# SECTION SEC
# SECURITY CONTROL SYSTEM

## CONTENTS

### WITH INTELLIGENT KEY SYSTEM

# PRECAUTION

## PRECAUTIONS

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

INFOID:0000000012549504

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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:**

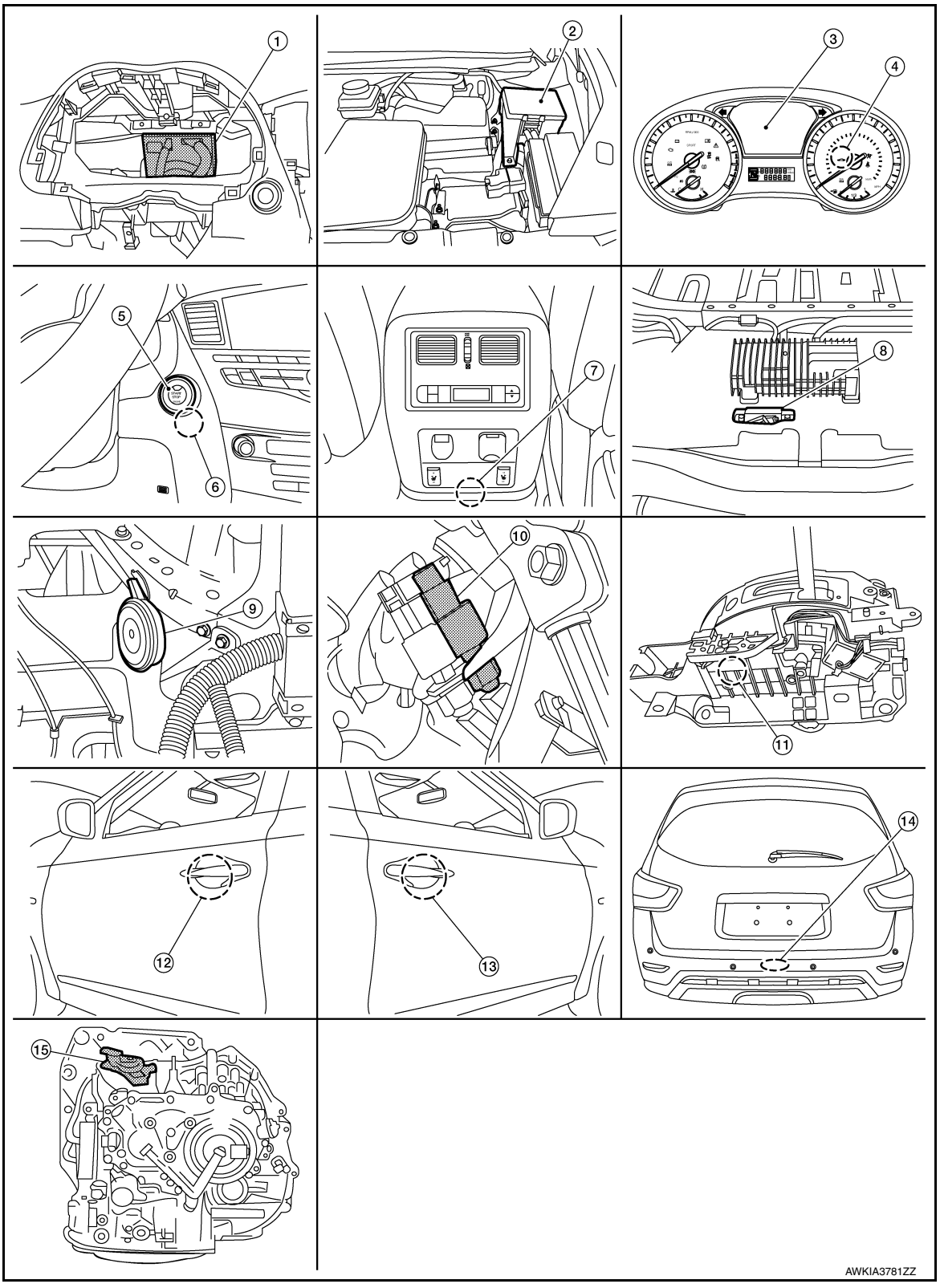
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious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

# SYSTEM DESCRIPTION

## COMPONENT PARTS

### Component Parts Location

INFOID:0000000012549505



1. BCM (view with combination meter removed)
2. IPDM E/R
3. Combination meter
4. Security indicator lamp
5. Push-button ignition switch
6. NATS antenna amp.
7. Inside key antenna (console)
8. Inside key antenna (luggage room) (view with rear carpet removed)
9. Horn (view with right head light removed)
10. Stop lamp switch
11. CVT shift selector (park position switch) (view with center console removed)
12. Outside key antenna (drivers side)
13. Outside key antenna (passenger side)
14. Outside key antenna (rear bumper)
15. Transmission range switch

## Component Description

INFOID:0000000012549506

| Component | Reference |
|---|---|
| CVT shift selector (park position switch) | SEC-6 |
| BCM | SEC-6 |
| ECM | SEC-7 |
| IPDM E/R | SEC-7 |
| NATS antenna amp. | SEC-7 |
| Combination meter | SEC-7 |
| Door switch | SEC-7 |
| Hood switch | SEC-7 |
| Outside key antenna | SEC-7 |
| Inside key antenna | SEC-7 |
| Intelligent Key | SEC-7 |
| Push-button ignition switch | SEC-8 |
| Remote keyless entry receiver | SEC-7 |
| Security indicator lamp | SEC-8 |
| Starter control relay | SEC-8 |
| Starter relay | SEC-8 |
| Stop lamp switch | SEC-8 |
| Transmission range switch | SEC-8 |
| Vehicle information display | SEC-8 |

## CVT Shift Selector (Park Position Switch)

INFOID:0000000012549507

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:0000000012549508

BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)], and VEHICLE SECURITY SYSTEM.

BCM performs the ID verification between BCM and Intelligent Key when the Intelligent Key is carried into the detection area of inside key antenna and push-button ignition switch is pressed. If the ID verification result is OK, push-button ignition switch operation is available.
Then, when the power supply position is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine.

## ECM

INFOID:0000000012549509

ECM controls the engine.
When power supply position is turned ON, BCM starts communication with ECM and performs the ID verification between BCM and ECM.
If the verification result is OK, the engine can start. If the verification result is NG, the engine can not start.

## IPDM E/R

INFOID:0000000012549510

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

## NATS Antenna Amp.

INFOID:0000000012549511

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

## Combination Meter

INFOID:0000000012549512

Combination meter transmits the vehicle speed signal to BCM via CAN communication.
BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM compares both signals to detect the vehicle speed.

## Door Switch

INFOID:0000000012549513

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

## Outside Key Antenna

INFOID:0000000012549514

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

## Hood Switch

INFOID:0000000012549515

Hood switch detects that hood is open/closed, and then transmits the signal to IPDM E/R. IPDM E/R transmits hood switch signal to BCM via CAN communication.

## Inside Key Antenna

INFOID:0000000012549516

Inside key antenna detects whether Intelligent Key is inside the vehicle and transmits the signal to BCM.
Two inside key antennas are installed in the console and luggage room.

## Remote Keyless Entry Receiver

INFOID:0000000012549517

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

## Intelligent Key

INFOID:0000000012549518

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 back door, panic alarm and push-button ignition switch operation.

## Push-button Ignition Switch

INFOID:0000000012549519

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

## Security Indicator Lamp

INFOID:0000000012549520

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 [NVIS (NATS)] is on board.

## Starter Control Relay

INFOID:0000000012549521

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.

## Starter Relay

INFOID:0000000012549522

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:0000000012549523

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

## Transmission Range Switch

INFOID:0000000012549524

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)

## Vehicle Information Display

INFOID:0000000012549525

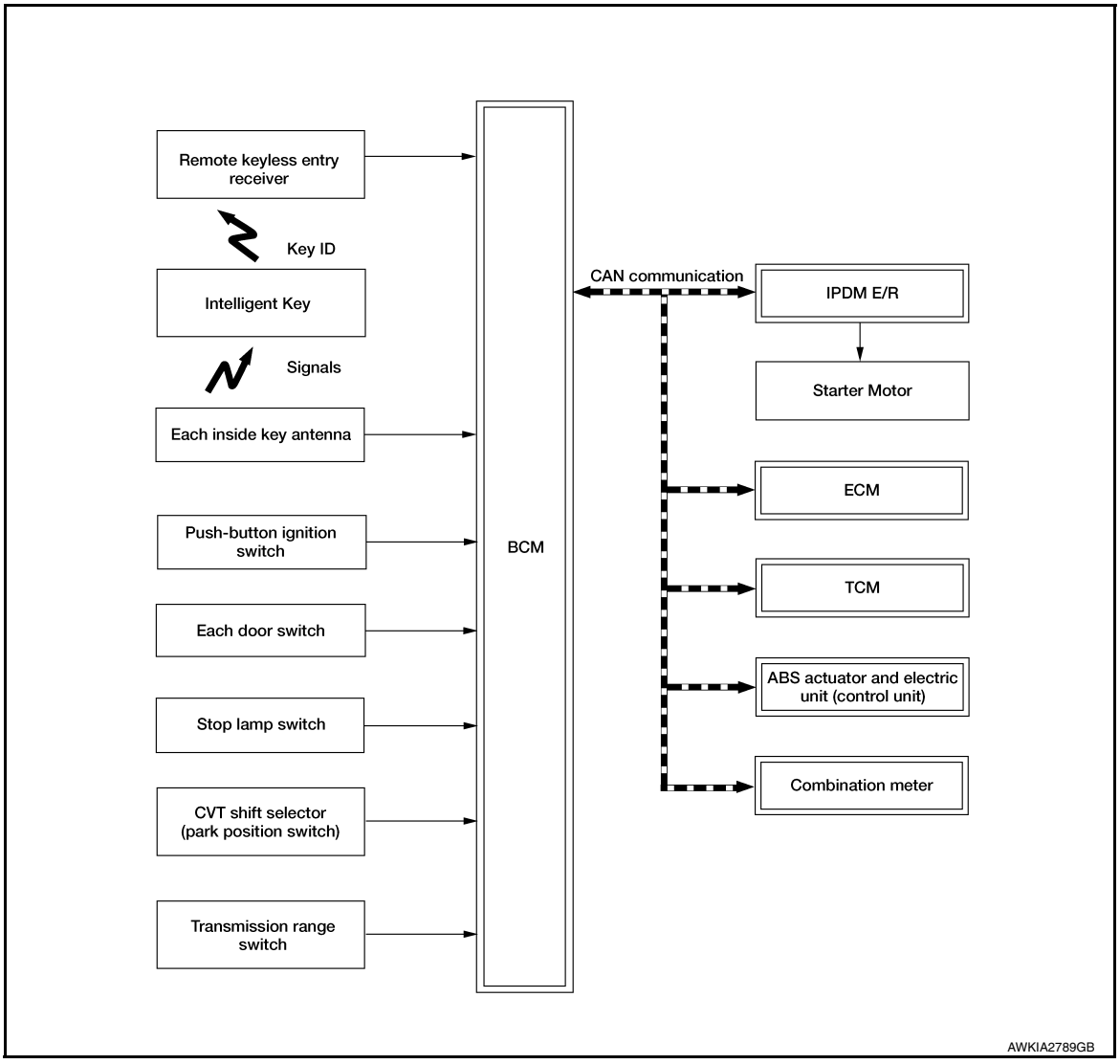
Vehicle information display is integrated in combination meter.
Various information and warnings regarding the Intelligent Key System are displayed.

# SYSTEM

## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

### INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Diagram

INFOID:0000000012549526




### INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:0000000012549527

SYSTEM DESCRIPTION

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

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

**NOTE:**

Refer to DLK-21, "INTELLIGENT KEY SYSTEM : System Description" for any functions other than engine start function of Intelligent Key system.

## PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

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

## OPERATION WHEN INTELLIGENT KEY IS CARRIED

1. When the push-button ignition switch is pressed, the BCM activates the inside key antenna and transmits the request signal to the Intelligent Key.
2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the BCM.
3. BCM receives the Intelligent Key ID signal 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. BCM detects that the selector lever position and brake pedal operating condition.
7. BCM transmits the starter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
8. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
9. Power supply is supplied through the starter relay and the starter control relay to operate the starter motor.

   **CAUTION:**

   **If a malfunction is detected in the Intelligent Key system, the “KEY” warning lamp in the combination meter illuminates. At that time, the engine cannot be started.**
10. When BCM receives feedback signal from ECM indicating that the engine is started, the BCM transmits a stop signal to IPDM E/R and stops cranking by turning OFF the starter motor relay. (If engine start is unsuccessful, cranking stops automatically within 5 seconds.)

    **CAUTION:**

    **When the Intelligent Key is carried outside of the vehicle (inside key antenna detection area) while the power supply is in the ACC or ON position, even if the engine start condition* is satisfied, the engine cannot be started.**

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

## OPERATION RANGE

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

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

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

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

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

**NOTE:**

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

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

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

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

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

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

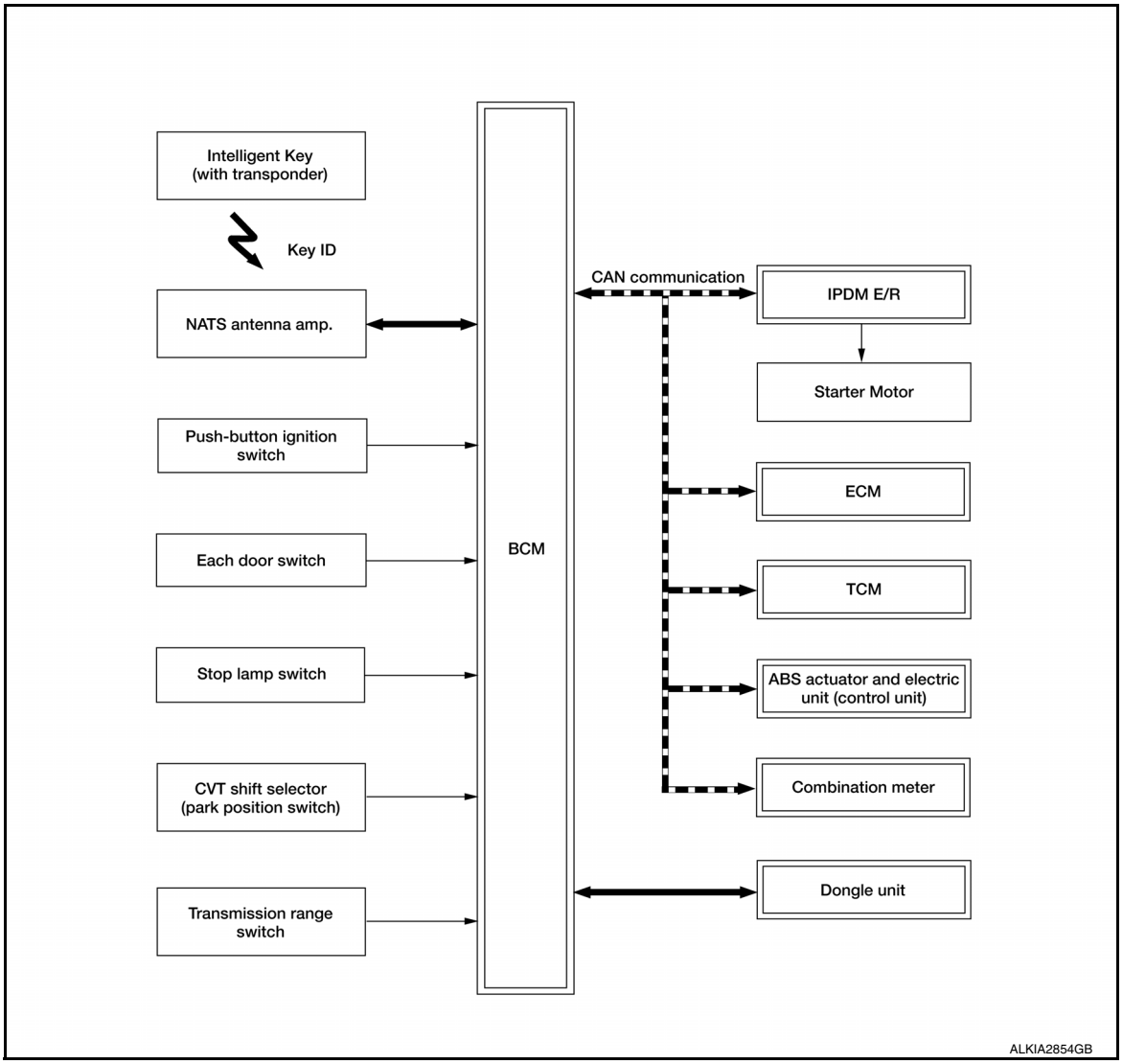
Emergency stop operation

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

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:0000000012549528




## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:0000000012549529

### SYSTEM DESCRIPTION

- The NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] prevents the engine from being started by Intelligent Key whose ID is not registered to the vehicle (BCM). It has higher protection against auto theft involving the duplication of mechanical keys.
- The ignition key integrated in the Intelligent Key cannot start the engine. When the Intelligent Key battery is discharged, the NVIS (NATS) ID verification is performed between the transponder integrated with Intelligent Key and BCM via NATS antenna amp. when the Intelligent Key backside is contacted to push-button ignition switch. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator lamp and apply the anti-theft system equipment sticker that warns that the NVIS (NATS) is on-board the model.
- Security indicator lamp always blinks when the power supply position is any position other than ON.
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.
- Specified registration is required when replacing ECM, BCM or Intelligent Key.
- For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions.
- Possible symptom of NVIS (NATS) malfunction is “Engine cannot start”. The engine can not be started because of other than NVIS (NATS) malfunction, so start the trouble diagnosis according to SEC-73, "Work Flow".

- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-508, "Removal and Installation" (USA and Canada) or EC-885, "Removal and Installation" (Mexico).

