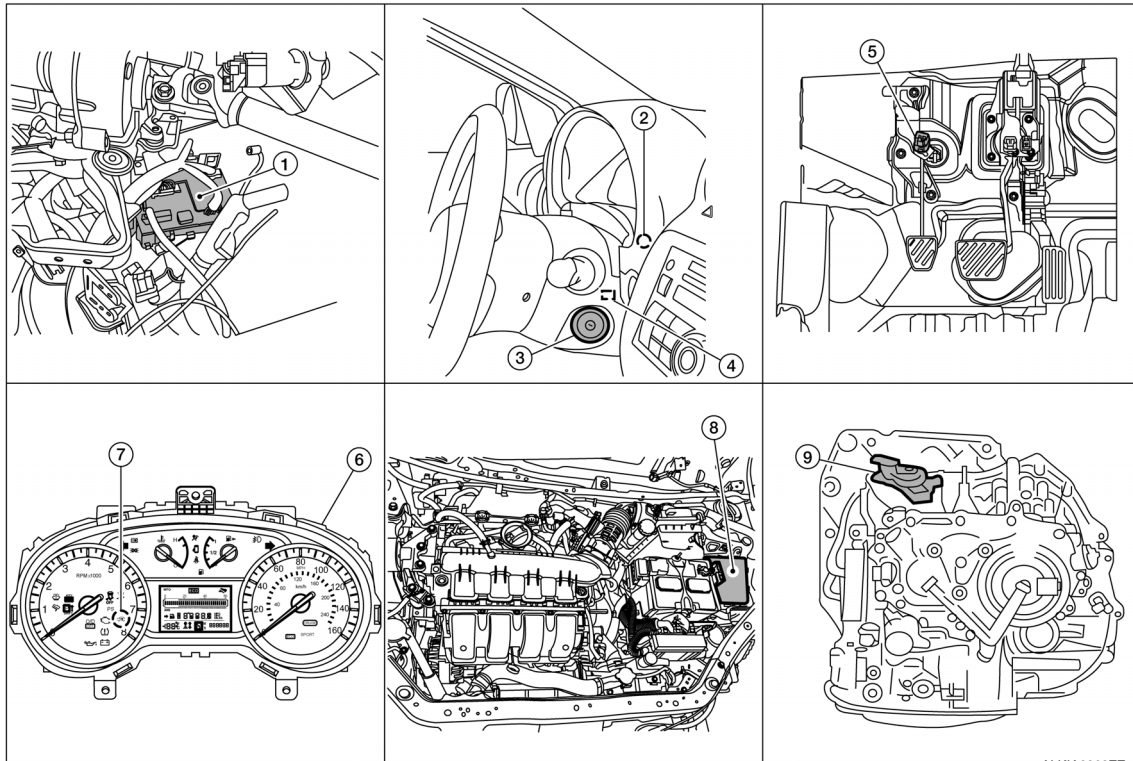
SYSTEM DESCRIPTION

COMPONENT PARTS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Parts Location

INFOID:000000009756793



ALKIA2963ZZ

- | | | |
|--|--|--|
| 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:000000009756794

| 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 relay to the starter motor. |

COMPONENT PARTS

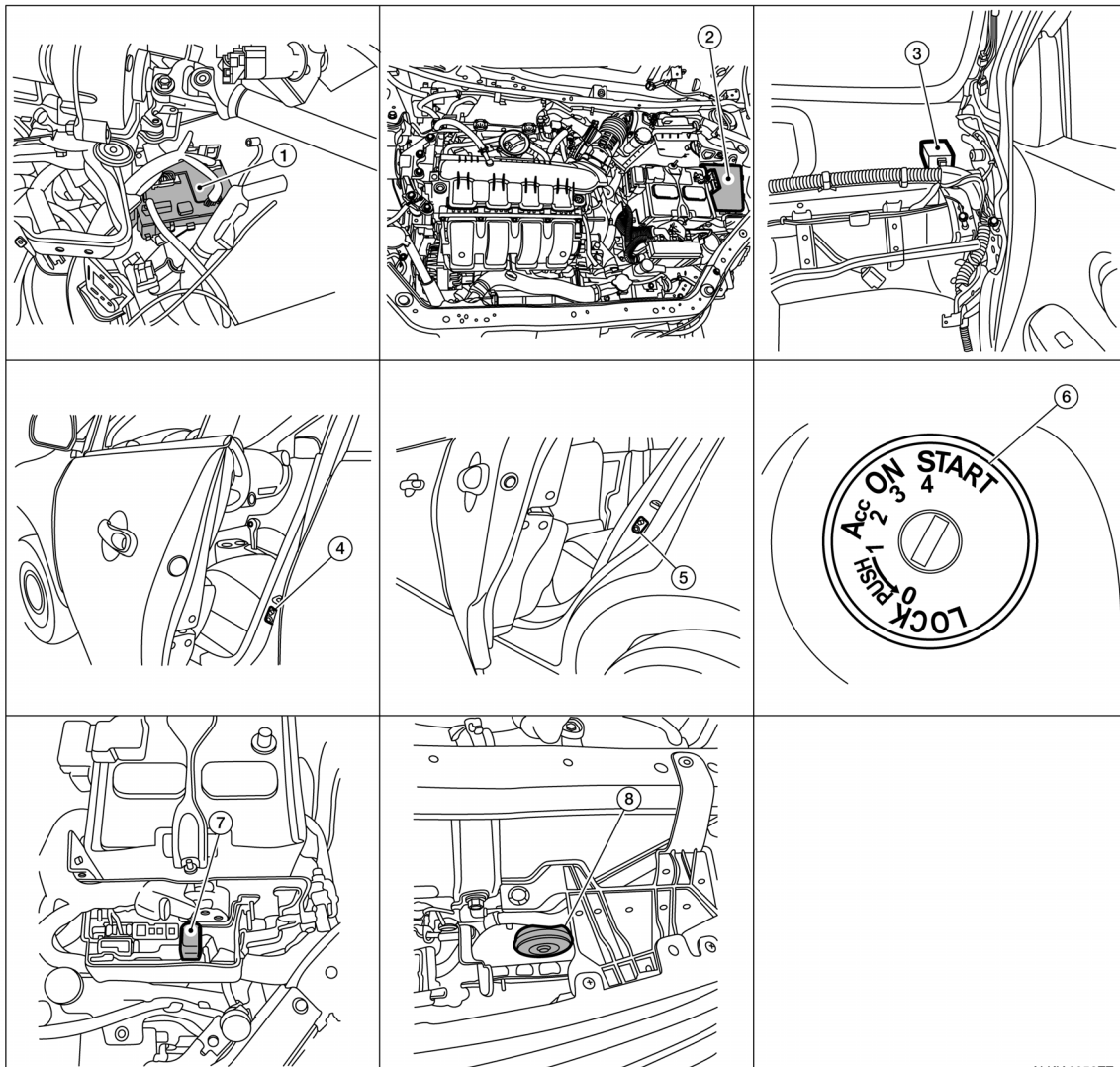
< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : Component Parts Location

INFOID:000000009756795



- | | | |
|--|--|--|
| 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 | |

ALKIA2953ZZ

VEHICLE SECURITY SYSTEM : Component Description

INFOID:000000009756796

| 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. |

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

SYSTEM

< SYSTEM DESCRIPTION >

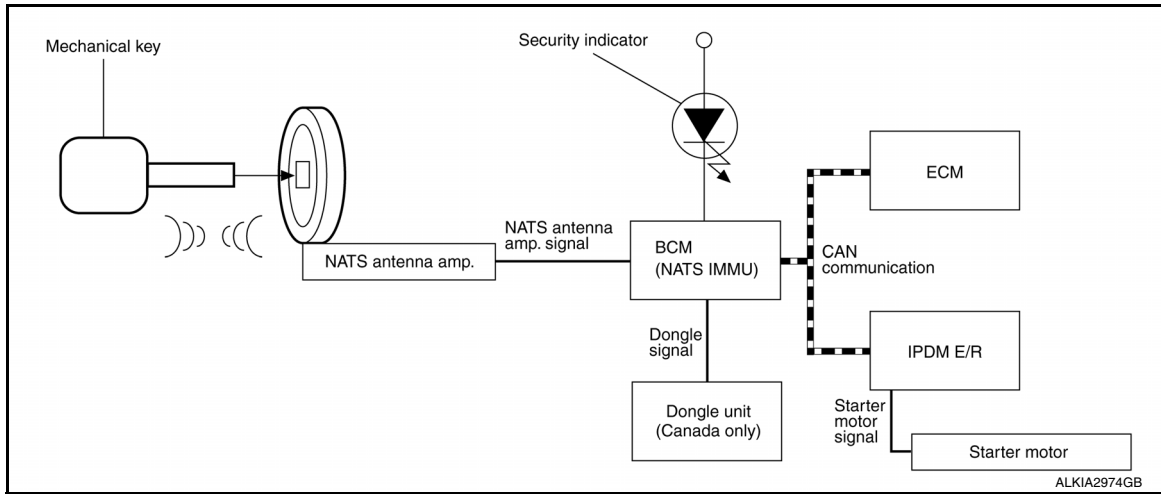
[WITHOUT INTELLIGENT KEY SYSTEM]

SYSTEM

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:000000009756797



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:000000009756798

INPUT/OUTPUT SIGNAL CHART

BCM

| Switch/Input signal | Input signal to BCM | BCM function | Actuator/Output signal |
|---------------------|----------------------|--------------|--|
| NATS antenna amp. | Key ID | NATS | <ul style="list-style-type: none"> 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-171, "Work Flow"](#).
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to [EC-485, "Removal and Installation"](#).