## PRECAUTIONS FOR KEY REGISTRATION

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

## SECURITY INDICATOR LAMP

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

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

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

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

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

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

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

**NOTE:**

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

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

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

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

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

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

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

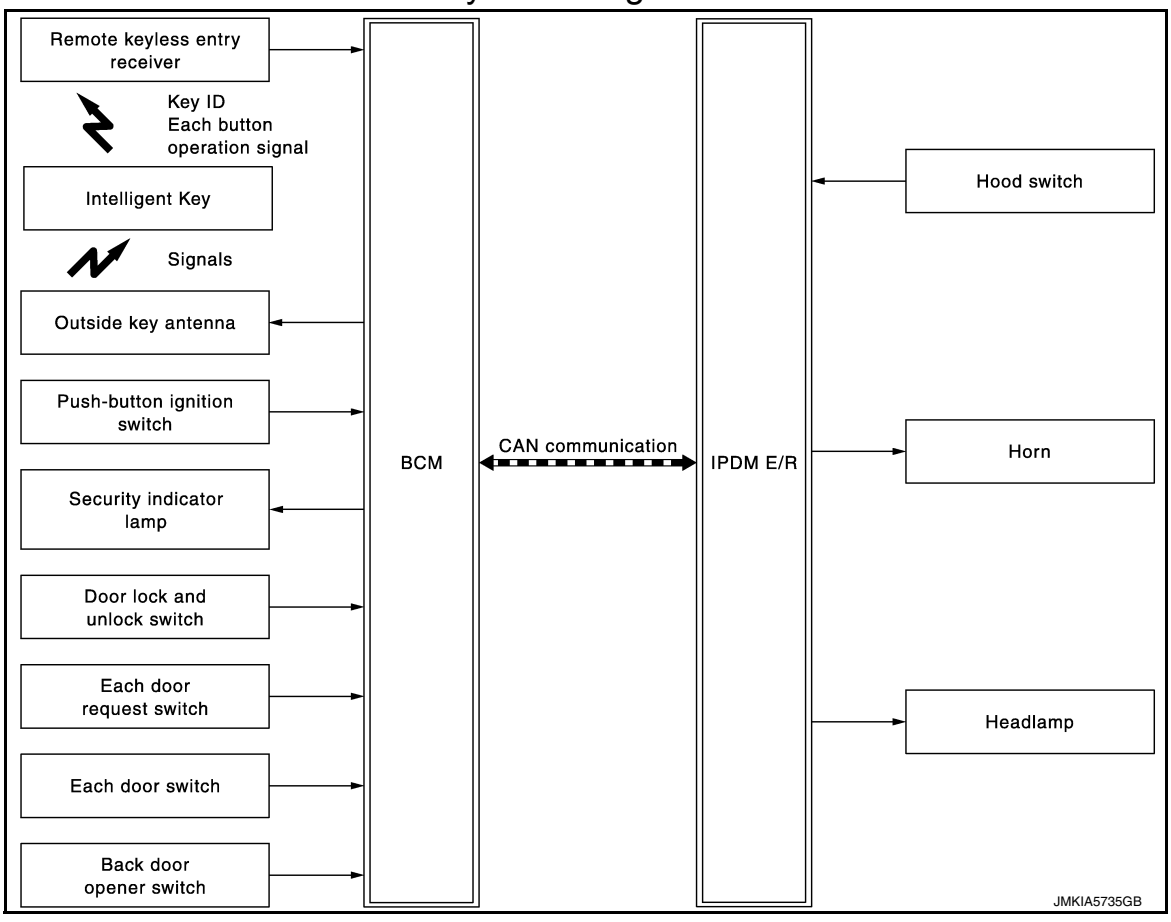
Emergency stop operation

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

# VEHICLE SECURITY SYSTEM

## VEHICLE SECURITY SYSTEM : System Diagram

INFOID:0000000012549530




## VEHICLE SECURITY SYSTEM : System Description

INFOID:0000000012549531

- 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.

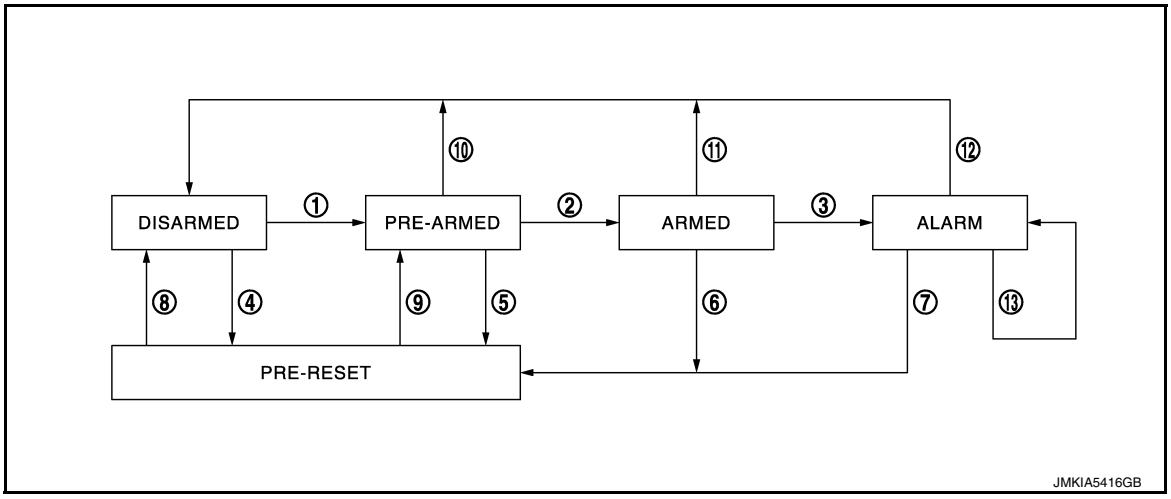
- The panic alarm does not start when the theft warning alarm is activating and the panic alarm stops when the theft warning alarm is activated.
  The priority of the functions are as per the following.

| 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 or hood is opened by unauthorized means while the system is in the ARMED state.
- Security indicator lamp on combination meter always blinks when power supply position is any position other than ON. Security indicator lamp blinking warns that the vehicle is equipped with a vehicle security system.

Operation Flow




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

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

**NOTE:**

- BCM ignores the door key cylinder UNLOCK switch signal input for 1 second after the door key cylinder LOCK switch signal input.
- To lock/unlock all doors by operating remote controller button of Intelligent Key or door request switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to DLK-21, "INTELLIGENT KEY SYSTEM : System Description".
- To open back door by operating back door opener switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to DLK-21, "INTELLIGENT KEY SYSTEM : System Description".

DISARMED Phase

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

When the vehicle security system is reset, each phase switches to the DISARMED phase directly.

PRE-ARMED Phase

The PRE-ARMED phase is the transient state between the DISARMED phase and the ARMED phase. This phase is maintained for 30 seconds so that the owner can reset the setting due to a mis-operation. This phase switches to the ARMED phase when vehicle conditions are not changed for 30 seconds. Security indicator lamp illuminates while being in this phase.

To reset the PRE-ARMED phase, refer to the switching condition of No. 10 in the table above.

ARMED Phase

The vehicle security system is set and BCM monitors all necessary inputs. If any door or hood is opened without using 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.

PRE-RESET Phase

The PRE-RESET phase is the transient state between each phase and DISARMED phase. If only the condition of hood is not satisfied, the system switches to the PRE-RESET phase. Then, when any condition is changed, the system switches to the DISARMED phase or PRE-ARMED phase.

## PANIC ALARM

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

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

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

INFOID:0000000012958283

**CAUTION:**
**After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.**

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

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

#### SYSTEM APPLICATION
BCM can perform the following functions.

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

| System | Sub System | Direct Diagnostic Mode | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | ECU Identification | Self Diagnostic Result | Data Monitor | Active Test | Work support | Configuration | CAN Diag Support Mntr |
| Signal buffer system | SIGNAL BUFFER | | | × | × | | | |
| TPMS | AIR PRESSURE MONITOR | | × | × | × | | | |

# INTELLIGENT KEY

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

INFOID:0000000012958284

**CAUTION:**

**After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.**

### SELF DIAGNOSTIC RESULT

Refer to BCS-52, "DTC Index".

### DATA MONITOR

| Monitor Item [Unit] | Main | Description |
|---|---|---|
| REQ SW -DR [On/Off] | × | Indicates condition of door request switch LH. |
| REQ SW -AS [On/Off] | × | Indicates condition of door request switch RH. |
| REQ SW -BD/TR [On/Off] | × | Indicates condition of back door request switch. |
| PUSH SW [On/Off] | | Indicates condition of push-button ignition switch. |
| SHFTLCK SLNID PWR SPLY [On/Off] | × | Indicates condition of power supply to shiftlock solenoid. |
| BRAKE SW 1 [On/Off] | × | Indicates condition of brake switch. |
| BRAKE SW 2 [On/Off] | | Indicates condition of brake switch. |
| DETE/CANCL SW [On/Off] | × | Indicates condition of P (park) position. |
| SFT PN/N SW [On/Off] | × | Indicates condition of P (park) or N (neutral) position. |
| UNLK SEN -DR [On/Off] | × | Indicates condition of door unlock sensor. |
| PUSH SW -IPDM [On/Off] | | Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line. |
| IGN RLY1 -F/B [On/Off] | | Indicates condition of ignition relay 1 received from IPDM E/R on CAN communication line. |
| DETE SW -IPDM [On/Off] | | Indicates condition of detent switch received from TCM on CAN communication line. |
| SFT PN -IPDM [On/Off] | | Indicates condition of P (park) or N (neutral) position from TCM on CAN communication line. |
| SFT P -MET [On/Off] | | Indicates condition of P (park) position from TCM on CAN communication line. |
| SFT N -MET [On/Off] | | Indicates condition of N (neutral) position from IPDM E/R on CAN communication line. |
| ENGINE STATE [STOP/START/CRANK/RUN] | × | Indicates condition of engine state from ECM on CAN communication line. |
| VEH SPEED 1 [mph/km/h] | × | Indicates condition of vehicle speed signal received from ABS on CAN communication line. |
| VEH SPEED 2 [mph/km/h] | × | Indicates condition of vehicle speed signal received from combination meter on CAN communication line. |

| Monitor Item [Unit] | Main | Description |
|---|---|---|
| DOOR STAT-DR [LOCK/READY/UNLK] | × | Indicates condition of driver side door status. |
| DOOR STAT-AS [LOCK/READY/UNLK] | × | Indicates condition of passenger side door status. |
| DOOR STAT-RR [LOCK/READY/UNLK] | × | Indicates condition of rear right side door status. |
| DOOR STAT-RL [LOCK/READY/UNLK] | × | Indicates condition of rear left side door status. |
| BK DOOR STATE [LOCK/READY/UNLK] | × | Indicates condition of back door status. |
| ID OK FLAG [Set/Reset] | | Indicates condition of Intelligent Key ID. |
| PRMT ENG STRT [Set/Reset] | | Indicates condition of engine start possibility. |
| PRMT RKE STRT [Set/Reset] | | Indicates condition of engine start possibility from Intelligent Key. |
| I-KEY OK FLAG [Key ON/Key OFF] | × | Indicates condition of Intelligent Key OK flag. |
| PRBT ENG STRT [Set/Reset] | | Indicates condition of engine start prohibit. |
| ID AUTHENT CANCEL TIMER [STOP] | | Indicates condition of Intelligent Key ID authentication. |
| ACC BATTERY SAVER [STOP] | | Indicates condition of battery saver. |
| CRNK PRBT TMR [On/Off] | | Indicates condition of crank prohibit timer. |
| AUT CRNK TMR [On/Off] | | Indicates condition of automatic engine crank timer from Intelligent Key. |
| CRNK PRBT TME [sec] | | Indicates condition of engine crank prohibit time. |
| AUT CRNK TMR [sec] | | Indicates condition of automatic engine crank time from Intelligent Key. |
| CRANKING TME [sec] | | Indicates condition of engine cranking time from Intelligent Key. |
| DETE SW PWR [On/Off] | | Indicates condition of detent switch voltage. |
| IGN RLY3 -REQ [On/Off] | | Indicates condition of front blower motor relay control request. |
| ACC RLY -REQ [On/Off] | | Indicates condition of accessory relay control request. |
| RKE OPE COUN1 [0-19] | × | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| RKE OPE COUN2 [0-19] | × | When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing. |
| RKE-LOCK [On/Off] | | Indicates condition of lock signal from Intelligent Key. |
| RKE-UNLOCK [On/Off] | | Indicates condition of unlock signal from Intelligent Key. |
| RKE-TR/BD [On/Off] | | Indicates condition of back door open signal from Intelligent Key. |
| RKE-PANIC [On/Off] | | Indicates condition of panic signal from Intelligent Key. |
| RKE-MODE CHG [On/Off] | | Indicates condition of mode change signal from Intelligent Key. |
| RKE PBD [On/Off] | | Indicates condition of power back door signal from Intelligent Key. |

## ACTIVE TEST

| Test Item | Description |
|---|---|
| INTELLIGENT KEY LINK (CAN) | This test is able to check Intelligent Key identification number [Off/ID No1/ID N02/ID No3/ID No4/ID No5]. |
| INT LAMP | 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]. |
| HORN | This test is able to check horn operation [On]. |
| BATTERY SAVER | This test is able to check battery saver operation [On/Off]. |
| TRUNK/BACK DOOR | This test is able to check back door actuator operation [Open]. |
| OUTSIDE BUZZER | This test is able to check Intelligent Key warning buzzer operation [On/Off]. |
| INSIDE BUZZER | This test is able to check combination meter warning chime operation [Take Out/Knob/Key/Off]. |
| INDICATOR | This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off]. |
| IGN CONT2 | This test is able to check ignition relay-2 control operation [On/Off]. |
| ENGINE SW ILLUMI | This test is able to check push-button ignition switch START indicator operation [On/Off]. |

| Test Item | Description |
|---|---|
| PUSH SWITCH INDICATOR | This test is able to check push-button ignition switch indicator operation [On/Off]. |
| ACC CONT | This test is able to check accessory relay control operation [On/Off]. |
| IGN CONT1 | This test is able to check ignition relay-1 control operation [On/Off]. |
| ST CONT LOW | This test is able to check starter control relay operation [On/Off]. |
| IGNITION RELAY | This test is able to check ignition relay operation [On/Off]. |
| REVERSE LAMP TEST | This test is able to check reverse lamp illumination operation [On/Off]. |
| DOOR HANDLE LAMP TEST | This test is able to check door handle lamp illumination operation [On/Off]. |
| TRUNK/LUGGAGE LAMP TEST | This test is able to check cargo lamp illumination operation [On/Off]. |
| KEYFOB P/W TEST | This test is able to check power window operation using the Intelligent Key [P/W up/down OFF/Send P/W down ON/Send P/W up ON]. |
| SHIFTLOCK SORENOID TEST | This test is able to check shift lock solenoid operation [On/Off]. |

## WORK SUPPORT

| Support Item | Setting | | Description |
|---|---|---|---|
| IGN/ACC BATTERY SAVER | On* | | Battery saver function ON. |
| | Off | | Battery saver function OFF. |
| REMOTE ENGINE STARTER | On* | | Remote engine start function ON. |
| | Off | | Remote engine start function OFF. |
| ANSWER BACK I-KEY LOCK UNLOCK | BUZZER* | | Buzzer reminder function by door lock/unlock request switch ON. |
| | HORN | | Horn chirp reminder function by door lock request switch ON. |
| | Off | | No reminder function by door lock/unlock request switch. |
| | INVALID | | This mode is not used. |
| ANSWERBACK KEYLESS LOCK UNLOCK | On* | | Buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key. |
| | Off | | No buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key. |
| WELCOME LIGHT OP SET | On* | | Door handle lamp function from request switch ON. |
| | Off | | Door handle lamp function from request switch OFF. |
| ANSWER BACK | On* | | Horn chirp reminder when doors are locked with Intelligent Key. |
| | Off | | No horn chirp reminder when doors are locked with Intelligent Key. |
| RETRACTABLE MIRROR SET | On | | Retractable mirror set ON. |
| | Off* | | Retractable mirror set OFF. |
| CONFIRM KEY FOB ID | — | | Intelligent Key ID code registration can be checked. |
| LOCK/UNLOCK BY I-KEY | On* | | Door lock/unlock function from Intelligent Key ON. |
| | Off | | Door lock/unlock function from Intelligent Key OFF. |
| ENGINE START BY I-KEY | On* | | Engine start function from Intelligent Key ON. |
| | Off | | Engine start function from Intelligent Key OFF. |
| TRUNK/GLASS HATCH OPEN | On* | | Buzzer reminder function by back door request switch ON. |
| | Off | | Buzzer reminder function by back door request switch OFF. |
| INTELLIGENT KEY LINK SET | On | | Intelligent Key link set ON. |
| | Off* | | Intelligent Key link set OFF. |
| SHORT CRANKING OUTPUT | Start | 70 msec | Starter motor operation duration times. |
| | | 100 msec | |
| | | 200 msec | |
| | End | | — |

| Support Item | Setting | | Description |
|---|---|---|---|
| INSIDE ANT DIAGNOSIS | — | | This function allows inside key antenna self-diagnosis. |
| AUTO LOCK SET | MODE7 | 5 min | Auto door lock time can be set in this mode. |
| | MODE6 | 4 min | |
| | MODE5 | 3 min | |
| | MODE4 | 2 min | |
| | MODE3* | 1 min | |
| | MODE2 | 30 sec | |
| | MODE1 | Off | |

*: Initial Setting

## THEFT ALM

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

INFOID:0000000012958285

**CAUTION:**

**After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.**

### DATA MONITOR

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

### ACTIVE TEST

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

### WORK SUPPORT

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

## IMMU

### IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000012958286

**CAUTION:**
**After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.**

SELF DIAGNOSTIC RESULT

Refer to BCS-52, "DTC Index".

DATA MONITOR

| Monitor Item [Unit] | Description |
|---|---|
| CONFRM ID ALL [Yet/DONE] | Switches to DONE when an Intelligent Key is registered. |
| CONFIRM ID4 [Yet/DONE] | |
| CONFIRM ID3 [Yet/DONE] | |
| CONFIRM ID2 [Yet/DONE] | |
| CONFIRM ID1 [Yet/DONE] | |
| TP 4 [Yet/DONE] | DONE indicates the number of Intelligent Key ID which has been registered. |
| TP 3 [Yet/DONE] | |
| TP 2 [Yet/DONE] | |
| TP 1 [Yet/DONE] | |
| NOT REGISTERED | Indicates [ID OK] when key ID that is registered is received or is not yet received.<br>Indicates [ID NG] when key ID that is not registered is received. |
| 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]. |

# DIAGNOSIS SYSTEM (IPDM E/R)

## CONSULT Function (IPDM E/R)

INFOID:0000000012958287

**CAUTION:**
**After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.**

### APPLICATION ITEM

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

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

### ECU IDENTIFICATION

The IPDM E/R part number is displayed.

### SELF DIAGNOSTIC RESULT

Refer to PCS-20, "DTC Index".

### DATA MONITOR

| Monitor Item [Unit] | Main Signals | Description |
|---|---|---|
| RAD 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 |

| Monitor Item [Unit] | Main Signals | Description |
|---|---|---|
| ST/INHI RLY [Off/ ST /INHI] | | Indicates condition of starter relay and starter control relay |
| DETENT SW [On/Off] | | Indicates condition of CVT shift selector (park position switch) |
| DTRL REQ [Off] | | Indicates daytime light request signal received from BCM on CAN communication line |
| HOOD SW [On/Off] | | Indicates condition of hood switch |
| 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 |
| HOOD SW 2 [On/Off] | | Indicates condition of hood switch |

## ACTIVE TEST

| Test item | Description |
|---|---|
| HORN | This test is able to check horn operation [On]. |
| FRONT WIPER | This test is able to check wiper motor operation [Hi/Lo/Off]. |
| MOTOR FAN | This test is able to check cooling fan operation [4/3/2/1]. |
| EXTERNAL LAMPS | This test is able to check external lamp operation [Fog/Hi/Lo/Tail/Off]. |

## CAN DIAG SUPPORT MNTR

Refer to LAN-18, "CAN Diagnostic Support Monitor".

# ECU DIAGNOSIS INFORMATION

## ECM, IPDM E/R, BCM

### List of ECU Reference

INFOID:0000000012549537

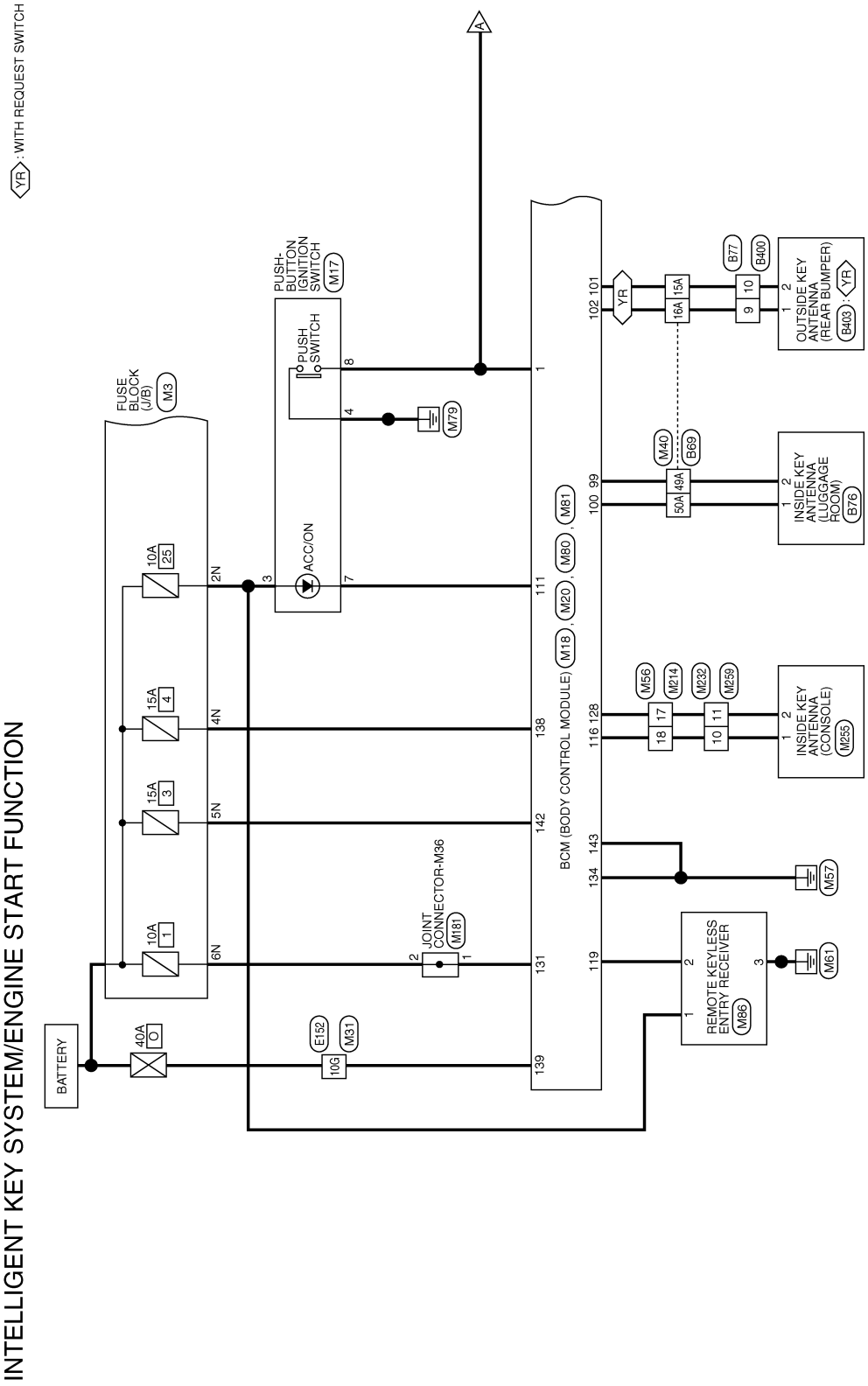
| ECU | | Reference |
|---|---|---|
| ECM (USA and Canada) | Reference Value | EC-84, "Reference Value" |
| | Fail-safe | EC-100, "Fail-safe" |
| | DTC Inspection Priority Chart | EC-102, "DTC Inspection Priority Chart" |
| | DTC Index | EC-104, "DTC Index" |
| ECM (Mexico) | Reference Value | EC-575, "Reference Value" |
| | Fail-safe | EC-589, "Fail-safe" |
| | DTC Inspection Priority Chart | EC-590, "DTC Inspection Priority Chart" |
| | DTC Index | EC-592, "DTC Index" |
| IPDM E/R | Reference Value | PCS-12, "Reference Value" |
| | Fail-safe | PCS-19, "Fail Safe" |
| | DTC Index | PCS-20, "DTC Index" |
| BCM | Reference Value | BCS-31, "Reference Value" |
| | Fail-safe | BCS-50, "Fail Safe" |
| | DTC Inspection Priority Chart | BCS-51, "DTC Inspection Priority Chart" |
| | DTC Index | BCS-52, "DTC Index" |