PRECAUTIONS FOR KEY REGISTRATION

SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

SECURITY INDICATOR

- Always flashes with ignition key in the OFF position.

MAINTENANCE INFORMATION

CAUTION:

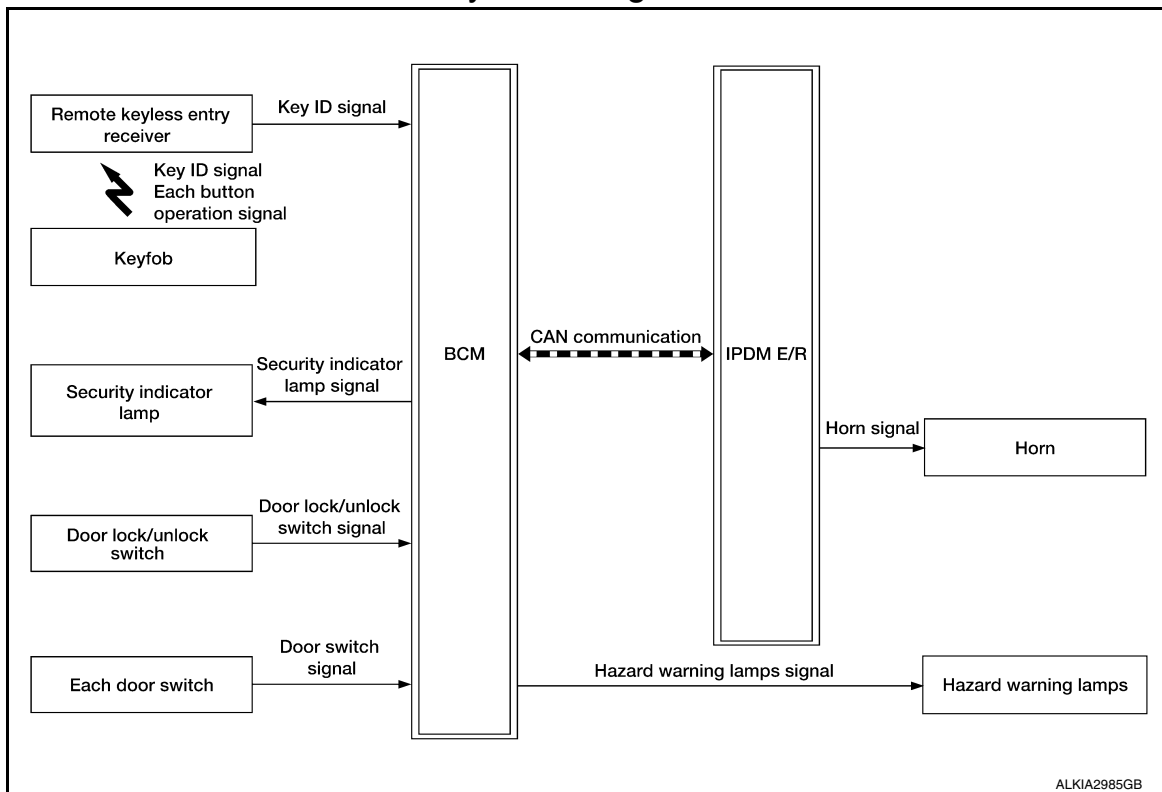
It is necessary to perform NATS ID registration when replacing any of the following parts.
If ID registration is not performed the electrical system may not operate properly.

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

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Diagram

INFOID:000000009756799



VEHICLE SECURITY SYSTEM : System Description

INFOID:000000009756800

- 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.

SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

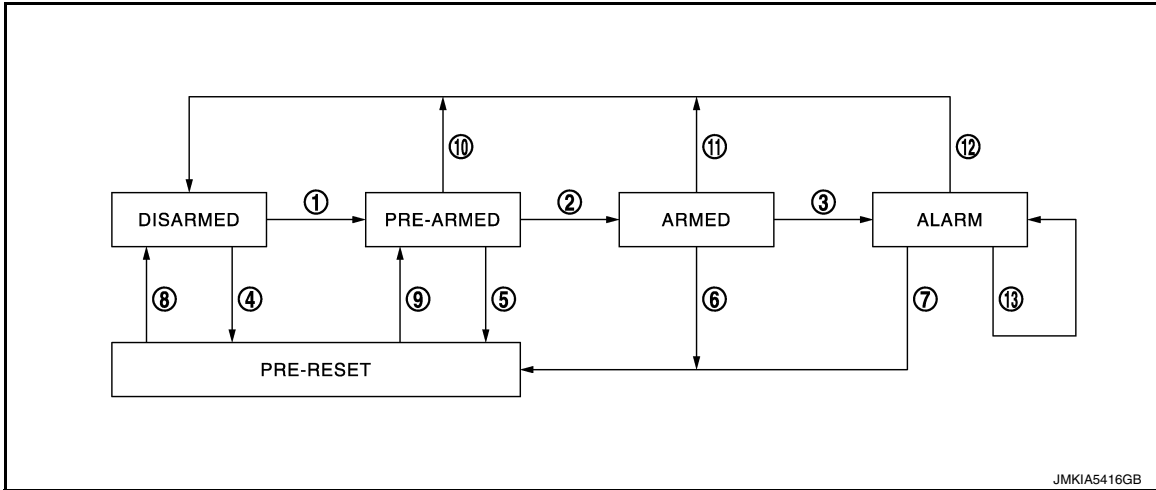
The priority of the functions are as per the following.

| 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 | | | | | | | |
|---|---|--|--|---|---|---|------------------|----------------|--|
| | | A | B | | | | | | |
| 1 | DISARMED to PRE-ARMED | When all conditions of A and one condition of B is satisfied. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"> <ul style="list-style-type: none"> Ignition switch: OFF All doors: Closed </td> <td style="width: 50%;"> <ul style="list-style-type: none"> All doors are locked by: <ul style="list-style-type: none"> Door key cylinder LOCK switch LOCK button of Keyfob Door lock and unlock switch </td> </tr> </table> | <ul style="list-style-type: none"> Ignition switch: OFF All doors: Closed | <ul style="list-style-type: none"> All doors are locked by: <ul style="list-style-type: none"> Door key cylinder LOCK switch LOCK button of Keyfob Door lock and unlock switch | | | | |
| <ul style="list-style-type: none"> Ignition switch: OFF All doors: Closed | <ul style="list-style-type: none"> All doors are locked by: <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> Ignition switch: OFF All doors: Locked | | | | | | |
| 3 | ARMED to ALARM | When all conditions of A and B are satisfied. | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>A</th> <th>B</th> </tr> <tr> <td>Keyfob: Not used</td> <td>Any door: Open</td> </tr> </table> </td> <td style="width: 50%;"></td> </tr> </table> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>A</th> <th>B</th> </tr> <tr> <td>Keyfob: Not used</td> <td>Any door: Open</td> </tr> </table> | A | B | Keyfob: Not used | Any door: Open | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>A</th> <th>B</th> </tr> <tr> <td>Keyfob: Not used</td> <td>Any door: Open</td> </tr> </table> | A | B | Keyfob: Not used | Any door: Open | | | | | |
| 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 | When one of the following condition is satisfied. | <ul style="list-style-type: none"> 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 | | | | | | |
| 10 | PRE-ARMED to DISARMED | | | | | | | | |

SEC

SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

| No. | System state | Switching condition | |
|-----|----------------------|--|---|
| 11 | ARMED to DISARMED | When one of the following condition is satisfied. | <ul style="list-style-type: none">• 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. | <ul style="list-style-type: none">• 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 key-less 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)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010289523

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 | <ul style="list-style-type: none"> 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 | | | | × | | | |

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DIAGNOSIS SYSTEM (BCM)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000010289524

SELF DIAGNOSTIC RESULT

Refer to [BCS-109."DTC Index"](#).