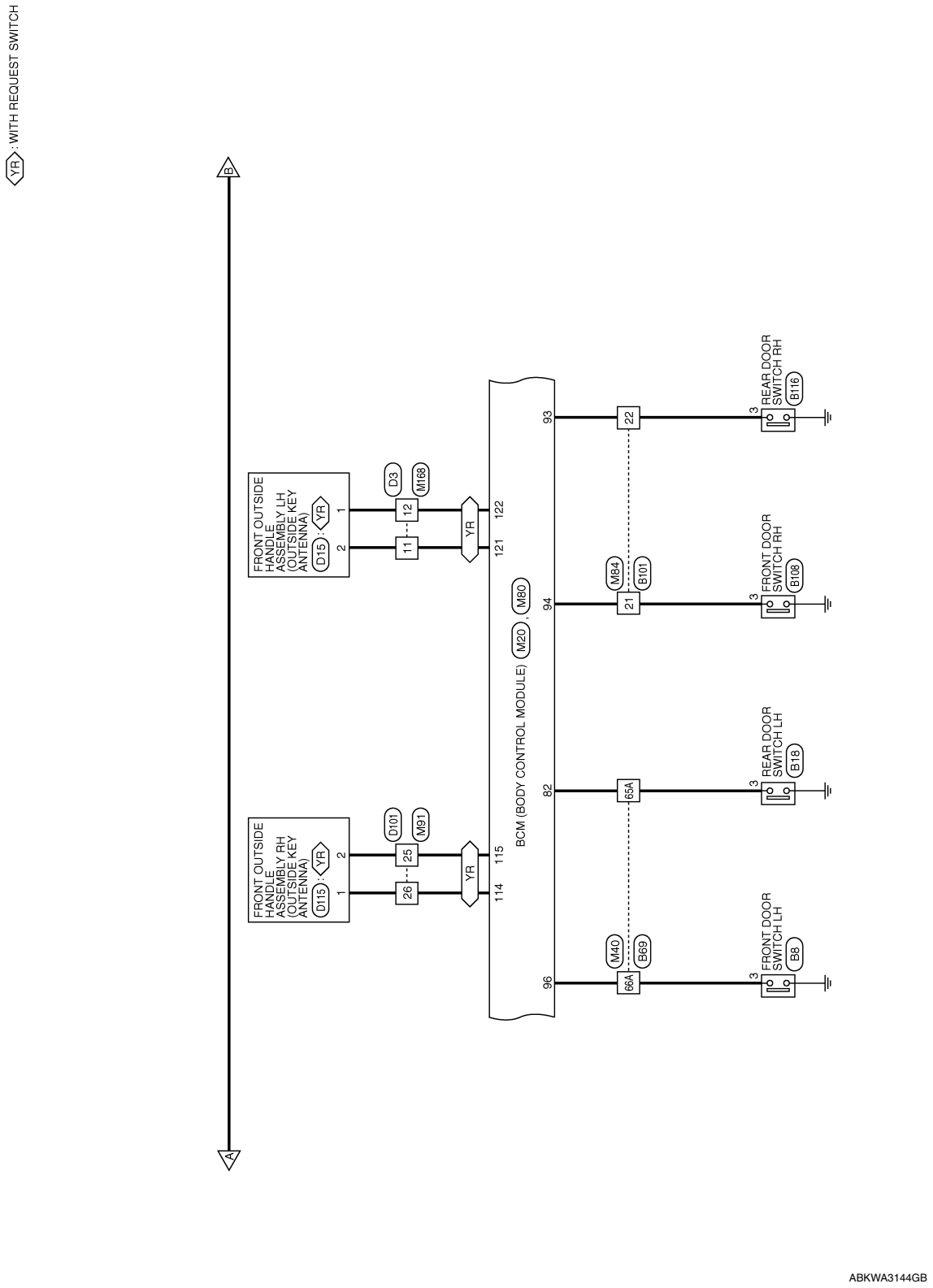
# WIRING DIAGRAM

## ENGINE START FUNCTION

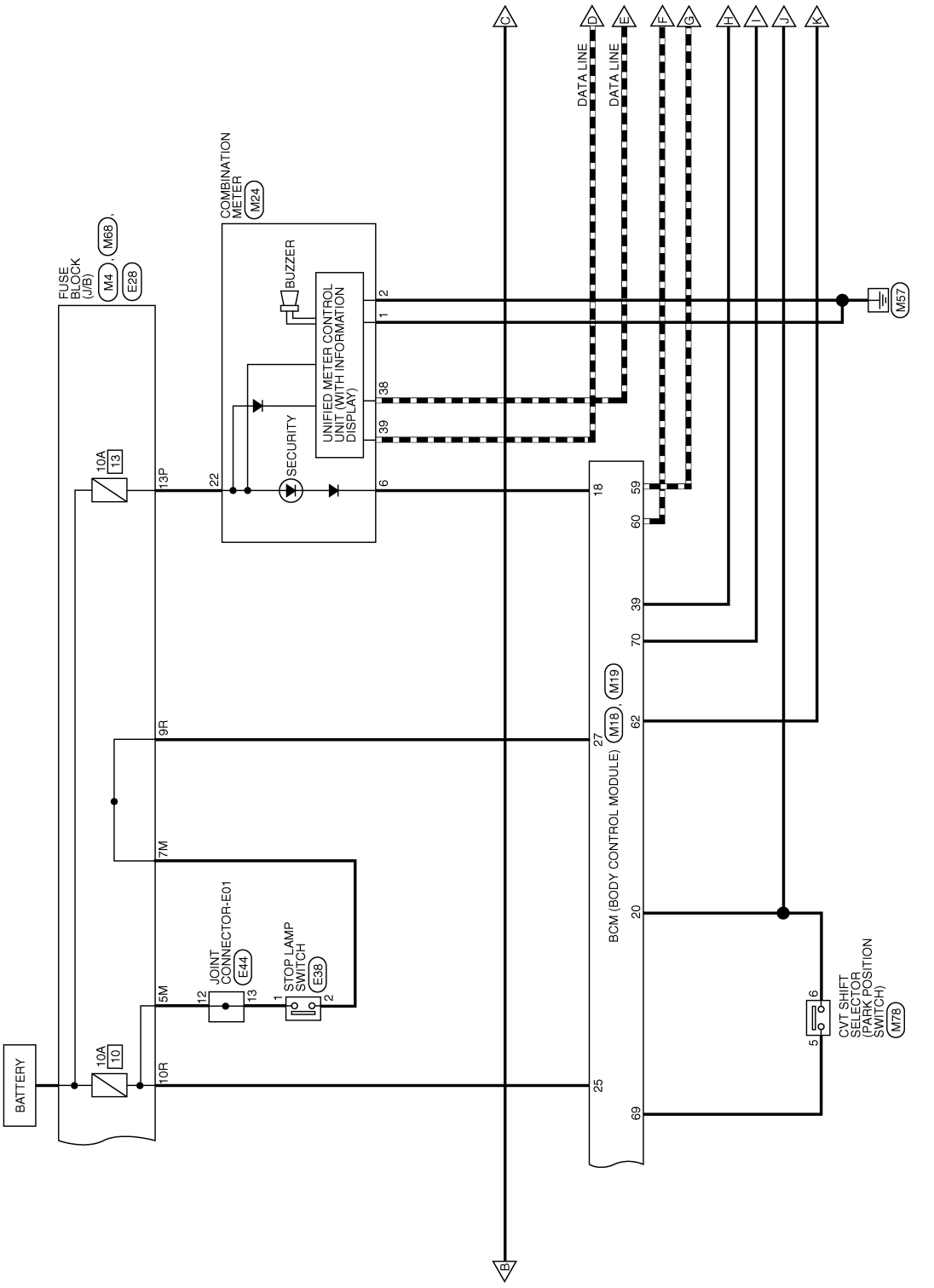
### Wiring Diagram

INFOID:0000000012549538

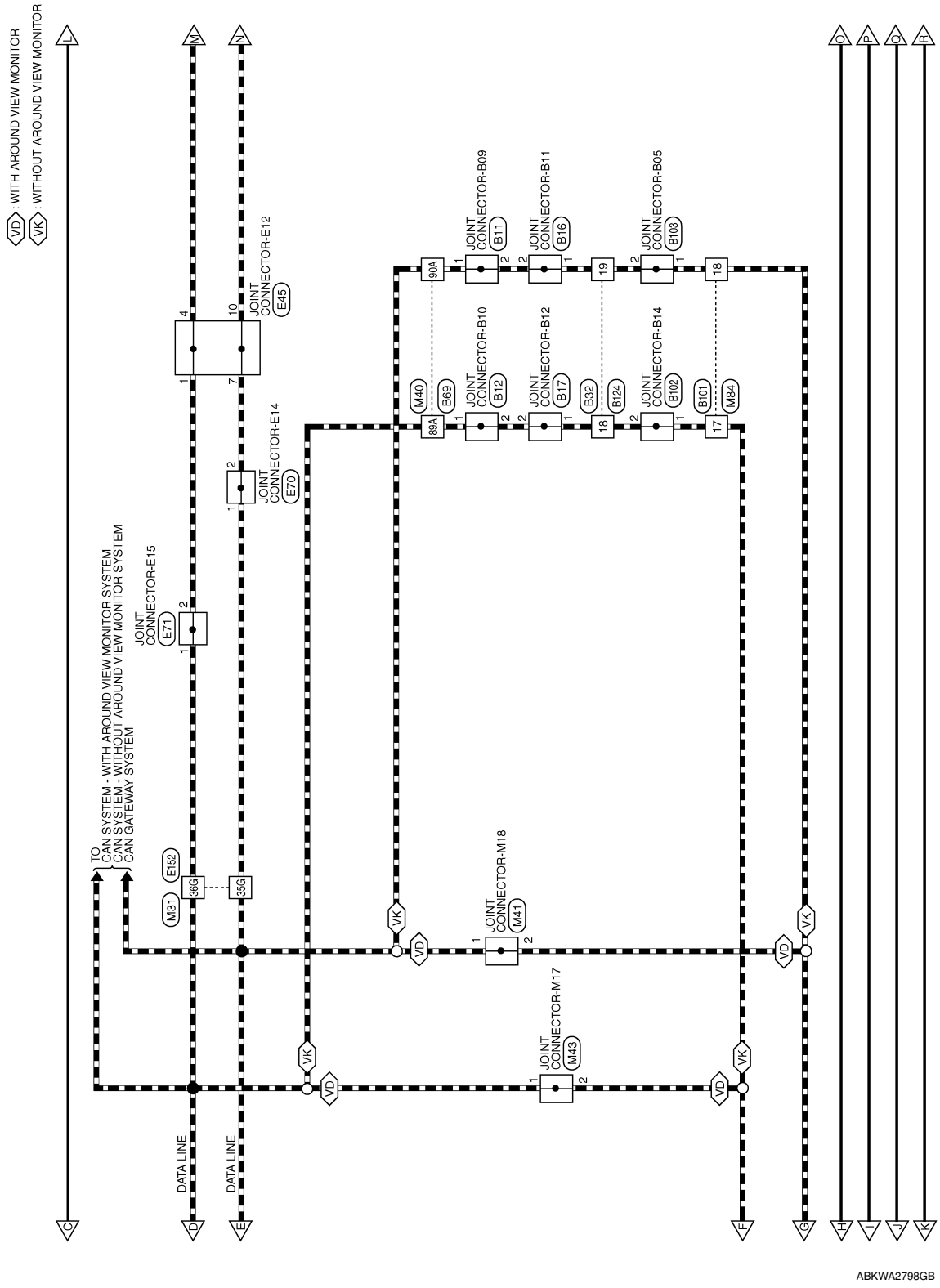


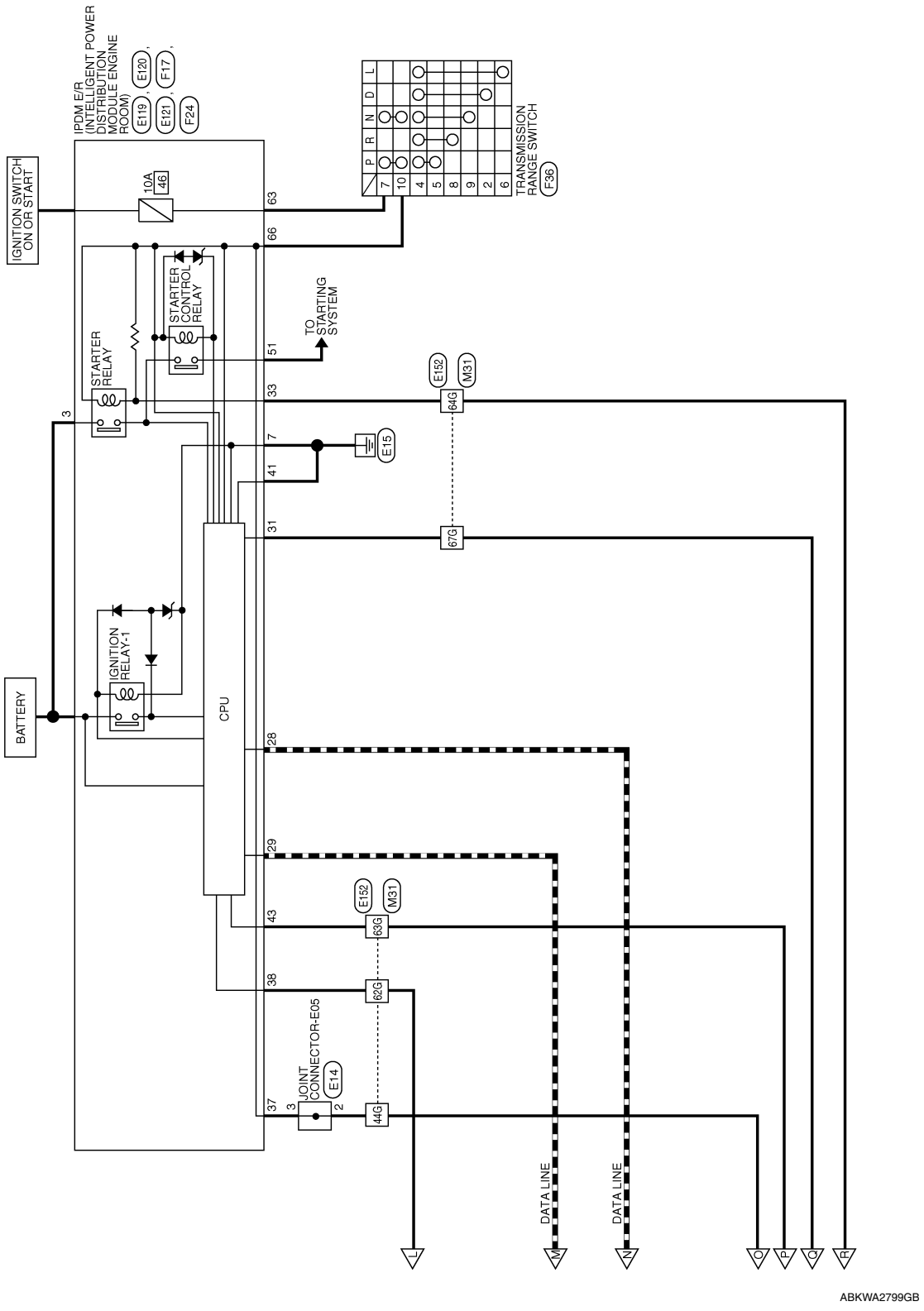



ABKWA3144GB



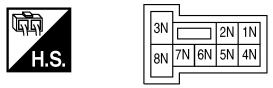

ABKWA3145GB


VD : WITH AROUND VIEW MONITOR
VK : WITHOUT AROUND VIEW MONITOR
JOINT CONNECTOR-E12
JOINT CONNECTOR-E45
JOINT CONNECTOR-E14
JOINT CONNECTOR-E70
JOINT CONNECTOR-E15
JOINT CONNECTOR-E71
JOINT CONNECTOR-B09
JOINT CONNECTOR-B11
JOINT CONNECTOR-B05
JOINT CONNECTOR-B10
JOINT CONNECTOR-B12
JOINT CONNECTOR-B14
JOINT CONNECTOR-M18
JOINT CONNECTOR-M17
TO CAN SYSTEM - WITH AROUND VIEW MONITOR SYSTEM
CAN SYSTEM - WITHOUT AROUND VIEW MONITOR SYSTEM
CAN GATEWAY SYSTEM
DATA LINE
DATA LINE
ABKWA2798GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E120
F17
E119
E121
F24
IGNITION SWITCH ON OR START
10A 46
63
66
TRANSMISSION RANGE SWITCH
F36
P R N D L
7 10 4 5 8 9 2 6
STARTER CONTROL RELAY
TO STARTING SYSTEM
STARTER RELAY
51
33
3
E152
M31
64G
7
E15
41
31
67G
IGNITION RELAY-1
BATTERY
CPU
28
29
E152
M31
43
63G
38
62G
JOINT CONNECTOR-E05
E14
37
3
2
44G
DATA LINE
DATA LINE
L
M
N
O
P
Q
R
ABKWA2799GB

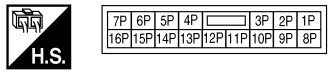
## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

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




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 2N | BG | – |
| 4N | V | – |
| 5N | Y | – |
| 6N | W | – |

| Connector No. | M4 |
|---|---|
| Connector Name | FUSE BLOCK (J/B) |
| Connector Color | WHITE |

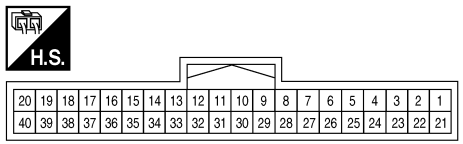



| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 13P | W | – |

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

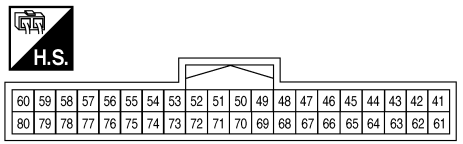

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | BG | – |
| 4 | B | – |
| 7 | P | – |
| 8 | G | – |

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



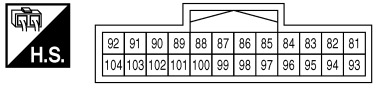

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | G | ENG START SW |
| 18 | V | SECURITY INDICATOR |
| 20 | W | SHIFT P |
| 25 | W | BRAKE SW FUSE |
| 27 | G | BRAKE SW LAMP |
| 39 | G | SHIFT N/P |

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




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 59 | P | CAN-L |
| 60 | L | CAN-H |
| 62 | W | STARTER RELAY OUT |
| 69 | G | AT DEVICE OUT |
| 70 | P | IGN USM OUT 1 |

| Connector No. | M20 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | GRAY |




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 82 | W | RL DOOR SW |
| 93 | R | RR DOOR SW |
| 94 | G | AS DOOR SW |
| 96 | BG | DR DOOR SW |
| 99 | P | ROOM ANT 3 B |
| 100 | W | ROOM ANT 3 A |
| 101 | R | REAR BUMPER ANT B |
| 102 | G | REAR BUMPER ANT A |

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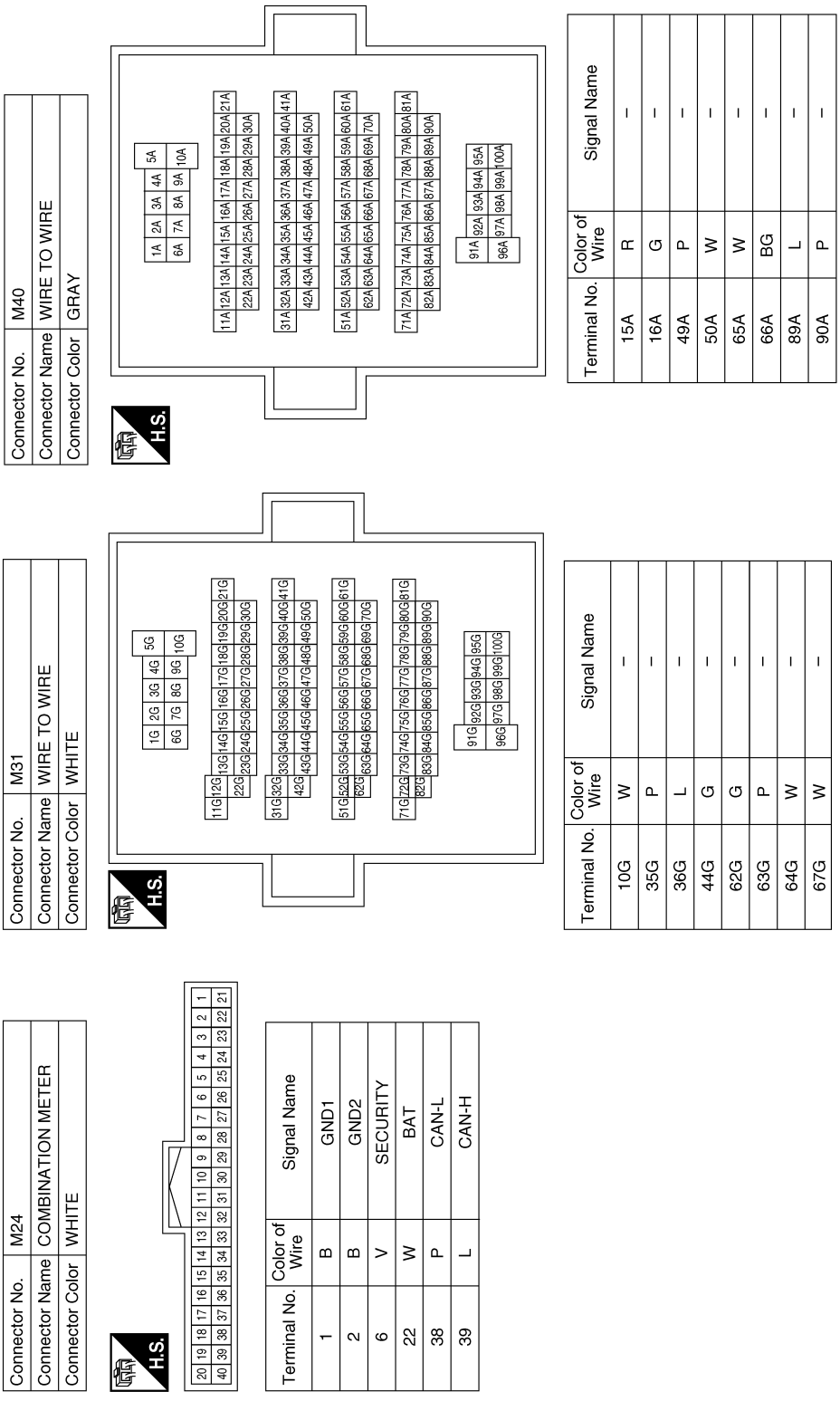


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| Connector No. | M41 |
|---|---|
| Connector Name | JOINT CONNECTOR-M18 |
| Connector Color | WHITE |

H.S.

| 4 | 3 | 2 | 1 |
|---|---|---|---|

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

| Connector No. | M43 |
|---|---|
| Connector Name | JOINT CONNECTOR-M17 |
| Connector Color | WHITE |

H.S.

| 4 | 3 | 2 | 1 |
|---|---|---|---|

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

| Connector No. | M56 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 17 | R | – |
| 18 | W | – |

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 9R | G | – |
| 10R | W | – |

| Connector No. | M78 |
|---|---|
| Connector Name | CVT SHIFT SELECTOR |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 5 | G | – |
| 6 | W | – |

| Connector No. | M80 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK |

H.S.

| 116 | 115 | 114 | 113 | 112 | 111 | 110 | 109 | 108 | 107 | 106 | 105 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 128 | 127 | 126 | 125 | 124 | 123 | 122 | 121 | 120 | 119 | 118 | 117 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 111 | P | ACC LED |
| 114 | W | AS DOOR ANT A |
| 115 | BG | AS DOOR ANT B |
| 116 | W | ROOM ANT A |
| 119 | R | RF NIMOCO |
| 121 | G | DR DOOR ANT B |
| 122 | P | DR DOOR ANT A |
| 128 | R | ROOM ANT B |

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| Connector No. | M81 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | WHITE |

H.S.

| 137 | 136 | 135 | 134 | 133 | 132 | 131 | 130 | 129 |
|---|---|---|---|---|---|---|---|---|
| 143 | 142 | 141 | 140 | 139 | 138 | | | |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 131 | W | BAT BCM FUSE |
| 134 | B | GND 2 |
| 138 | V | BAT REAR DOOR |
| 139 | W | BAT POWER F/L |
| 142 | Y | BAT FRONT DOOR |
| 143 | B | GND 1 |

| Connector No. | M84 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 17 | L | – |
| 18 | P | – |
| 21 | G | – |
| 22 | R | – |

| Connector No. | M86 |
|---|---|
| Connector Name | REMOTE KEYLESS ENTRY RECEIVER |
| Connector Color | BLACK |

H.S.

| 1 | 2 | 3 | 4 |
|---|---|---|---|

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | BG | – |
| 2 | R | – |
| 3 | GR | – |

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 25 | BG | – |
| 26 | W | – |

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

H.S.

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

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

| Connector No. | M181 |
|---|---|
| Connector Name | JOINT CONNECTOR-M36 |
| Connector Color | WHITE |

H.S.

| 4 | 3 | 2 | 1 |
|---|---|---|---|

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

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| Connector No. | M214 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 17 | B | – |
| 18 | W | – |

| Connector No. | M232 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 10 | W | – |
| 11 | B | – |

| Connector No. | M255 |
|---|---|
| Connector Name | INSIDE KEY ANTENNA (CONSOLE) |
| Connector Color | GRAY |

H.S.

| 1 | 2 |
|---|---|

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

| Connector No. | M259 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 10 | W | – |
| 11 | B | – |

| Connector No. | E14 |
|---|---|
| Connector Name | JOINT CONNECTOR-E05 |
| Connector Color | BLACK |

H.S.

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

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

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 5M | Y | – |
| 7M | R | – |

ABKIA7230GB

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

H.S.

| 3 | 4 |
|---|---|
| 1 | 2 |

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

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 12 | Y | – |
| 13 | Y | – |

| Connector No. | E45 |
|---|---|
| Connector Name | JOINT CONNECTOR-E12 |
| Connector Color | BLUE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | L | – |
| 4 | L | – |
| 7 | P | – |
| 10 | P | – |

| Connector No. | E70 |
|---|---|
| Connector Name | JOINT CONNECTOR-E14 |
| Connector Color | BLACK |

H.S.

| 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|

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

| Connector No. | E71 |
|---|---|
| Connector Name | JOINT CONNECTOR-E15 |
| Connector Color | BLACK |

H.S.

| 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|

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

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

H.S.

| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 28 | P | CAN-L |
| 29 | L | CAN-H |
| 31 | BG | DETENT SW |
| 33 | R | START CONT |
| 37 | W | CLUTCH I/L SW |
| 38 | P | PUSH START SW |
| 41 | B | GND (SIGNAL) |
| 43 | L | IGN SIGNAL |

ABKIA7231GB

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

H.S.

| 3 | 4 |
|---|---|
| 5 | 6 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | G | F/L IGNSW |

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

H.S.

| 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 7 | B | GND (POWER) |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 10G | P | – |
| 35G | P | – |
| 36G | L | – |
| 44G | W | – |
| 62G | P | – |
| 63G | L | – |
| 64G | R | – |
| 67G | BG | – |

| Connector No. | F17 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK |

H.S.

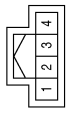
| 51 |
|---|

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 51 | W | STARTER MOTOR |

ABKIA7232GB

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | L | – |

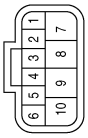
| Connector No. | B16 |
|---|---|
| Connector Name | JOINT CONNECTOR-B11 |
| Connector Color | WHITE |

H.S.


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

| Connector No. | F36 |
|---|---|
| Connector Name | TRANSMISSION RANGE SWITCH |
| Connector Color | BLACK |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 7 | L | – |
| 10 | G | – |

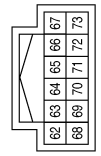
| Connector No. | B12 |
|---|---|
| Connector Name | JOINT CONNECTOR-B10 |
| Connector Color | WHITE |

H.S.