ACTIVE TEST

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

WORK SUPPORT

| Support Item | Setting | Description |
|-------------------|---------|-----------------------------|
| CONFIRM DONGLE ID | — | Dongle ID code can be read. |

DIAGNOSIS SYSTEM (IPDM E/R)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:000000010289526

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-255](#), "[Component Inspection](#)".

Inspection in Auto Active Test

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

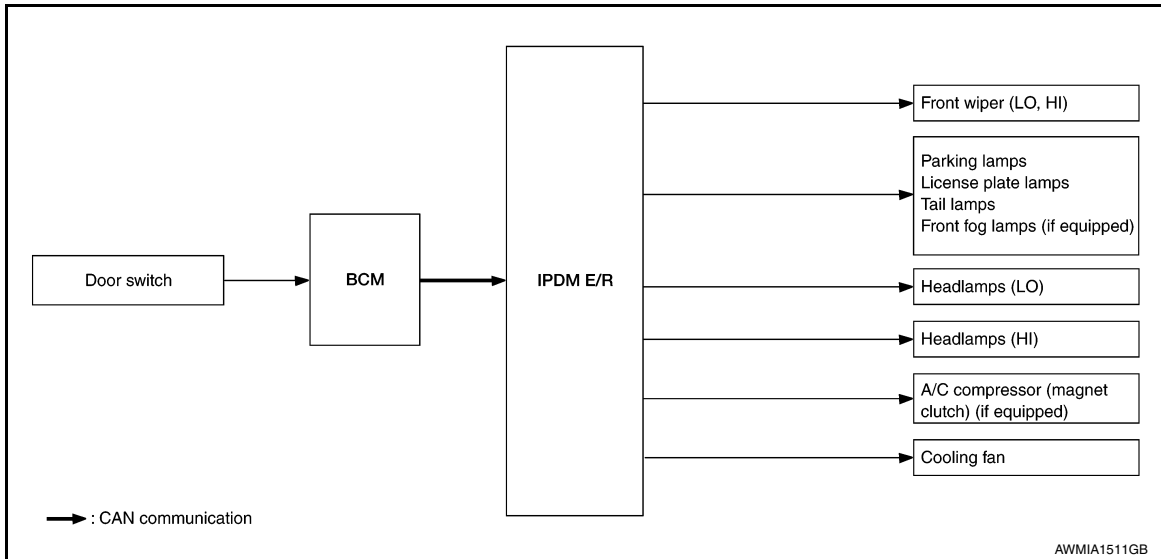
| Operation sequence | Inspection location | Operation |
|--------------------|--|---|
| 1 | Front wiper | LO for 5 seconds → HI for 5 seconds |
| 2 | <ul style="list-style-type: none">• Parking lamp• License plate lamp• Tail lamp• Front fog lamp (if equipped) | 10 seconds |
| 3 | Headlamp | LO for 10 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 |

DIAGNOSIS SYSTEM (IPDM E/R)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

Concept of Auto Active Test



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

Diagnosis Chart in Auto Active Test

| Symptom | Inspection contents | Possible cause |
|---|--|---|
| Any of the following components do not operate <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • BCM signal input circuit • CAN communication signal between BCM and ECM • CAN communication signal between ECM and IPDM E/R |
| | | NO <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • ECM signal input circuit • CAN communication signal between ECM and IPDM E/R |
| | | NO <ul style="list-style-type: none"> • Cooling fan motor • Harness or connector between IPDM E/R and cooling fan motor • IPDM E/R |

CONSULT Function (IPDM E/R)

INFOID:000000010289527

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. |

DIAGNOSIS SYSTEM (IPDM E/R)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

| 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 |
| PUSH SW [On/Off] | | Indicates condition of push-button ignition switch |
| INTER/NP SW [On/Off] | | Indicates condition of CVT shift position |
| ST RLY CONT [On/Off] | | Indicates starter relay status signal received from BCM on CAN communication line |
| IHBT RLY -REQ [On/Off] | | Indicates starter control relay signal received from BCM on CAN communication line |
| ST/INH RLY [Off/ ST /INH] | | 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 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]. |

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DIAGNOSIS SYSTEM (IPDM E/R)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

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

CAN DIAG SUPPORT MNTR

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

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:000000009756805

| | 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-41, "Reference Value" |
| | Fail Safe | PCS-47, "Fail-Safe" |
| | DTC Index | PCS-48, "DTC Index" |
| BCM | Reference Value | BCS-97, "Reference Value" |
| | Fail Safe | BCS-108, "Fail-safe" |
| | DTC Inspection Priority | BCS-108, "DTC Inspection Priority Chart" |
| | DTC Index | BCS-109, "DTC Index" |

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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

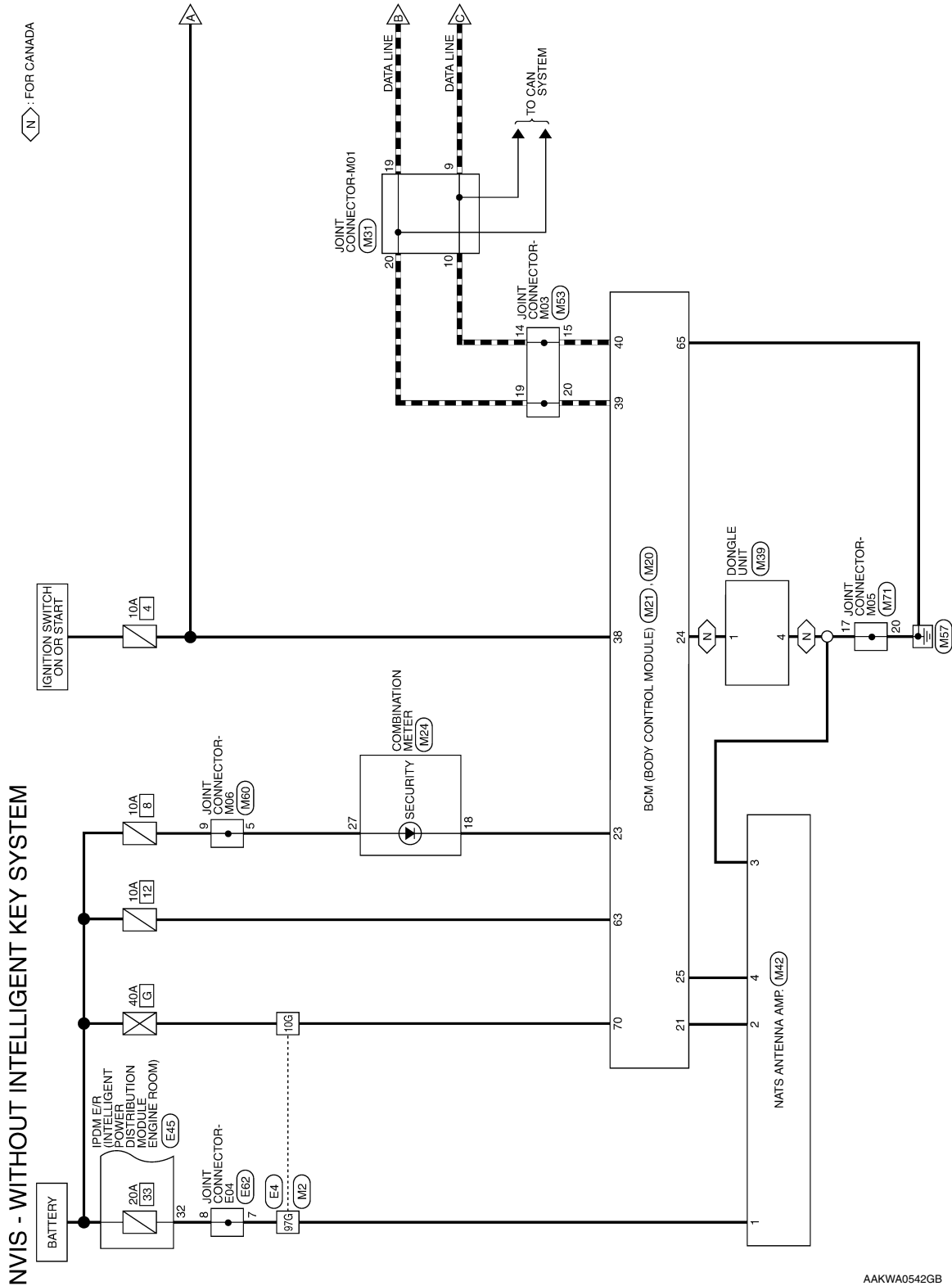
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WIRING DIAGRAM

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

Wiring Diagram

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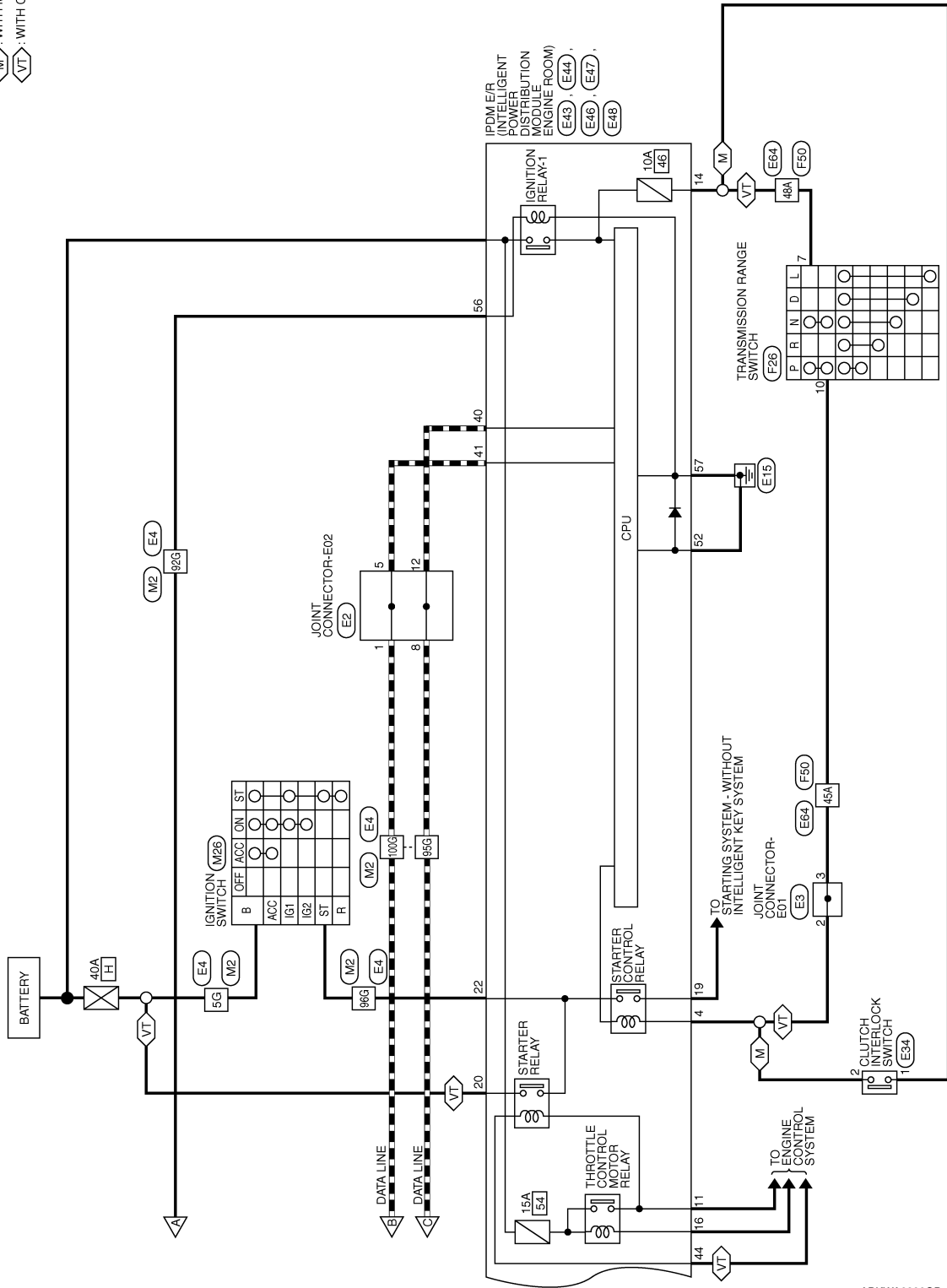
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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

M : WITH M/T
VT : WITH CVT



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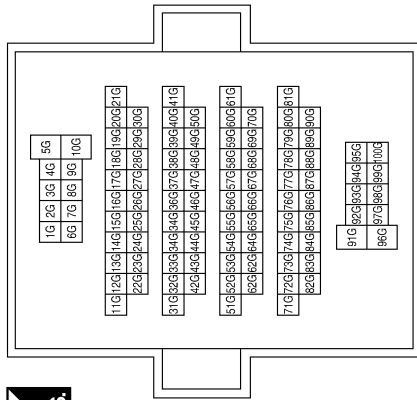
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

NVIS CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

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



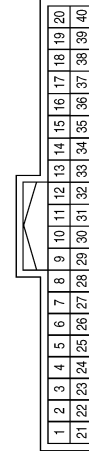
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5G | G | - |
| 10G | Y | - |
| 92G | R | - |
| 95G | P | - |
| 96G | L | - |
| 97G | V | - |
| 100G | L | - |

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



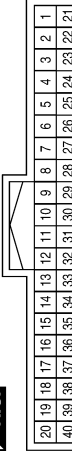
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|----------------|
| 63 | O | BATTERY (FUSE) |
| 65 | B | GND |
| 70 | Y | BATTERY (F/L) |

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



| 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 |



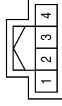
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 18 | Y | SECURITY |
| 27 | LG | BAT |

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

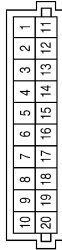
[WITHOUT INTELLIGENT KEY SYSTEM]

| | |
|-----------------|-------------|
| Connector No. | M39 |
| Connector Name | DONGLE UNIT |
| Connector Color | WHITE |



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

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



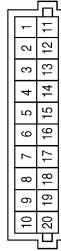
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 9 | P | - |
| 10 | P | - |
| 19 | L | - |
| 20 | L | - |

| | |
|-----------------|-----------------|
| Connector No. | M26 |
| Connector Name | IGNITION SWITCH |
| Connector Color | WHITE |



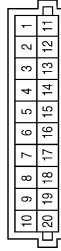
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| B | G | - |
| ST | L | - |

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



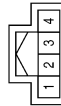
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | LG | - |
| 9 | W | - |

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



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

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



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

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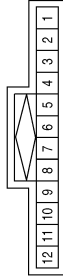
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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

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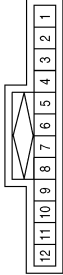
[WITHOUT INTELLIGENT KEY SYSTEM]

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



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

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



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

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 17 | B | - |
| 20 | B | - |

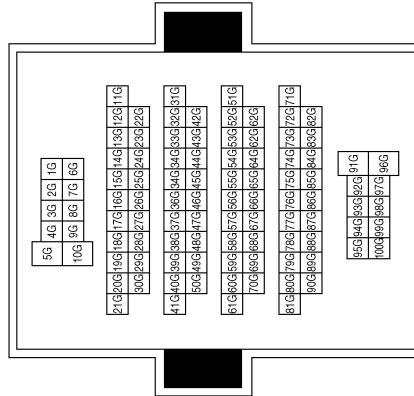
| | |
|-----------------|-------------------------|
| Connector No. | E34 |
| Connector Name | CLUTCH INTERLOCK SWITCH |
| Connector Color | BROWN |



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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5G | P | - |
| 10G | G | - |
| 92G | G | - |
| 95G | P | - |
| 96G | GR | - |
| 97G | Y | - |
| 100G | L | - |

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



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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

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



| | | | | |
|----|----|----|----|----|
| 29 | 28 | 27 | 26 | 25 |
| 36 | 35 | 34 | 33 | 32 |
| 31 | 30 | | | |

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

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



| | | |
|----|----|----|
| 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. | E43 |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE |



| | | | | | | |
|----|----|----|----|----|----|----|
| 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. | E48 |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK |



| | | |
|----|----|----|
| 59 | 58 | 57 |
| 62 | 61 | 60 |

| 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 |



| | | |
|----|----|----|
| 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. | E46 |
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE |



| | | | | | |
|----|----|----|----|----|----|
| 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 |

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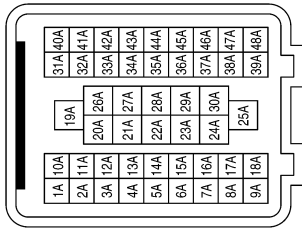
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