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

| Connector No. | F24 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 63 | L | INHIBIT SW |
| 66 | G | NP SW |

| Connector No. | B11 |
|---|---|
| Connector Name | JOINT CONNECTOR-B09 |
| Connector Color | WHITE |

H.S.


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

ABKIA7233GB

| Connector No. | B17 |
|---|---|
| Connector Name | JOINT CONNECTOR-B12 |
| Connector Color | WHITE |

H.S.

| 4 | 3 | 2 | 1 | |
|---|---|---|---|---|

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

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

H.S.

| 1 | 2 | 3 | 4 |
|---|---|---|---|

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

| Connector No. | B32 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 18 | L | – |
| 19 | P | – |

| Connector No. | B69 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | GRAY |

H.S.

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

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

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

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

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

| 95A | 94A | 93A | 92A | 91A |
|---|---|---|---|---|
| 100A | 99A | 98A | 97A | 96A |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 15A | G | – |
| 16A | W | – |
| 49A | G | – |
| 50A | W | – |
| 65A | SB | – |
| 66A | L | – |
| 89A | L | – |
| 90A | P | – |

| Connector No. | B76 |
|---|---|
| Connector Name | INSIDE KEY ANTENNA (LUGGAGE ROOM) |
| Connector Color | GRAY |

H.S.

| 1 | 2 |
|---|---|

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

ABKIA7234GB

| Connector No. | B77 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 9 | W | – |
| 10 | G | – |

| Connector No. | B101 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 17 | L | – |
| 18 | P | – |
| 21 | LG | – |
| 22 | LG | – |

| Connector No. | B102 |
|---|---|
| Connector Name | JOINT CONNECTOR-B14 |
| Connector Color | WHITE |

H.S.

| D | 4 | 3 | 2 | 1 | D |
|---|---|---|---|---|---|

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

| Connector No. | B103 |
|---|---|
| Connector Name | JOINT CONNECTOR-B05 |
| Connector Color | WHITE |

H.S.

| D | 4 | 3 | 2 | 1 | D |
|---|---|---|---|---|---|

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

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

H.S.

| 1 | 2 | 3 | 4 |
|---|---|---|---|

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | LG | – |

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

H.S.

| 1 | 2 | 3 | 4 |
|---|---|---|---|

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | LG | – |

ABKIA7235GB

| Connector No. | B403 |
|---|---|
| Connector Name | OUTSIDE KEY ANTENNA (REAR BUMPER) |
| Connector Color | GRAY |

H.S.




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

| Connector No. | B400 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 9 | W | – |
| 10 | G | – |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 25 | Y | – |
| 26 | LG | – |

| Connector No. | B124 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 18 | L | – |
| 19 | P | – |

| Connector No. | D15 |
|---|---|
| Connector Name | FRONT OUTSIDE HANDLE ASSEMBLY LH |
| Connector Color | BLACK |

H.S.




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

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 11 | Y | – |
| 12 | LG | – |

ABKIA7236GB

| Connector No. | D115 |
|---|---|
| Connector Name | FRONT OUTSIDE HANDLE ASSEMBLY RH |
| Connector Color | BLACK |

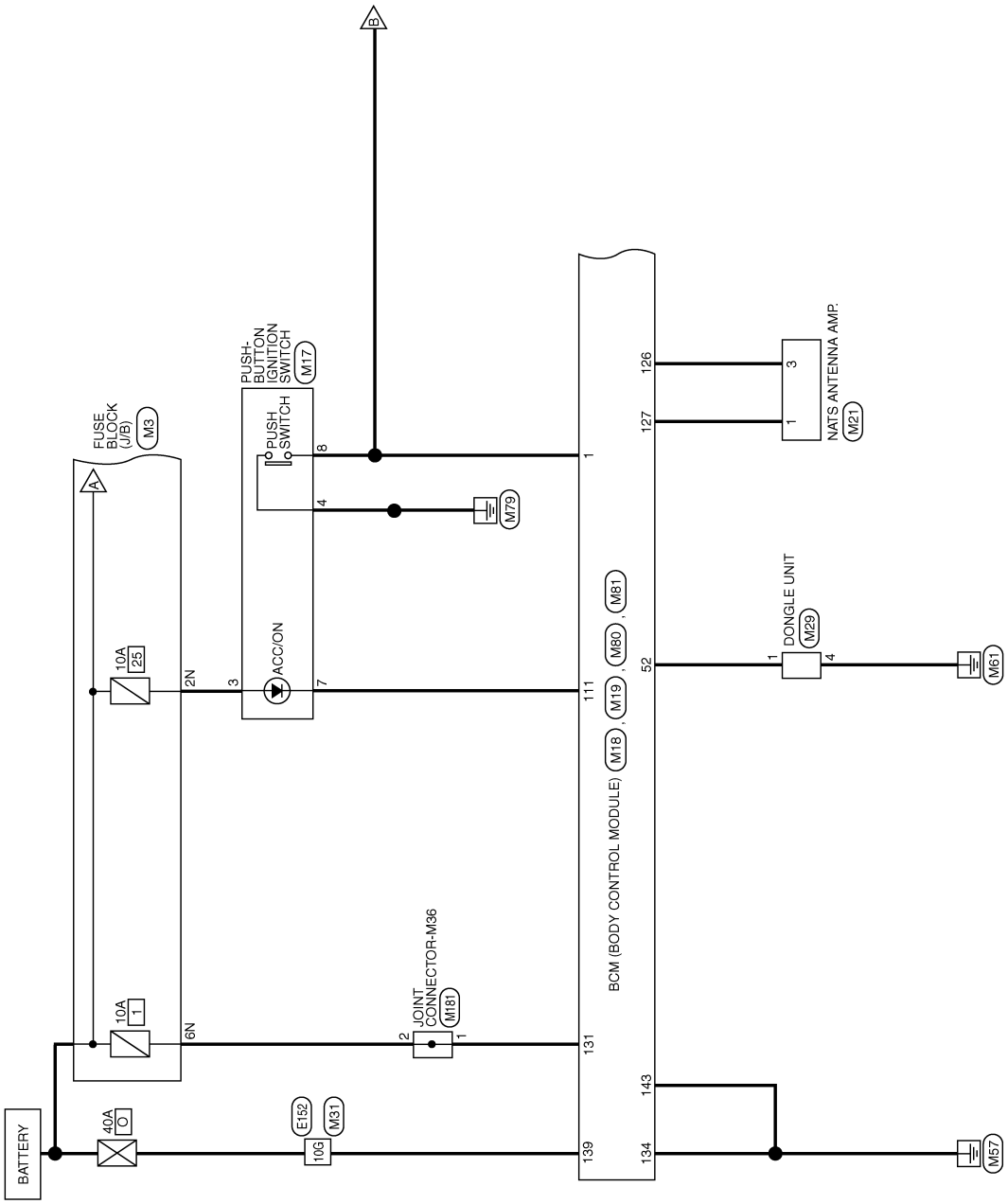

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | LG | – |
| 2 | Y | – |

ABKIA7237GB

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

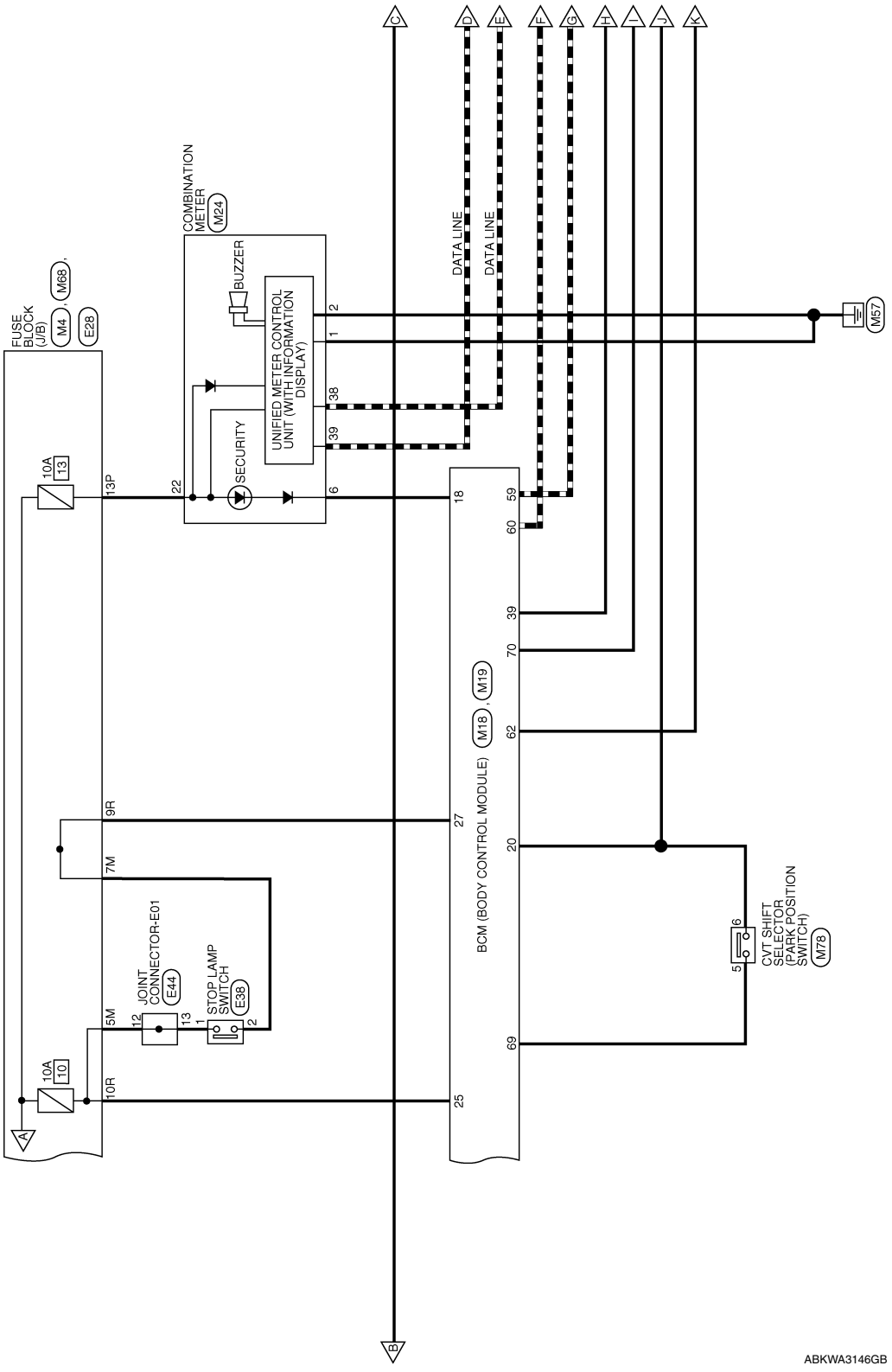
## Wiring Diagram

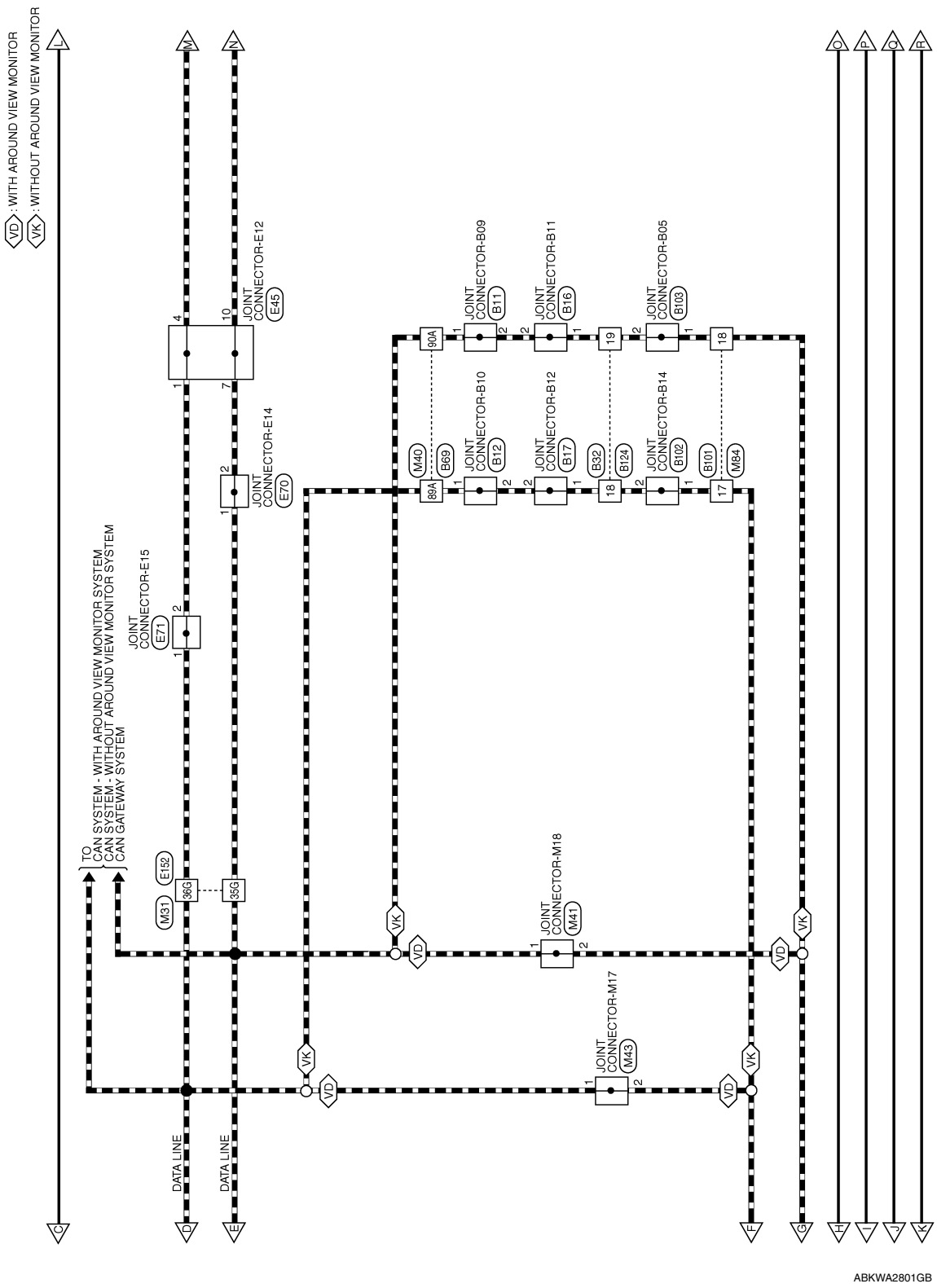
INFOID:0000000012549539



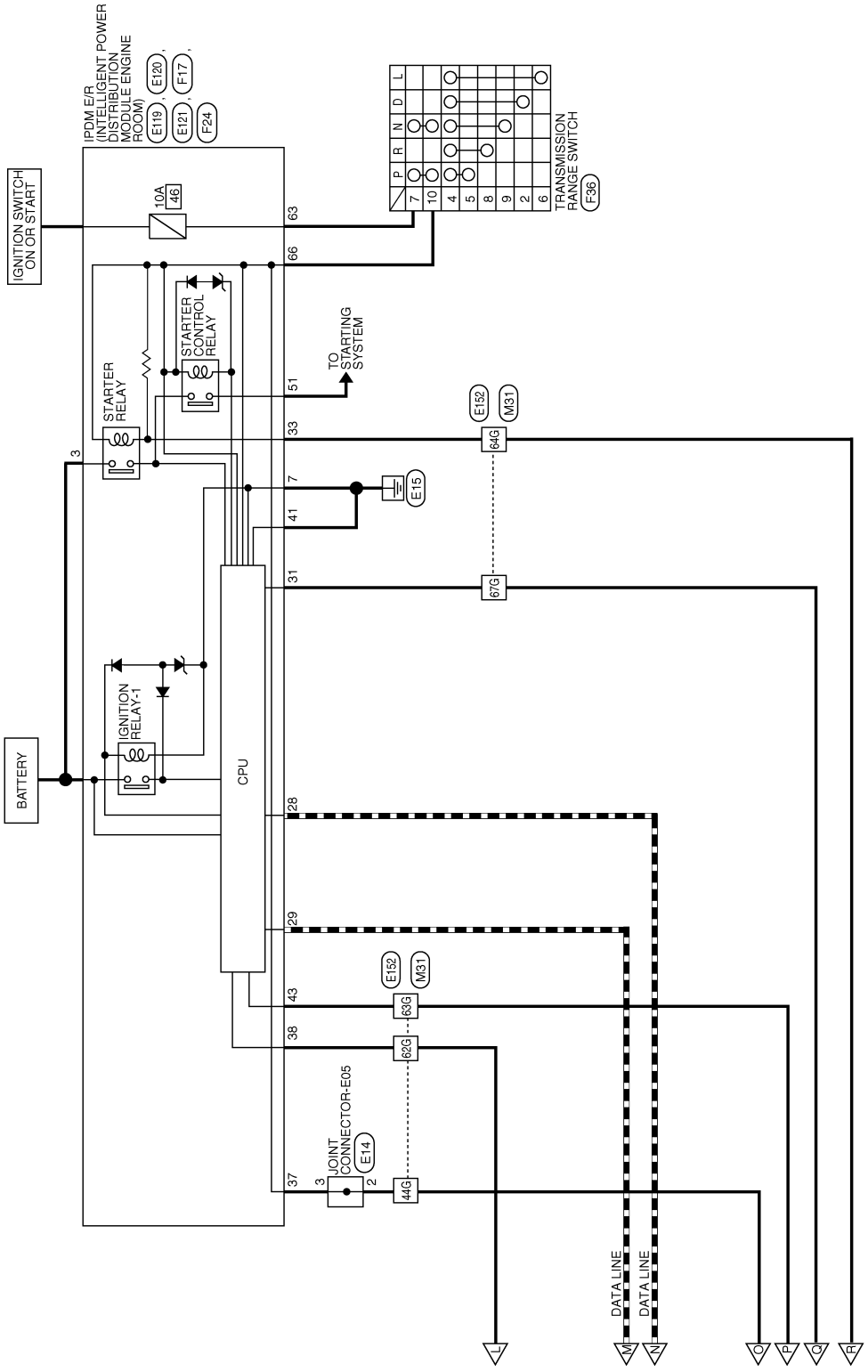

NVIS

ABKWA2800GB


C
D
E
F
G
H
I
J
K
DATA LINE
DATA LINE
COMBINATION METER (M24)
BUZZER
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
SECURITY
2
1
38
39
6
22
FUSE BLOCK (J/B) (M4, M68, E28)
10A 13
13P
10A 10
10R
9R
7M
5M
JOINT CONNECTOR-E01 (E44)
12
13
STOP LAMP SWITCH (E38)
1
2
A
B
M57
BCM (BODY CONTROL MODULE) (M18, M19)
18
59
60
39
70
62
27
20
69
25
CVT SHIFT SELECTOR (PARK POSITION SWITCH) (M78)
6
5
ABKWA3146GB




ABKWA2801GB




ABKWA2802GB

## NVIS CONNECTORS

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 2N | BG | – |
| 6N | W | – |

| Connector No. | M4 |
|---|---|
| Connector Name | FUSE BLOCK (J/B) |
| Connector Color | WHITE |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 13P | W | – |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | BG | – |
| 4 | B | – |
| 7 | P | – |
| 8 | G | – |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | G | ENG START SW |
| 18 | V | SECURITY INDICATOR |
| 20 | W | SHIFT P |
| 25 | W | BRAKE SW FUSE |
| 27 | G | BRAKE SW LAMP |
| 39 | G | SHIFT N/P |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 52 | W | AUDIO DONGLE |
| 59 | P | CAN-L |
| 60 | L | CAN-H |
| 62 | W | STARTER RELAY OUT |
| 69 | G | AT DEVICE OUT |
| 70 | P | IGN USM OUT 1 |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | BG | – |
| 3 | P | |

ABKIA6388GB

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

H.S.