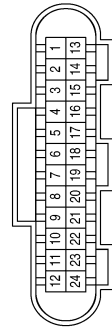
[WITHOUT INTELLIGENT KEY SYSTEM]

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 45A | BR | - |
| 48A | LG | - |

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



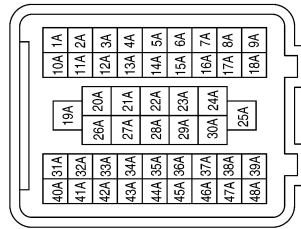
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| Connector No. | E62 |
| Connector Name | JOINT CONNECTOR-E04 |
| Connector Color | BLACK |



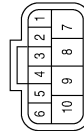
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 7 | Y | - |
| 8 | Y | - |

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 45A | BR | - |
| 48A | GR | - |

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



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



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

AAKIA1031GB

VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

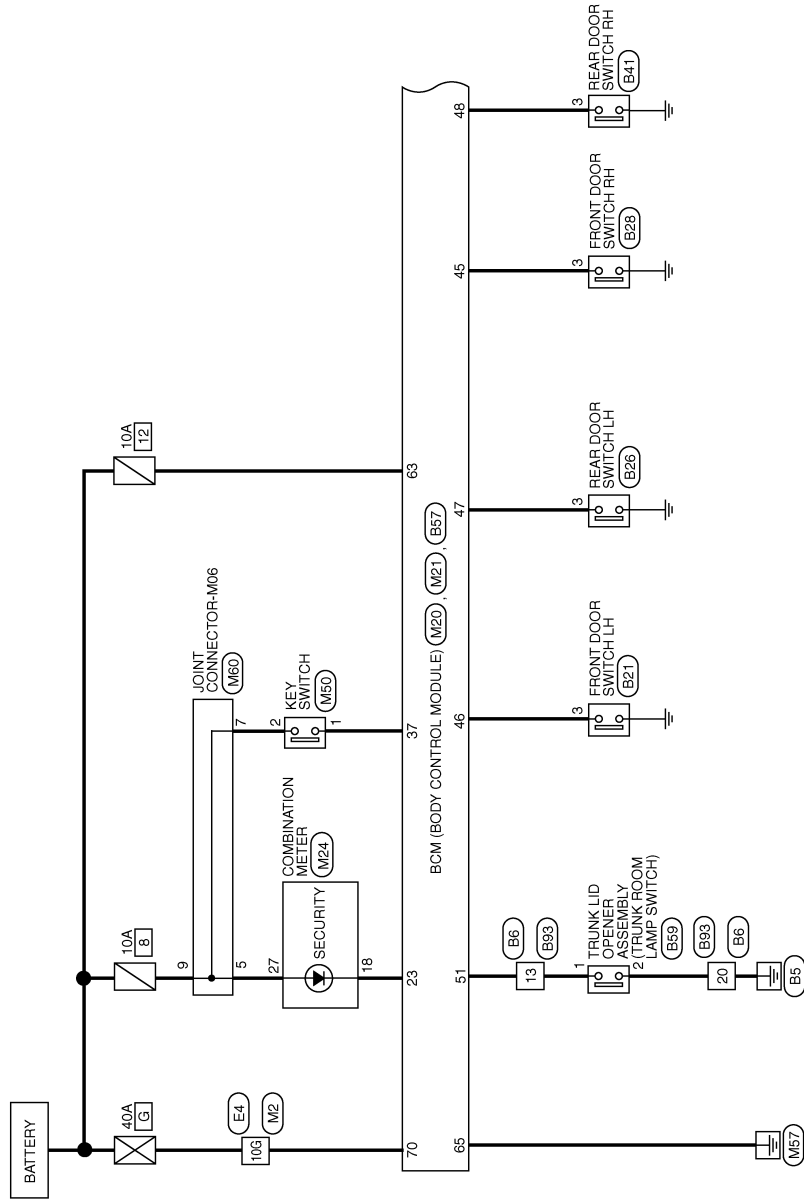
< WIRING DIAGRAM >

VEHICLE SECURITY SYSTEM

Wiring Diagram

INFOID:000000009756807

VEHICLE SECURITY SYSTEM - WITHOUT INTELLIGENT KEY SYSTEM



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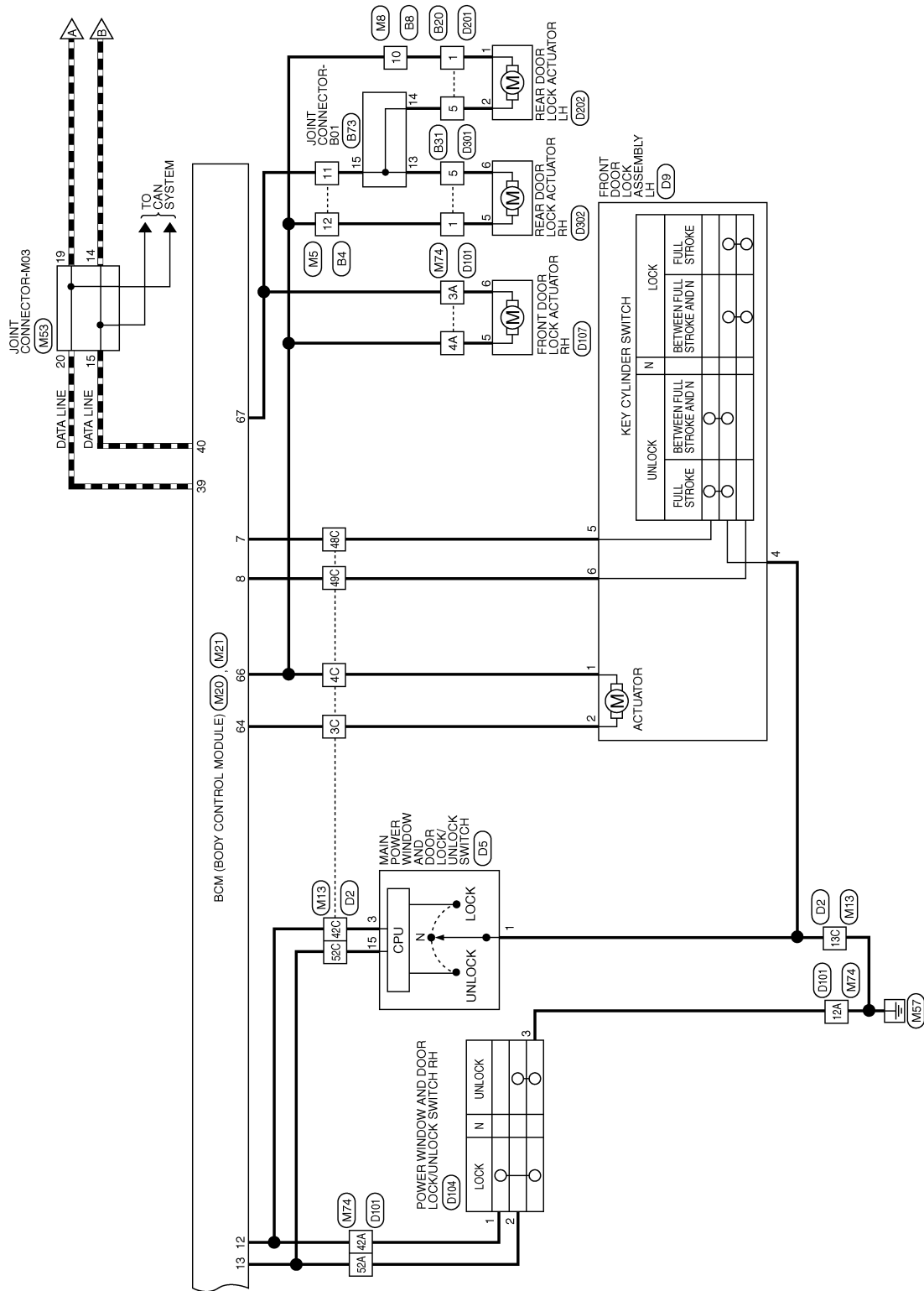
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VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