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

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

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

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

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

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 10G | W | – |
| 35G | P | – |
| 36G | L | – |
| 44G | G | – |
| 62G | G | – |
| 63G | P | – |
| 64G | W | – |
| 67G | W | – |

| Connector No. | M29 |
|---|---|
| Connector Name | DONGLE UNIT |
| Connector Color | WHITE |

H.S.

| 1 | 2 | 3 | 4 |
|---|---|---|---|

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

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | B | GND1 |
| 2 | B | GND2 |
| 6 | V | SECURITY |
| 22 | W | BAT |
| 38 | P | CAN-L |
| 39 | L | CAN-H |

ABKIA6389GB

| Connector No. | M41 |
|---|---|
| Connector Name | JOINT CONNECTOR-M18 |
| Connector Color | WHITE |

H.S.

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

| Connector No. | M78 |
|---|---|
| Connector Name | CVT SHIFT SELECTOR |
| Connector Color | WHITE |

H.S.

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 5 | G | – |
| 6 | W | – |

| Connector No. | M40 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | GRAY |

H.S.

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 89A | L | – |
| 90A | P | – |

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

H.S.

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 9R | G | – |
| 10R | W | – |

| Connector No. | M43 |
|---|---|
| Connector Name | JOINT CONNECTOR-M17 |
| Connector Color | WHITE |

H.S.

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

ABKIA4736GB

| Connector No. | M84 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 17 | L | – |
| 18 | P | – |

| Connector No. | M81 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | WHITE |

H.S.

| 137 | 136 | 135 | 134 | 133 | 132 | 131 | 130 | 129 |
|---|---|---|---|---|---|---|---|---|
| 143 | 142 | 141 | 140 | 139 | 138 | | | |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 131 | W | BAT BCM FUSE |
| 134 | B | GND 2 |
| 139 | W | BAT POWER F/L |
| 143 | B | GND 1 |

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 5M | Y | – |
| 7M | R | – |

| Connector No. | M80 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK |

H.S.

| 116 | 115 | 114 | 113 | 112 | 111 | 110 | 109 | 108 | 107 | 106 | 105 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 128 | 127 | 126 | 125 | 124 | 123 | 122 | 121 | 120 | 119 | 118 | 117 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 111 | P | ACC LED |
| 126 | P | IMMO START BUTTON ANT B |
| 127 | BG | IMMO START BUTTON ANT A |

| Connector No. | E14 |
|---|---|
| Connector Name | JOINT CONNECTOR-E05 |
| Connector Color | BLACK |

H.S.

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

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

| Connector No. | M181 |
|---|---|
| Connector Name | JOINT CONNECTOR-M36 |
| Connector Color | WHITE |

H.S.

| 4 | 3 | 2 | 1 |
|---|---|---|---|

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

AAKIA0933GB

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

H.S.




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

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 12 | Y | – |
| 13 | Y | – |

| Connector No. | E45 |
|---|---|
| Connector Name | JOINT CONNECTOR-E12 |
| Connector Color | BLUE |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | L | – |
| 4 | L | – |
| 7 | P | – |
| 10 | P | – |

| Connector No. | E70 |
|---|---|
| Connector Name | JOINT CONNECTOR-E14 |
| Connector Color | BLACK |

H.S.




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

| Connector No. | E71 |
|---|---|
| Connector Name | JOINT CONNECTOR-E15 |
| Connector Color | BLACK |

H.S.




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

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 28 | P | CAN-L |
| 29 | L | CAN-H |
| 31 | BG | DETENT SW |
| 33 | R | START CONT |
| 37 | W | CLUTCH I/L SW |
| 38 | P | PUSH START SW |
| 41 | B | GND (SIGNAL) |
| 43 | L | IGN SIGNAL |

ABKIA7238GB

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | G | F/L IGNSW |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 7 | B | GND (POWER) |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 10G | P | – |
| 35G | P | – |
| 36G | L | – |
| 44G | W | – |
| 62G | P | – |
| 63G | L | – |
| 64G | R | – |
| 67G | BG | – |

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

H.S.




| Connector No. | F17 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | BLACK |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 51 | W | STARTER MOTOR |

ABKIA7239GB

| Connector No. | F24 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 63 | L | INHIBIT SW |
| 66 | G | NP SW |

| Connector No. | F36 |
|---|---|
| Connector Name | TRANSMISSION RANGE SWITCH |
| Connector Color | BLACK |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 7 | L | – |
| 10 | G | – |

| Connector No. | B11 |
|---|---|
| Connector Name | JOINT CONNECTOR-B09 |
| Connector Color | WHITE |

H.S.




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

| Connector No. | B12 |
|---|---|
| Connector Name | JOINT CONNECTOR-B10 |
| Connector Color | WHITE |

H.S.




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

| Connector No. | B16 |
|---|---|
| Connector Name | JOINT CONNECTOR-B11 |
| Connector Color | WHITE |

H.S.




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

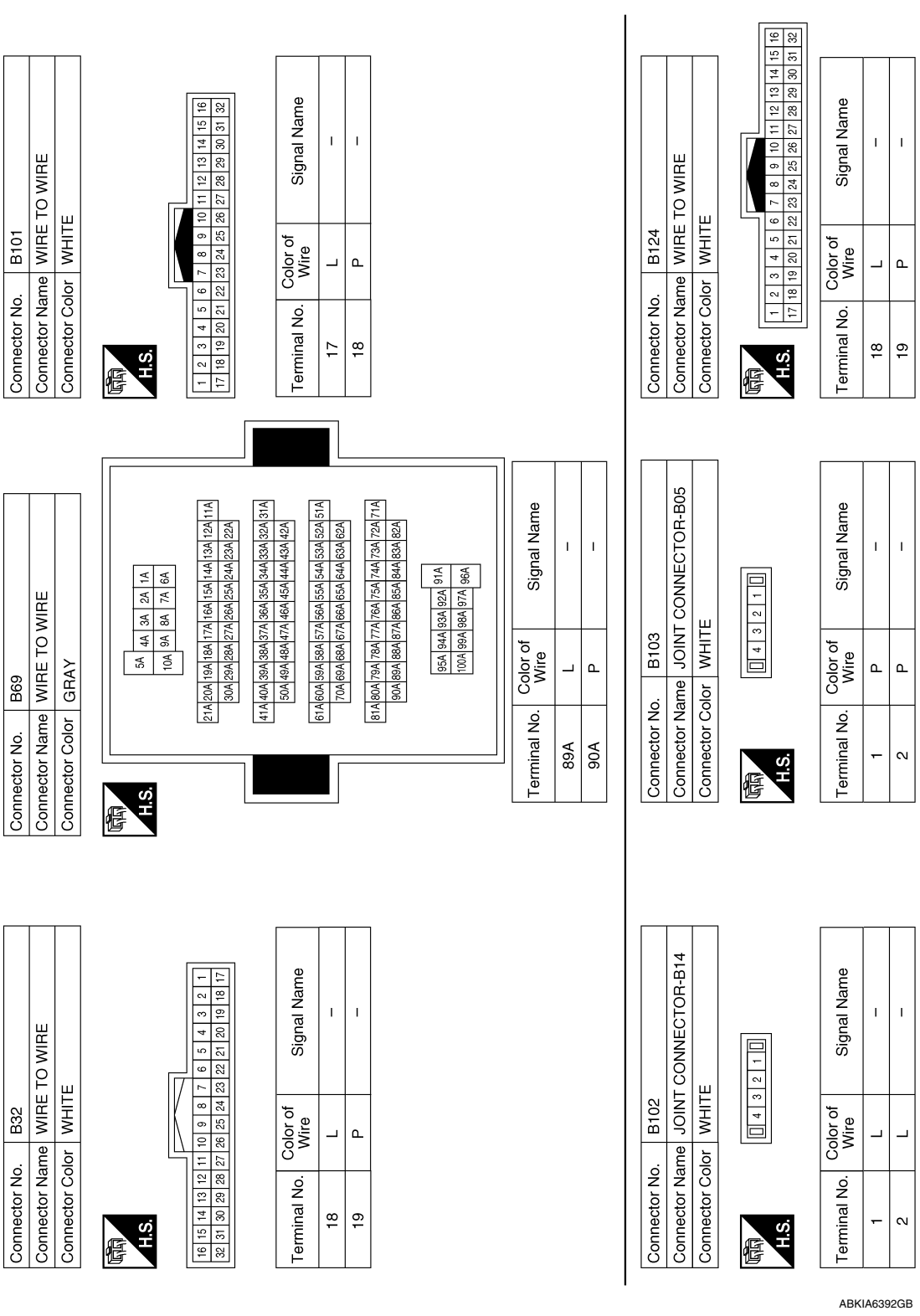
| Connector No. | B17 |
|---|---|
| Connector Name | JOINT CONNECTOR-B12 |
| Connector Color | WHITE |

H.S.




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

ABKIA6391GB

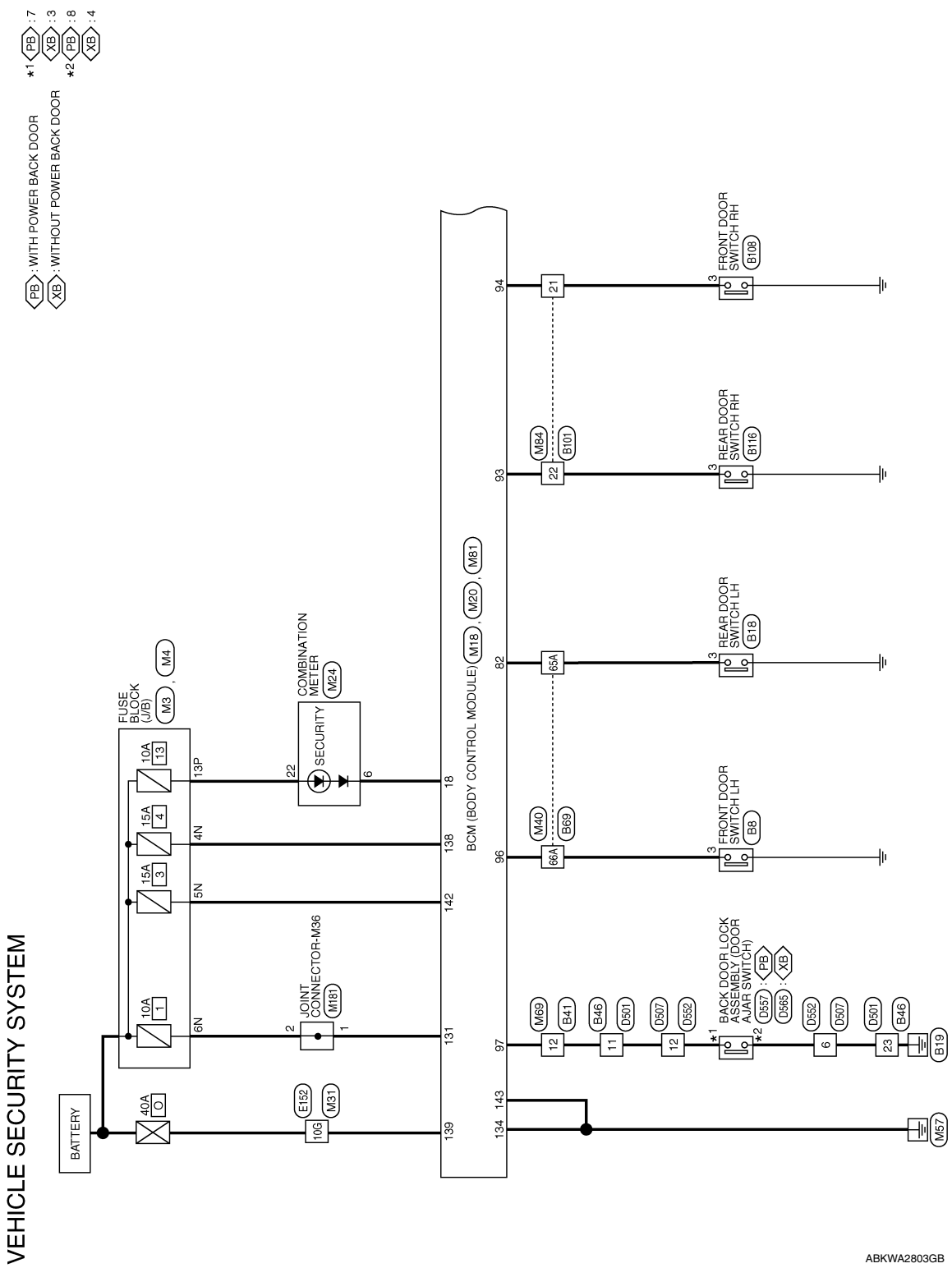


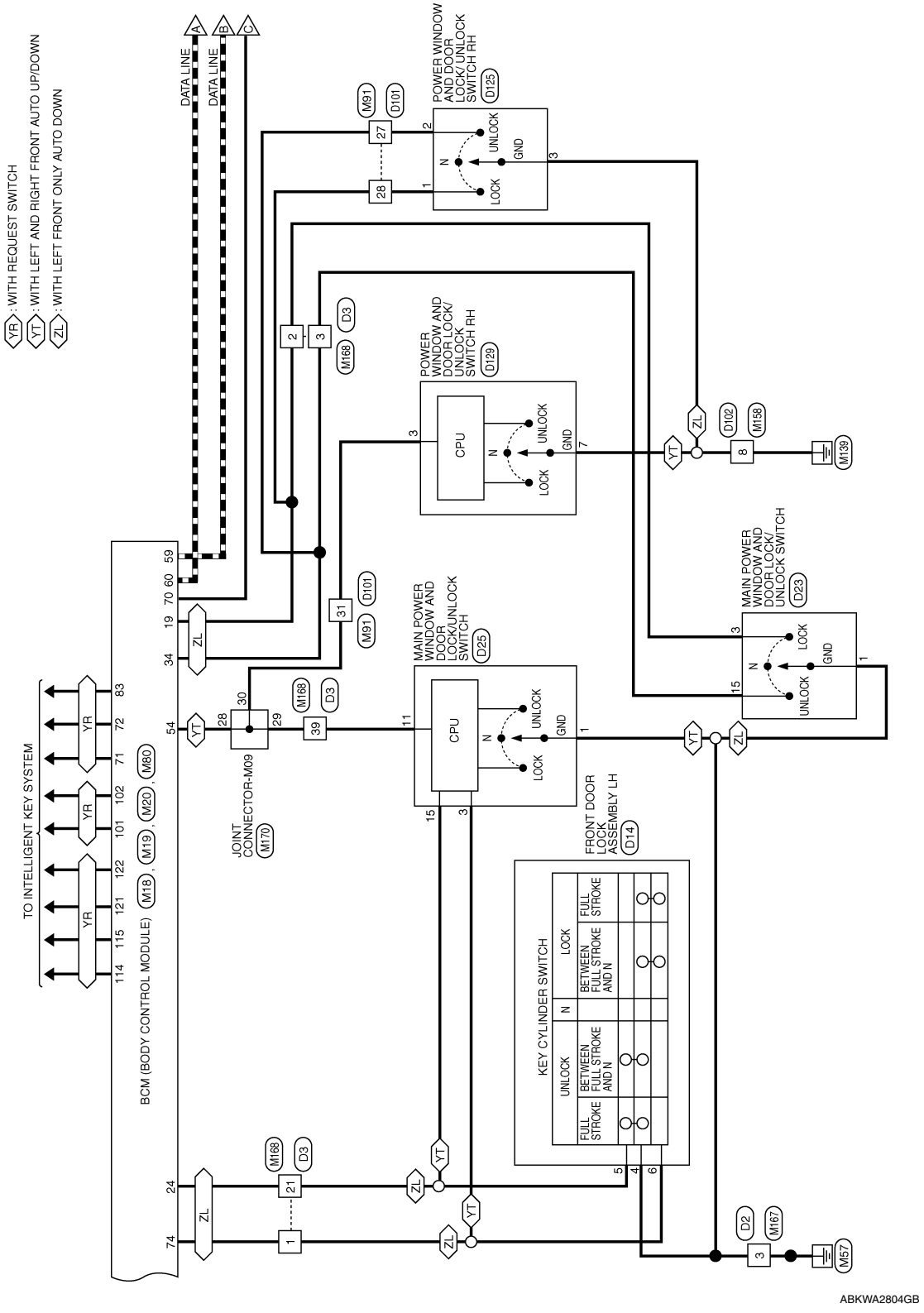

ABKIA6392GB

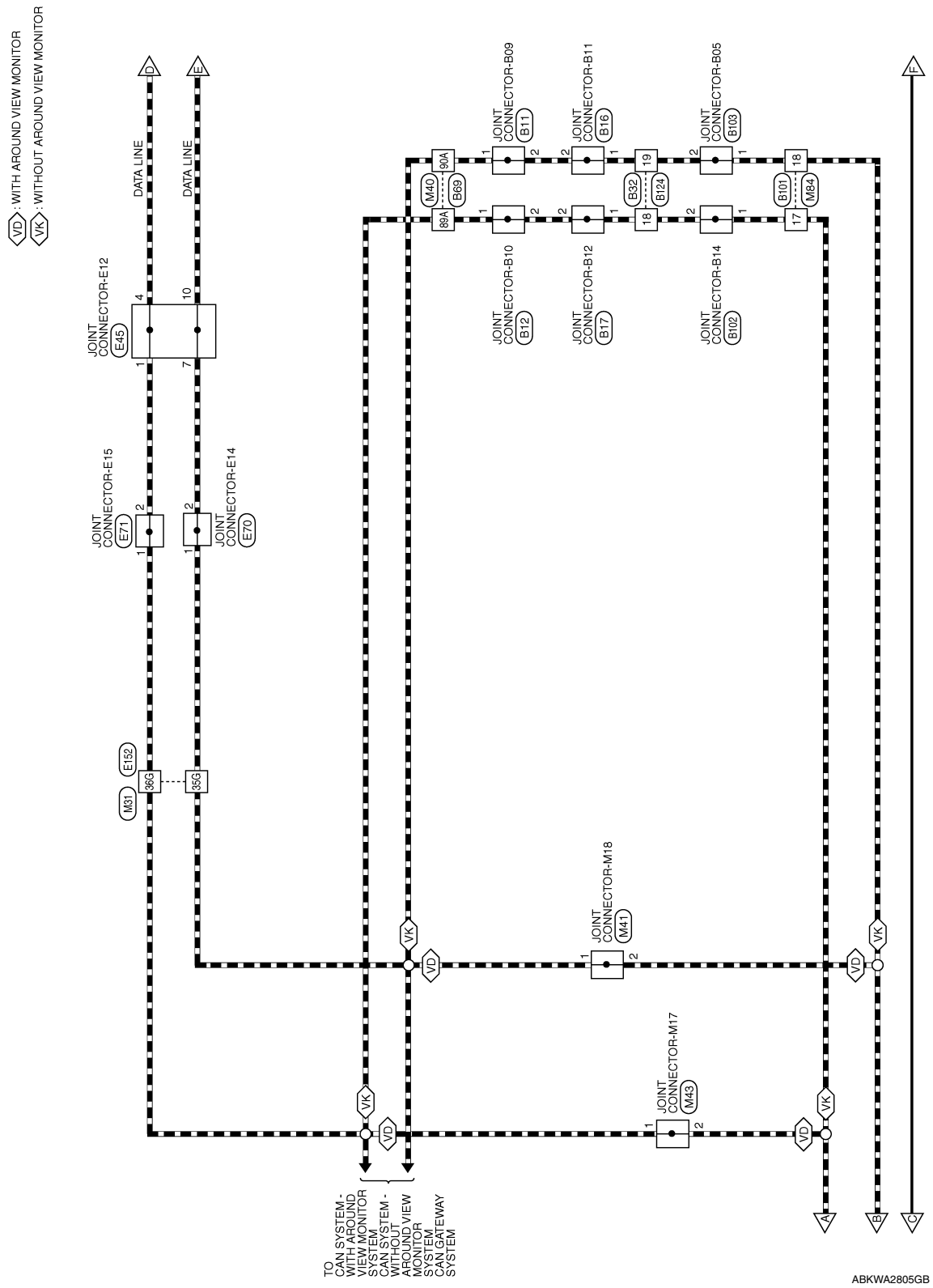
# VEHICLE SECURITY SYSTEM

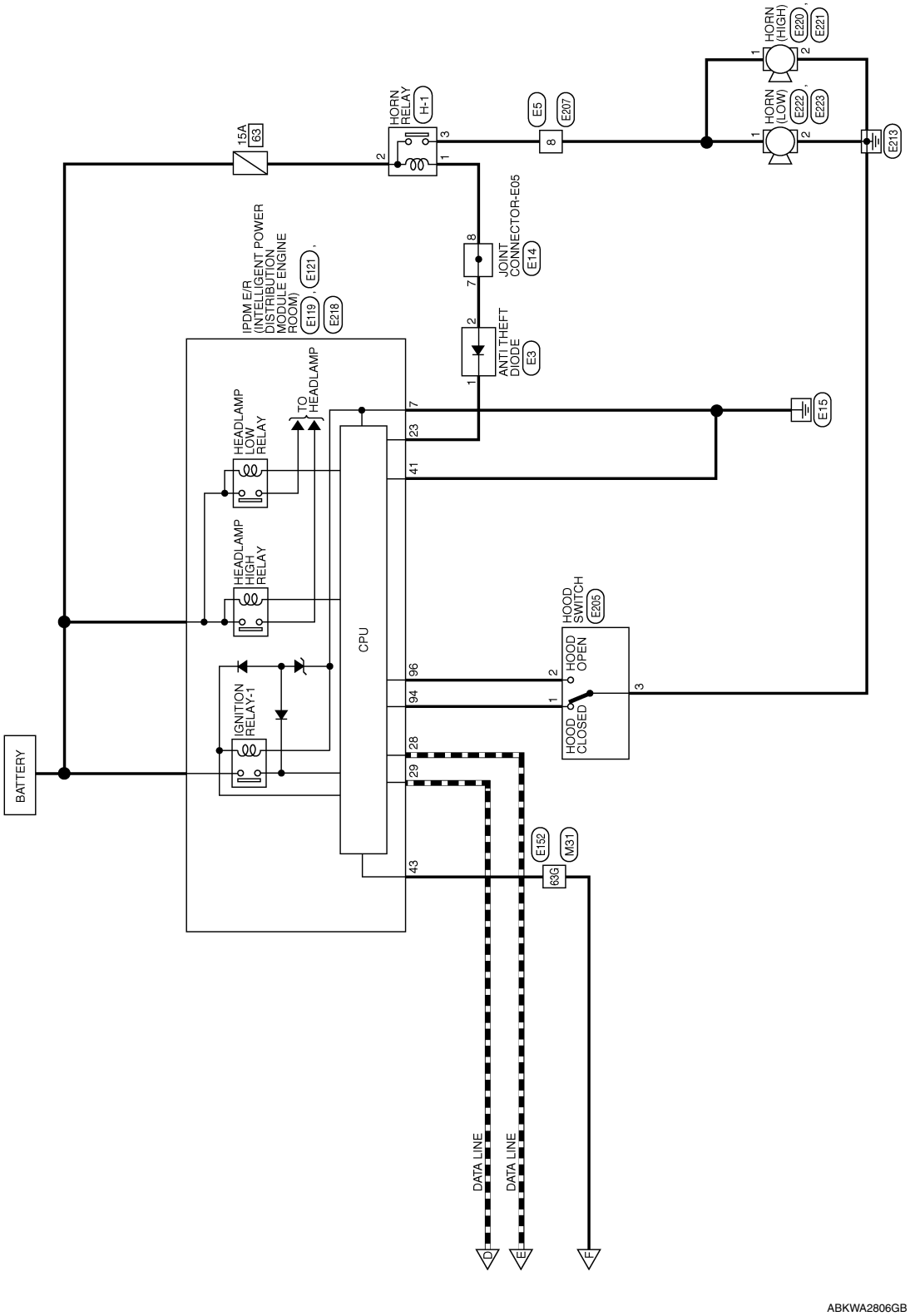
## Wiring Diagram

INFOID:0000000012549540




YR : WITH REQUEST SWITCH
YT : WITH LEFT AND RIGHT FRONT AUTO UP/DOWN
ZL : WITH LEFT FRONT ONLY AUTO DOWN
DATA LINE
POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH D125
POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH D129
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH D25
MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH D23
CPU
UNLOCK
LOCK
GND
JOINT CONNECTOR-M09 M170
FRONT DOOR LOCK ASSEMBLY LH D14
KEY CYLINDER SWITCH
BCM (BODY CONTROL MODULE) M18, M19, M20, M80
TO INTELLIGENT KEY SYSTEM
M91 D101
M168 D3
M139
M158 D102
M57 D2 M167
ABKWA2804GB

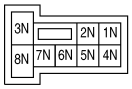

VD : WITH AROUND VIEW MONITOR
VK : WITHOUT AROUND VIEW MONITOR
DATA LINE
DATA LINE
JOINT CONNECTOR-E12
JOINT CONNECTOR-E15
JOINT CONNECTOR-E14
JOINT CONNECTOR-B09
JOINT CONNECTOR-B11
JOINT CONNECTOR-B05
JOINT CONNECTOR-B10
JOINT CONNECTOR-B12
JOINT CONNECTOR-B14
JOINT CONNECTOR-M18
JOINT CONNECTOR-M17
TO CAN SYSTEM - WITH AROUND VIEW MONITOR SYSTEM
CAN SYSTEM - WITHOUT AROUND VIEW MONITOR SYSTEM
CAN GATEWAY SYSTEM
ABKWA2805GB


HORN (HIGH), E220, E221
HORN (LOW), E222, E223
E213
HORN RELAY H-1
E5
E207
15A 63
JOINT CONNECTOR-E05
E14
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E121, E119, E218
ANTI THEFT DIODE E3
E15
TO HEADLAMP
HEADLAMP LOW RELAY
HEADLAMP HIGH RELAY
CPU
HOOD SWITCH E205
HOOD OPEN
HOOD CLOSED
IGNITION RELAY-1
BATTERY
E152
M31
63G
DATA LINE
DATA LINE
D
E
F
ABKWA2806GB

## VEHICLE SECURITY SYSTEM CONNECTORS

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

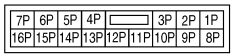
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 4N | V | – |
| 5N | Y | – |
| 6N | W | – |

| Connector No. | M4 |
|---|---|
| Connector Name | FUSE BLOCK (J/B) |
| Connector Color | WHITE |

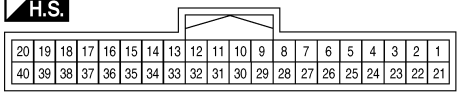
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 13P | W | – |

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

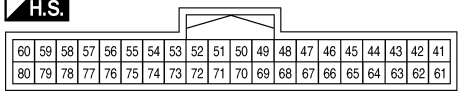
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 18 | V | SECURITY INDICATOR |
| 19 | Y | CENTRAL DOOR LOCK SW |
| 24 | SB | DOOR KEY/C UNLOCK SW |
| 34 | BR | CENTRAL DOOR UNLOCK SW |

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

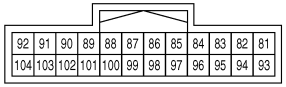
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 54 | W | PW LIN/COM |
| 59 | P | CAN-L |
| 60 | L | CAN-H |
| 70 | P | IGN USM OUT 1 |
| 71 | R | DR REQUEST SW |
| 72 | G | AS REQUEST SW |
| 74 | BR | DOOR KEY/C LOCK SW |

| Connector No. | M20 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | GRAY |

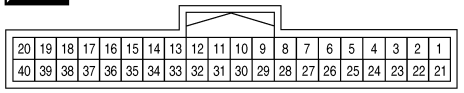
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 82 | W | RL DOOR SW |
| 83 | BG | BACK DOOR REQUEST SW |
| 93 | R | RR DOOR SW |
| 94 | G | AS DOOR SW |
| 96 | BG | DR DOOR SW |
| 97 | W | BACK DOOR SW |
| 101 | R | REAR BUMPER ANT B |
| 102 | G | REAR BUMPER ANT A |

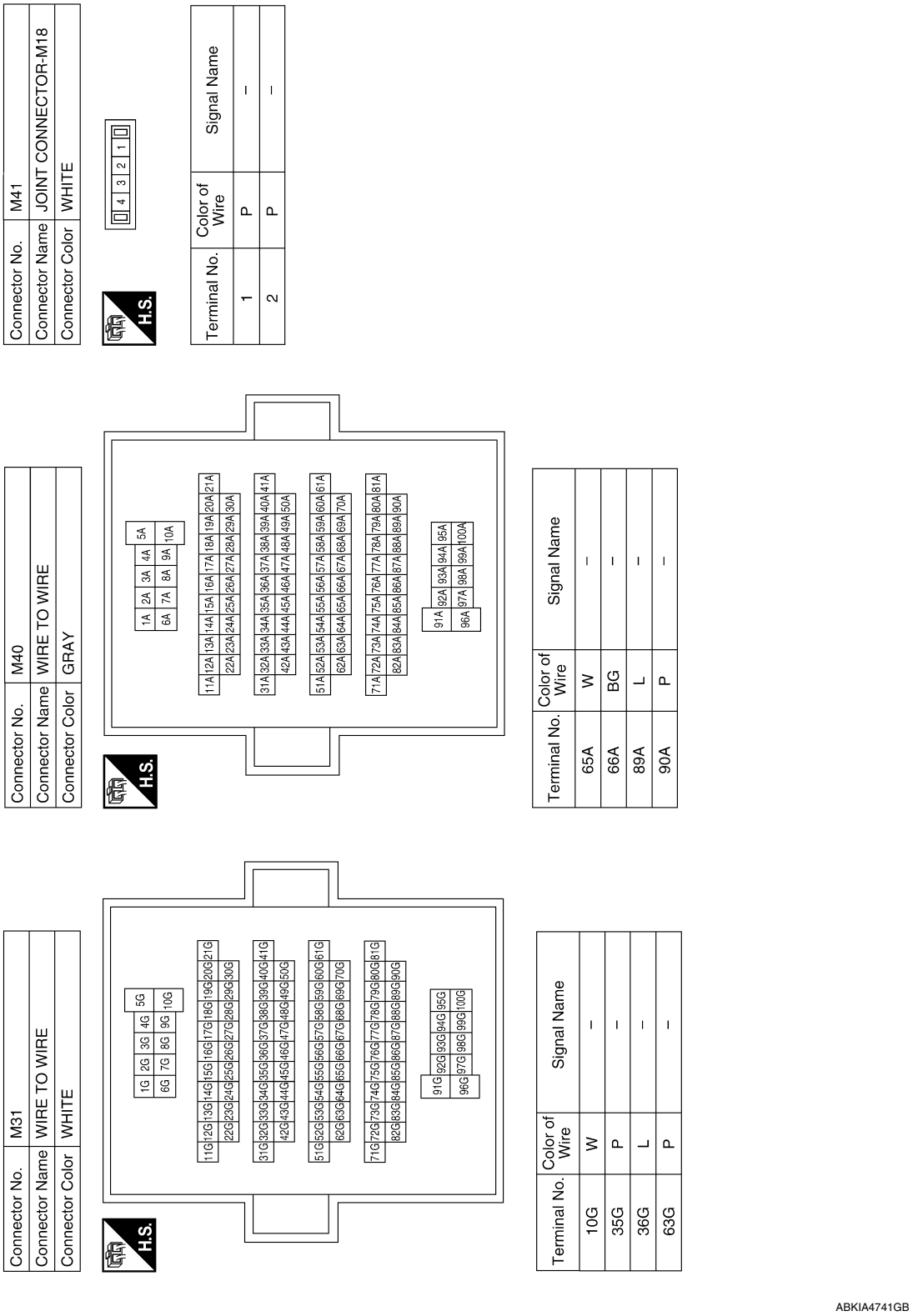
| Connector No. | M24 |
|---|---|
| Connector Name | COMBINATION METER |
| Connector Color | WHITE |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 6 | V | SECURITY |
| 22 | W | BAT |

ABKIA6393GB




ABKIA4741GB

| Connector No. | M43 |
|---|---|
| Connector Name | JOINT CONNECTOR-M17 |
| Connector Color | WHITE |

H.S.

| 4 | 3 | 2 | 1 |
|---|---|---|---|

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

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 12 | W | – |

| Connector No. | M80 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | BLACK |

H.S.

| 116 | 115 | 114 | 113 | 112 | 111 | 110 | 109 | 108 | 107 | 106 | 105 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 128 | 127 | 126 | 125 | 124 | 123 | 122 | 121 | 120 | 119 | 118 | 117 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 114 | W | AS DOOR ANT A |
| 115 | BG | AS DOOR ANT B |
| 121 | G | DR DOOR ANT B |
| 122 | P | DR DOOR ANT A |

| Connector No. | M81 |
|---|---|
| Connector Name | BCM (BODY CONTROL MODULE) |
| Connector Color | WHITE |

H.S.

| 137 | 136 | 135 | 134 | 133 | 132 | 131 | 130 | 129 |
|---|---|---|---|---|---|---|---|---|
| 143 | 142 | 141 | 140 | 139 | 138 | | | |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 131 | W | BAT BCM FUSE |
| 134 | B | GND 2 |
| 138 | V | BAT REAR DOOR |
| 139 | W | BAT POWER F/L |
| 142 | Y | BAT FRONT DOOR |
| 143 | B | GND 1 |

| Connector No. | M84 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 17 | L | – |
| 18 | P | – |
| 21 | G | – |
| 22 | R | – |

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 27 | BR | – |
| 28 | Y | – |
| 31 | W | – |

ABKIA6394GB

| Connector No. | M158 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 8 | B | – |

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | B | – |

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | BR | – |
| 2 | Y | – |
| 3 | BR | – |
| 21 | SB | – |
| 39 | W | – |

| Connector No. | M170 |
|---|---|
| Connector Name | JOINT CONNECTOR-M09 |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 28 | W | – |
| 29 | W | – |
| 30 | W | – |

| Connector No. | M181 |
|---|---|
| Connector Name | JOINT CONNECTOR-M36 |
| Connector Color | WHITE |

H.S.

| 4 | 3 | 2 | 1 |
|---|---|---|---|

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

| Connector No. | E3 |
|---|---|
| Connector Name | ANTI THEFT DIODE |
| Connector Color | BLACK |

H.S.

| 1 | 2 |
|---|---|

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

ABKIA4743GB

| Connector No. | E5 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 8 | G | – |

| Connector No. | E14 |
|---|---|
| Connector Name | JOINT CONNECTOR-E05 |
| Connector Color | BLACK |

H.S.