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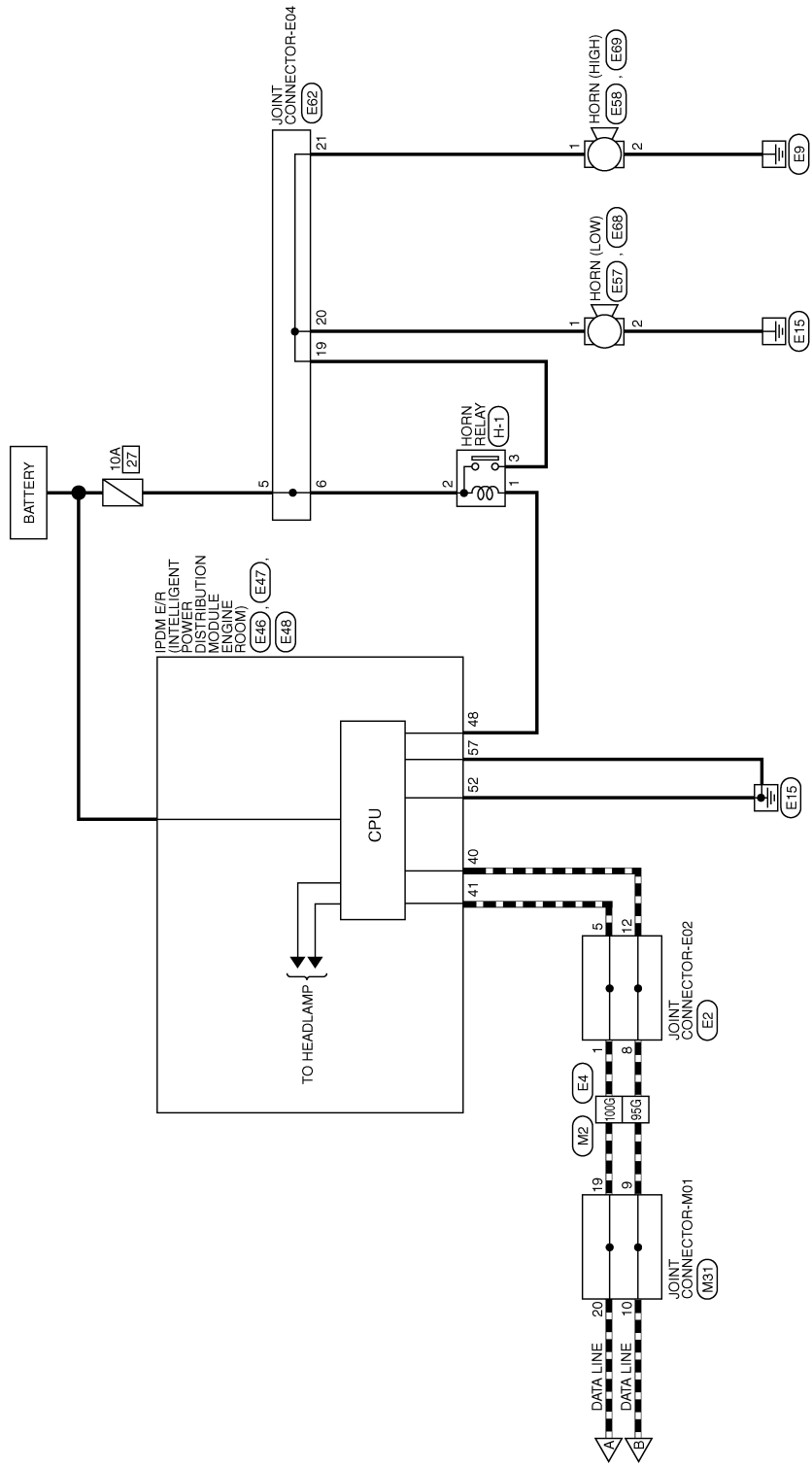


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VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



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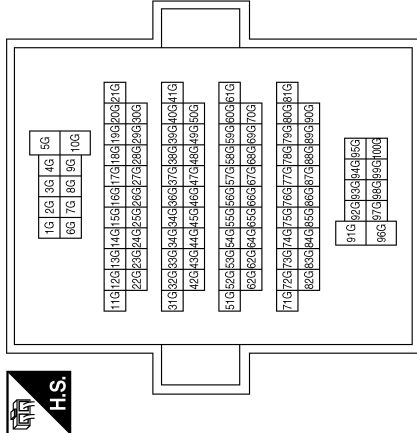
VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

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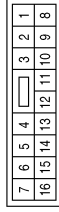
VEHICLE SECURITY SYSTEM CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

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



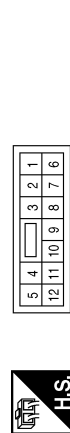
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10G | Y | - |
| 95G | P | - |
| 100G | L | - |

| | |
|-----------------|--------------|
| Connector No. | M5 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



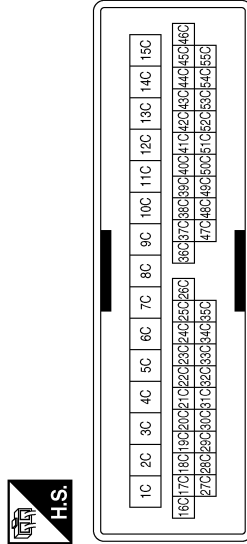
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11 | SB | - |
| 12 | O | - |

| | |
|-----------------|--------------|
| Connector No. | M8 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10 | O | - |

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




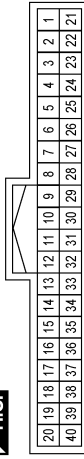
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3C | SB | - |
| 4C | O | - |
| 13C | B | - |
| 42C | GR | - |
| 48C | L | - |
| 49C | V | - |
| 52C | BR | - |

VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]


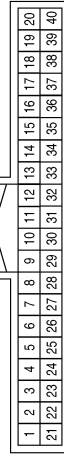
< WIRING DIAGRAM >

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| Connector No. | M24 |
| Connector Name | COMBINATION METER |
| Connector Color | WHITE |


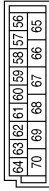
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 18 | Y | SECURITY |
| 27 | LG | BAT |

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

| 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 |

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

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|---------------------------------|
| 63 | O | BATTERY (FUSE) |
| 64 | SB | DOOR UNLOCK OUTPUT (DR) |
| 65 | B | GND |
| 66 | O | DOOR LOCK OUTPUT |
| 67 | SB | DOOR UNLOCK OUTPUT (AS, RR, RL) |
| 70 | Y | BATTERY (F/L) |

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




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

| | |
|-----------------|------------|
| Connector No. | M50 |
| Connector Name | KEY SWITCH |
| Connector Color | GRAY |




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

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




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

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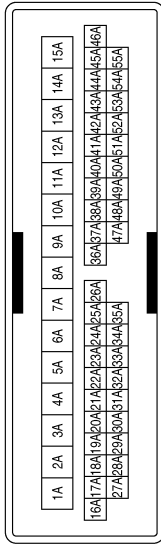
VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

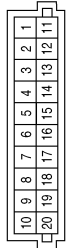
< WIRING DIAGRAM >

| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3A | SB | - |
| 4A | O | - |
| 12A | B | - |
| 42A | GR | - |
| 52A | BR | - |

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



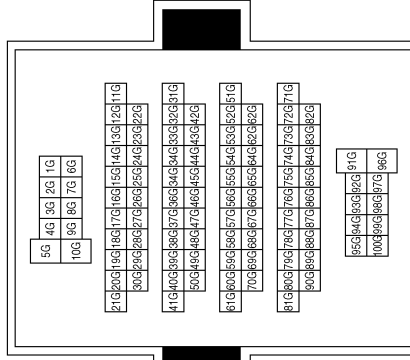
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| Connector No. | M60 |
| Connector Name | JOINT CONNECTOR-M06 |
| Connector Color | BLUE |



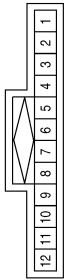
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 5 | LG | - |
| 7 | BR | - |
| 9 | W | - |

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

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



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



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

ABKIA5425GB

VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

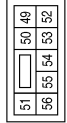
< WIRING DIAGRAM >

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



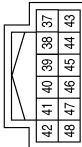
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 57 | B/Y | GND (POWER) |

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



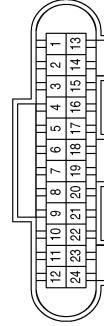
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|--------------|
| 52 | B/Y | GND (SIGNAL) |

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



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

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



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

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | G | - |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | G | - |

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SEC

VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

| | |
|-----------------|--------------|
| Connector No. | B4 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 11 | G | - |
| 12 | SB | - |

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

| |
|---|
| 2 |
|---|



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

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

| |
|---|
| 2 |
|---|



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

| | |
|-----------------|--------------|
| Connector No. | B20 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

| | | | | | |
|----|---|---|---|---|---|
| 4 | 3 | 2 | 1 | | |
| 10 | 9 | 8 | 7 | 6 | 5 |



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | V | - |
| 5 | Y | - |

| | |
|-----------------|--------------|
| Connector No. | B8 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

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



| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 10 | V | - |

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

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



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

AAKIA1040GB

VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

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



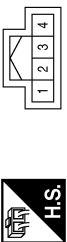
| | | | | | |
|--------------|---|---------------|----|-------------|---|
| Terminal No. | 3 | Color of Wire | GR | Signal Name | - |
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|-----------------|---------------------|
| Connector No. | B26 |
| Connector Name | REAR DOOR SWITCH LH |
| Connector Color | WHITE |



| | | | | | |
|--------------|---|---------------|----|-------------|---|
| Terminal No. | 3 | Color of Wire | GR | Signal Name | - |
|--------------|---|---------------|----|-------------|---|

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



| | | | | | |
|--------------|---|---------------|---|-------------|---|
| Terminal No. | 3 | Color of Wire | Y | Signal Name | - |
|--------------|---|---------------|---|-------------|---|

| | |
|-----------------|--|
| Connector No. | B57 |
| Connector Name | BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM) |
| Connector Color | BLACK |



| | | | | | |
|--------------|----|---------------|----|-------------|--------------|
| Terminal No. | 45 | Color of Wire | R | Signal Name | DOOR SW (AS) |
| | 46 | | Y | | DOOR SW (DR) |
| | 47 | | GR | | DOOR SW (RL) |
| | 48 | | P | | DOOR SW (RR) |
| | 51 | | V | | TRUNK SW |

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



| | | | | | |
|--------------|---|---------------|---|-------------|---|
| Terminal No. | 3 | Color of Wire | P | Signal Name | - |
|--------------|---|---------------|---|-------------|---|

| | |
|-----------------|--------------|
| Connector No. | B31 |
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |



| | | | | | |
|--------------|---|---------------|----|-------------|---|
| Terminal No. | 1 | Color of Wire | SB | Signal Name | - |
| | 5 | | P | | - |

ABKIA5427GB

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VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

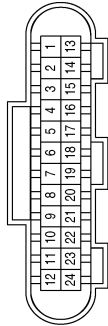
< WIRING DIAGRAM >

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



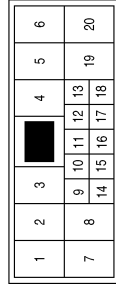
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | R | - |
| 2 | B | - |

| | |
|-----------------|---------------------|
| Connector No. | B73 |
| Connector Name | JOINT CONNECTOR-B01 |
| Connector Color | BLACK |



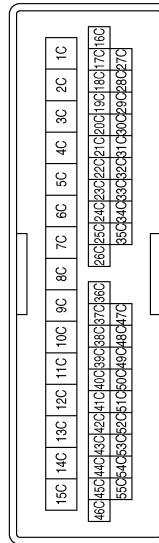
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13 | P | - |
| 14 | Y | - |
| 15 | G | - |

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



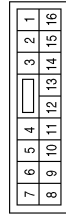
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 13 | R | - |
| 20 | B | - |

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



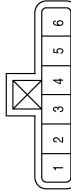
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 3C | L | - |
| 4C | BR | - |
| 13C | B | - |
| 42C | L | - |
| 48C | Y | - |
| 49C | R | - |
| 52C | BR | - |

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



| 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 |



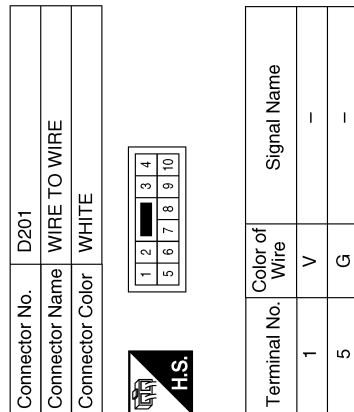
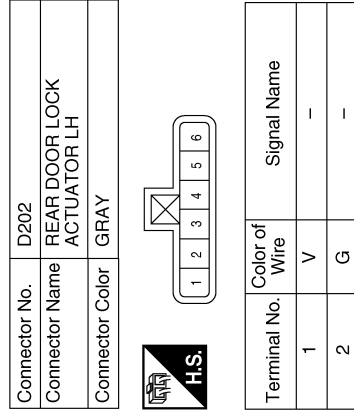
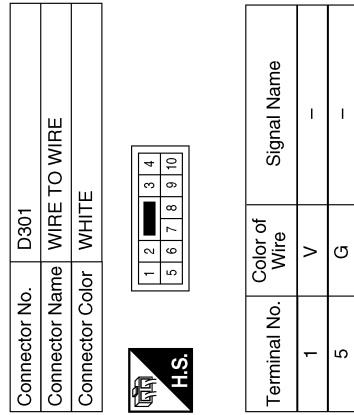
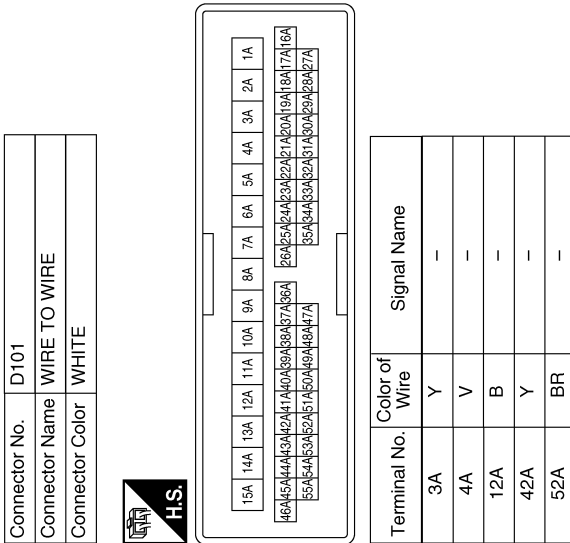
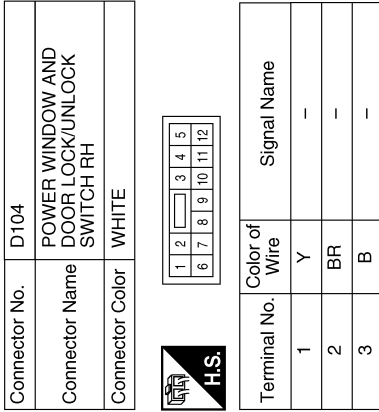
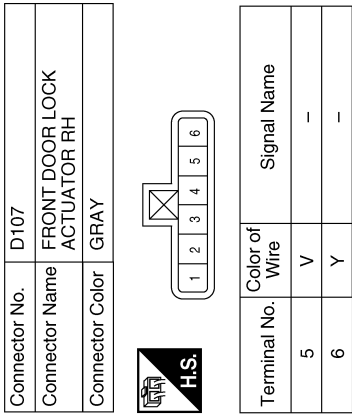
| Terminal No. | Color of Wire | Signal Name |
|--------------|---------------|-------------|
| 1 | BR | - |
| 2 | L | - |
| 4 | B | - |
| 5 | Y | - |
| 6 | R | - |

ABKIA5428GB

VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



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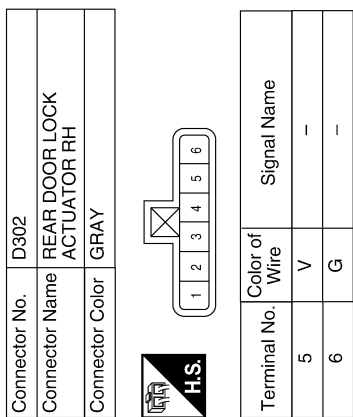
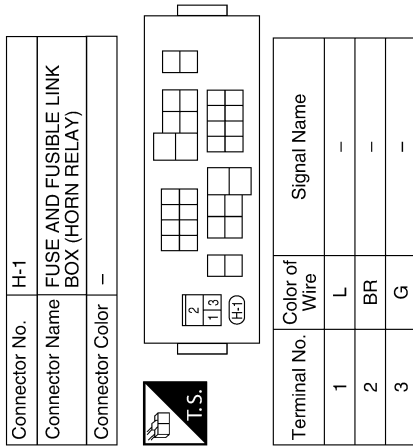
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VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



AAKIA1044GB

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

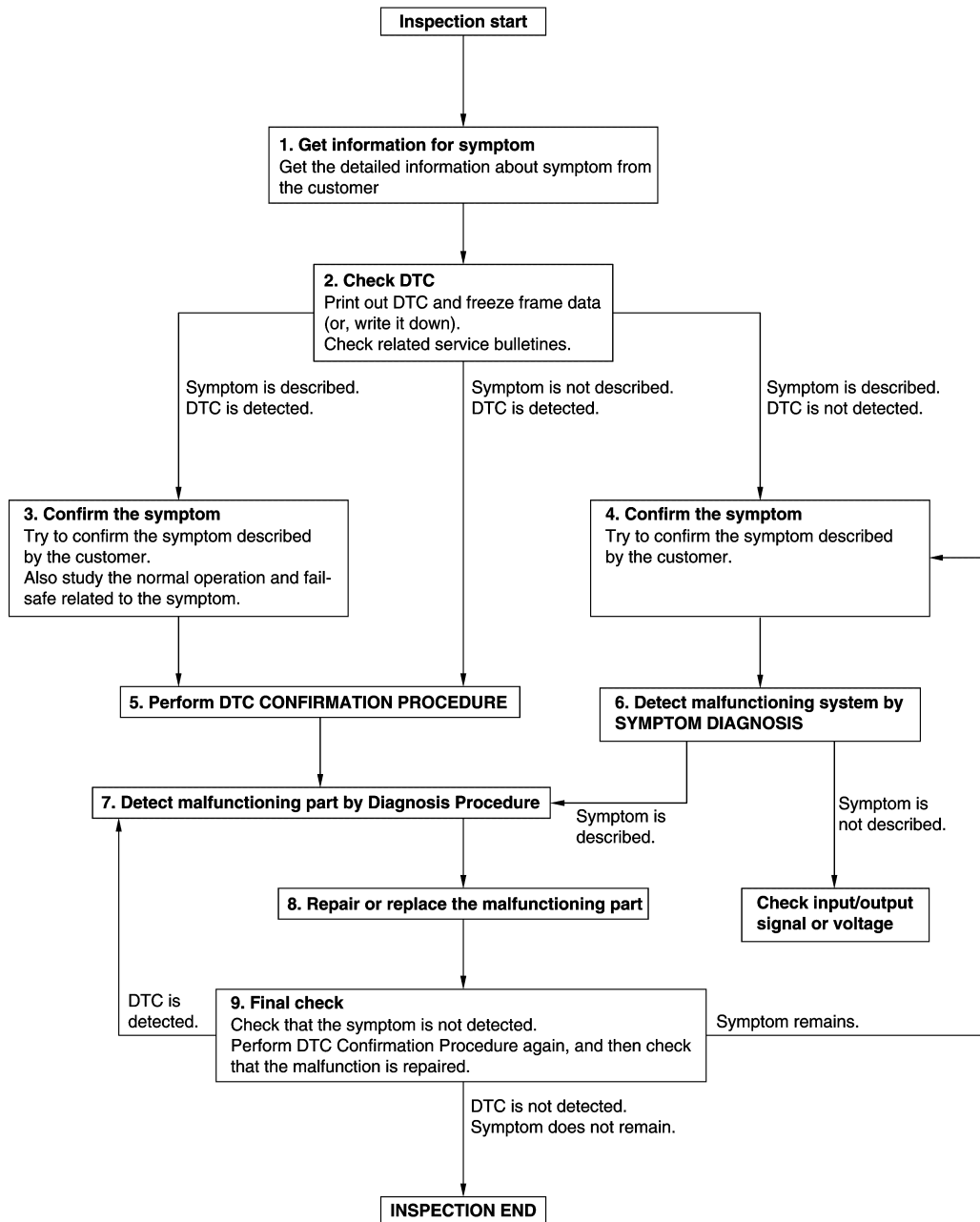
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000009756808

OVERALL SEQUENCE



DETAILED FLOW

Revision: October 2013

SEC-171

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

1. GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2. CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is detected.
 - Record DTC and freeze frame data (Print them out using CONSULT.)
 - Erase DTC.
 - Study the relationship between the cause detected by DTC and the symptom described by the customer.
3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.

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

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

3. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.

If two or more DTCs are detected, refer to [BCS-108. "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-39. "Intermittent Incident"](#).

6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

YES >> GO TO 7.

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

7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

[WITHOUT INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-39. "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.

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ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM

ECM : Description

INFOID:000000009756809

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:000000009756810

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-135. "Work Procedure"](#).

>> Inspection End

BCM

BCM : Description

INFOID:000000009756811

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:000000009756812

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.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

>> GO TO 2.

2. REPLACE BCM

Replace BCM. Refer to [BCS-126. "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-116. "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-116. "CONFIGURATION \(BCM\) : Work Procedure"](#).

>> GO TO 4.

4. INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

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SEC

U1000 CAN COMM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM

Description

INFOID:000000009756813

Refer to [LAN-7, "CAN COMMUNICATION SYSTEM : System Description"](#).

DTC Logic

INFOID:000000009756814

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. <ul style="list-style-type: none">• Transmission• Receiving (ECM)• Receiving (VDC/TCS/ABS)• Receiving (METER/M&A)• Receiving (TCM)• Receiving (IPDM E/R) |

Diagnosis Procedure

INFOID:000000009756815

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-39, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000009756816

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:000000009756817

1. REPLACE BCM

When DTC "U1010" is detected, replace BCM.

>> Replace BCM. Refer to [BCS-126. "Removal and Installation"](#).

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SEC

P1610 LOCK MODE

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

P1610 LOCK MODE

Description

INFOID:000000009756818

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:000000009756819

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. <ul style="list-style-type: none">• Unregistered mechanical key• BCM or ECM malfunctioning. | <ul style="list-style-type: none">• 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-178. "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009756820

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-39. "Intermittent Incident"](#).

>> Inspection End.

B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2190, P1614 NATS ANTENNA AMP.

Description

INFOID:000000009756821

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:000000009756822

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Insert ignition key into the key cylinder.
2. Turn ignition switch ON.
3. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

- YES >> Refer to [SEC-179, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009756823

Regarding Wiring Diagram information, refer to [SEC-152, "Wiring Diagram"](#).

1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to [SEC-193, "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?

B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

- 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-126, "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-126, "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-193, "Removal and Installation"](#).
NO >> • Repair or replace harness.

NOTE:

B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

If harness is OK, replace BCM, refer to [BCS-126. "Removal and Installation"](#). Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

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B2191, P1615 DIFFERENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2191, P1615 DIFFERENCE OF KEY

Description

INFOID:000000009756824

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:000000009756825

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-182. "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009756826

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-126. "Removal and Installation"](#).
 - Perform initialization again.

B2192, P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2192, P1611 ID DISCORD, IMMU-ECM

Description

INFOID:000000009756827

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:000000009756828

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-118, "DTC Logic"](#).
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-119, "DTC 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. The registration is necessary. | • BCM • ECM |
| P1611 | | | |

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-183, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009756829

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-126, "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-485, "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

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B2192, P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

4. CHECK INTERMITTENT INCIDENT

Refer to [GI-39. "Intermittent Incident"](#).

>> Inspection End.

B2193, P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2193, P1612 CHAIN OF ECM-IMMU

Description

INFOID:000000009756830

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:000000009756831

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-118, "DTC Logic"](#).
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-119, "DTC Logic"](#).

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---------|------------------------|--|---|
| B2193 | CHAIN OF BCM-ECM | Inactive communication between ECM and BCM | <ul style="list-style-type: none">• Harness or connectors (The CAN communication line is open or short)• BCM• ECM |
| P1612 | | | |

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

- YES >> Refer to [SEC-185, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009756832

1. REPLACE BCM

1. Replace BCM. Refer to [BCS-126, "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.

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B2195 ANTI-SCANNING

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

B2195 ANTI-SCANNING

DTC Logic

INFOID:000000009756833

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-186, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009756834

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-186, "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-186, "DTC Logic"](#).

Is DTC detected?

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

4. REPLACE BCM

1. Replace BCM. Refer to [BCS-126, "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

[WITHOUT INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B2196 DONGLE UNIT

Description

INFOID:000000009756835

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

DTC Logic

INFOID:000000009756836

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. | <ul style="list-style-type: none">• 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-187, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000009756837

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?

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B2196 DONGLE UNIT

[WITHOUT INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000010289534

Regarding Wiring Diagram information, refer to [BCS-111, "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 | — | 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.

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VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY INDICATOR

Description

INFOID:000000009756839

- 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:000000009756840

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-190, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000009756841

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 | Ground | Battery voltage |
| M24 | 27 | | |

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 | Ground | Battery voltage |
| M21 | 23 | | |

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-126, "Removal and Installation"](#).
NO >> GO TO 3.

3.CHECK SECURITY INDICATOR LAMP CIRCUIT

1. Disconnect combination meter connector.

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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.

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SEC

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

INFOID:000000009756842

NOTE:

- Before performing the diagnosis in the following table, check "[SEC-171, "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-190 |
| | 2. Check Intermittent Incident | GI-39 |

NATS ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Removal and Installation

INFOID:000000009756843

REMOVAL

1. Remove instrument finisher B. Refer to [JP-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.

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