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

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

| Connector No. | E45 |
|---|---|
| Connector Name | JOINT CONNECTOR-E12 |
| Connector Color | BLUE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | L | – |
| 4 | L | – |
| 7 | P | – |
| 10 | P | – |

| Connector No. | E70 |
|---|---|
| Connector Name | JOINT CONNECTOR-E14 |
| Connector Color | BLACK |

H.S.

| 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|

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

| Connector No. | E71 |
|---|---|
| Connector Name | JOINT CONNECTOR-E15 |
| Connector Color | BLACK |

H.S.

| 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|

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

ABKIA4744GB

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

H.S.

| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 23 | LG | HORN SW |
| 28 | P | CAN-L |
| 29 | L | CAN-H |
| 41 | B | GND (SIGNAL) |
| 43 | L | IGN SIGNAL |

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

H.S.

| 7 | 8 | | 9 | 10 | 11 |
|---|---|---|---|---|---|
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 7 | B | GND (POWER) |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 10G | P | – |
| 35G | P | – |
| 36G | L | – |
| 63G | L | – |

| Connector No. | E205 |
|---|---|
| Connector Name | HOOD SWITCH |
| Connector Color | BROWN |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | LG | – |
| 2 | R | – |
| 3 | B | – |

ABKIA4775GB

| Connector No. | E207 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 8 | G | – |

| Connector No. | E218 |
|---|---|
| Connector Name | IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) |
| Connector Color | WHITE |

H.S.

| 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 |
|---|---|---|---|---|---|---|---|
| 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 94 | LG | HOODSW 2 |
| 96 | R | HOODSW |

| Connector No. | E220 |
|---|---|
| Connector Name | HORN (HIGH) |
| Connector Color | BLACK |

H.S.

| 1 |
|---|

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

| Connector No. | E221 |
|---|---|
| Connector Name | HORN (HIGH) |
| Connector Color | BLACK |

H.S.

| 2 |
|---|

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

| Connector No. | E222 |
|---|---|
| Connector Name | HORN (LOW) |
| Connector Color | BLACK |

H.S.

| 1 |
|---|

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

| Connector No. | E223 |
|---|---|
| Connector Name | HORN (LOW) |
| Connector Color | BLACK |

H.S.

| 2 |
|---|

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

AAKIA0957GB

| Connector No. | B12 |
|---|---|
| Connector Name | JOINT CONNECTOR-B10 |
| Connector Color | WHITE |

H.S.


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

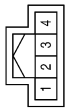
| Connector No. | B11 |
|---|---|
| Connector Name | JOINT CONNECTOR-B09 |
| Connector Color | WHITE |

H.S.


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

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

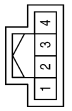
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | L | – |

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

H.S.




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

| Connector No. | B17 |
|---|---|
| Connector Name | JOINT CONNECTOR-B12 |
| Connector Color | WHITE |

H.S.


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

| Connector No. | B16 |
|---|---|
| Connector Name | JOINT CONNECTOR-B11 |
| Connector Color | WHITE |

H.S.


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

AAKIA0958GB

| Connector No. | B32 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 18 | L | – |
| 19 | P | – |

| Connector No. | B41 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

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

| Connector No. | B46 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 11 | G | – |
| 23 | GR | – |

| Connector No. | B69 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | GRAY |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 65A | SB | – |
| 66A | L | – |
| 89A | L | – |
| 90A | P | – |

| Connector No. | B101 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

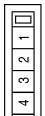
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 17 | L | – |
| 18 | P | – |
| 21 | LG | – |
| 22 | LG | – |

ABKIA4745GB

| Connector No. | B102 |
|---|---|
| Connector Name | JOINT CONNECTOR-B14 |
| Connector Color | WHITE |

H.S.




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

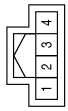
| Connector No. | B103 |
|---|---|
| Connector Name | JOINT CONNECTOR-B05 |
| Connector Color | WHITE |

H.S.


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

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

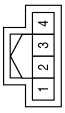
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | LG | – |

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

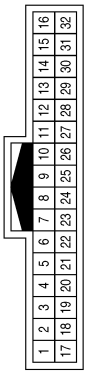
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | LG | – |

| Connector No. | B124 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

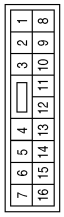
H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 18 | L | – |
| 19 | P | – |

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

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | B | – |

ABKIA6395GB

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | BR | – |
| 2 | Y | – |
| 3 | BR | – |
| 21 | SB | – |
| 39 | Y | – |

| Connector No. | D14 |
|---|---|
| Connector Name | FRONT DOOR LOCK ASSEMBLY LH |
| Connector Color | GRAY |

H.S.

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 4 | B | – |
| 5 | SB | – |
| 6 | BR | – |

| Connector No. | D23 |
|---|---|
| Connector Name | MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (WITH LEFT FRONT ONLY AUTO DOWN) |
| Connector Color | WHITE |

H.S.

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

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

| Connector No. | D25 |
|---|---|
| Connector Name | MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH (WITH LEFT AND RIGHT FRONT AUTO UP/DOWN) |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 1 | B | GND |
| 3 | BR | KEY CYL LOCK |
| 11 | Y | COM |
| 15 | SB | UNLOCK CDL |

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 27 | BR | – |
| 28 | Y | – |
| 31 | Y | – |

| Connector No. | D102 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 8 | B | – |

ABKIA6396GB

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

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 11 | P | – (WITH POWER BACK DOOR) |
| 11 | LG | – (WITHOUT POWER BACK DOOR) |
| 23 | B | – |

| Connector No. | D129 |
|---|---|
| Connector Name | POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH (WITH LEFT AND RIGHT FRONT AUTO UP/DOWN) |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | Y | COM |
| 7 | B | GND |

| Connector No. | D125 |
|---|---|
| Connector Name | POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH (WITH LEFT FRONT ONLY AUTO DOWN) |
| Connector Color | WHITE |

H.S.

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

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

| Connector No. | D557 |
|---|---|
| Connector Name | BACK DOOR LOCK ASSEMBLY (WITH POWER BACK DOOR) |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 7 | G | – |
| 8 | B | – |

| Connector No. | D552 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

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

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 6 | B | – |
| 12 | G | – |

| Connector No. | D507 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Color | WHITE |

H.S.

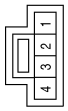
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|
| 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 |

| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 6 | B | – |
| 12 | P | – (WITH POWER BACK DOOR) |
| 12 | LG | – (WITHOUT POWER BACK DOOR) |

ABKIA6397GB

| Connector No. | D565 |
|---|---|
| Connector Name | BACK DOOR LOCK ASSEMBLY (WITHOUT POWER BACK DOOR) |
| Connector Color | WHITE |

H.S.




| Terminal No. | Color of Wire | Signal Name |
|---|---|---|
| 3 | G | – |
| 4 | B | – |

ABKIA7243GB

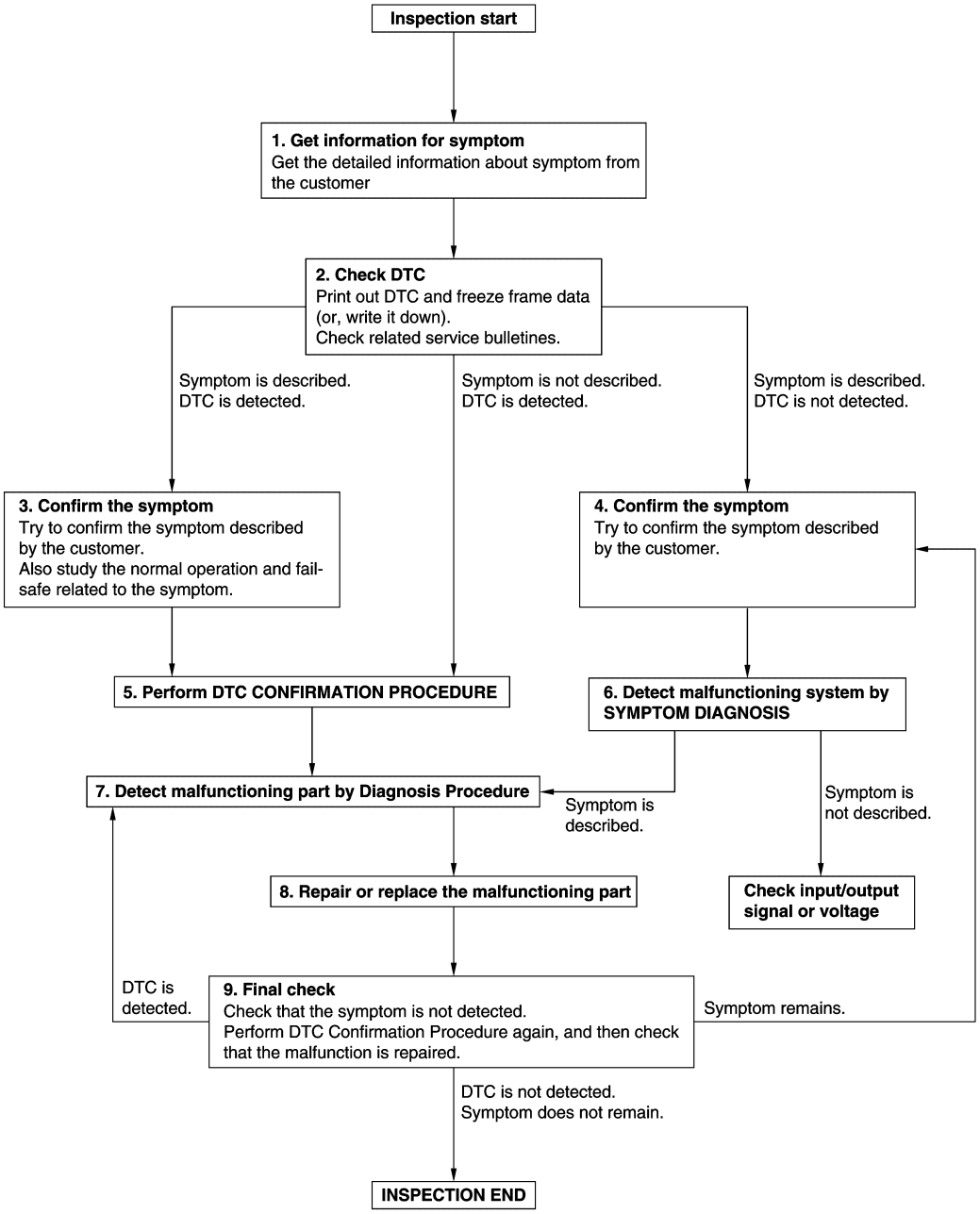
# BASIC INSPECTION

## DIAGNOSIS AND REPAIR WORK FLOW

### Work Flow

INFOID:0000000012549541

#### OVERALL SEQUENCE




JMKIA8652GB

#### DETAILED FLOW

## 1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

## 2.CHECK DTC

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

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

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

## 3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

## 4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

## 5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-51, "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-47, "Intermittent Incident".

## 6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

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

## 7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-47, "Intermittent Incident".

## 8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

## 9. FINAL CHECK

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

Is DTC detected and does symptom remain?

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

# ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

## ECM

### ECM : Description

INFOID:0000000012549542

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

### ECM : Work Procedure

INFOID:0000000012549543

#### 1.PERFORM ECM RECOMMUNICATING FUNCTION

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

>> GO TO 2.

#### 2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform EC-154, "Work Procedure" (USA and Canada) or EC-639, "Work Procedure" (Mexico).

>> END

## BCM

### BCM : Description

INFOID:0000000012958288

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:0000000012958289

#### 1.SAVING VEHICLE SPECIFICATION

CONSULT
Enter "Re/Programming, Configuration" and perform “Before Replace ECU” to save or print current vehicle specification.
**NOTE:**
If “Before Replace ECU” cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

>> GO TO 2.

## 2.REPLACE BCM

Replace BCM. Refer to BCS-81, "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-65, "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-65, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

## 4.REGISTER INTELLIGENT KEYS

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

>> Work End.

# DTC/CIRCUIT DIAGNOSIS

## P1610 LOCK MODE

### Description

INFOID:0000000012549546

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:0000000012549547

#### DTC DETECTION LOGIC

**NOTE:**

- If DTC P1610 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC P1610 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

#### DTC CONFIRMATION PROCEDURE

##### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to SEC-78, "Diagnosis Procedure".
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012549548

#### 1.CHECK ENGINE START FUNCTION

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

>> Inspection End.

# P1611 ID DISCORD, IMMU-ECM

## DTC Logic

INFOID:0000000012549549

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| P1611 | ID DISCORD, IMMU-ECM | The ID verification results between BCM and ECM are NG. | • Harness or connectors (The CAN communication line is open or shorted.)<br>• BCM<br>• 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-79, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549550

#### 1.PERFORM INITIALIZATION

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

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

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

#### 2.CHECK SELF DIAGNOSTIC RESULT

1. Select “Self Diagnostic Result” mode of “ENGINE” using CONSULT.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-79, "DTC Logic".

Is DTC detected?

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

#### 3.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

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

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

#### 4.REPLACE ECM

1. Replace ECM. Refer to EC-508, "Removal and Installation" (USA and Canada) or EC-885, "Removal and Installation" (Mexico).
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”. Refer to EC-154, "Work Procedure" (USA and Canada) or EC-639, "Work Procedure" (Mexico).

>> Inspection End.

# P1612 CHAIN OF ECM-IMMU

## DTC Logic

INFOID:0000000012549551

### DTC DETECTION LOGIC

**NOTE:**

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### 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-80, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549552

#### 1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

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

#### 2.CHECK ECM POWER SUPPLY AND GROUND CIRCUIT.

Check ECM power supply and ground circuit. Refer to EC-188, "Diagnosis Procedure" (USA and Canada) or EC-666, "Diagnosis Procedure" (Mexico).

Is the inspection result normal?

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

#### 3.PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-80, "DTC Logic".

Does the DTC return?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation"
NO >> Inspection End.

# P1614 CHAIN OF IMMU-KEY

## DTC Logic

INFOID:0000000012549553

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| P1614 | CHAIN OF IMMU-KEY | Inactive communication between NATS antenna amp. and BCM | • Harness or connectors (NATS antenna amp. circuit is open or shorted.)<br>• NATS antenna amp.<br>• BCM<br>• Intellegent Key fob |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

YES >> GO TO SEC-81, "Diagnosis Procedure".
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE 2

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

Is DTC detected?

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

## Diagnosis Procedure

INFOID:0000000012549554

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

#### 1.CONNECTOR INSPECTION

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

Is the inspection result normal?

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

#### 2.CHECK NATS ANTENNA AMP. CIRCUIT

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

| BCM | | NATS antenna amp. | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M80 | 126 | M21 | 3 | Yes |
| | 127 | | 1 | |

3. Check continuity between BCM harness connector and ground.

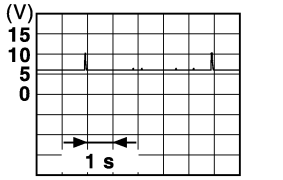
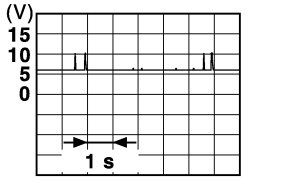
| BCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M80 | 126 | | No |
| | 127 | | |

Is the inspection result normal?

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

## 3. CHECK NATS ANTENNA AMP INPUT SIGNAL

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

| (+) BCM Connector | (+) BCM Terminal | (–) | Condition | Signal (Reference value) |
|---|---|---|---|---|
| M80 | 126, 127 | Ground | When Intelligent Key is in the antenna detection area |  JMKIA3839GB |
| | | | When Intelligent Key is not in the antenna detection area |  JMKIA5951GB |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Replace NATS antenna amp. Refer to SEC-152, "Removal and Installation".

# B210B STARTER CONTROL RELAY

## DTC Logic

INFOID:0000000012549555

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B210B is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "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:<br>• Starter control relay signal (CAN) from BCM.<br>• Starter relay status signal (CAN) from BCM.<br>• Starter control relay and starter relay status signal (IPDM E/R input).<br>• Starter control relay control signal (IPDM E/R output). | • IPDM E/R |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the power supply position to start under the following conditions and wait for at least 1 second:
- CVT selector lever is in the P (Park) or N (Neutral) position.
- Depress the brake pedal.
2. Check “Self Diagnostic Result” using CONSULT.

Is DTC detected?

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

## Diagnosis Procedure

INFOID:0000000012549556

#### 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-32, "Removal and Installation".
NO >> Refer to GI-47, "Intermittent Incident".

# B210C STARTER CONTROL RELAY

## DTC Logic

INFOID:0000000012549557

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B210C is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "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:<br>• Starter control relay signal (CAN) from BCM.<br>• Starter relay status signal (CAN) from BCM.<br>• Starter control relay and starter relay status signal (IPDM E/R input).<br>• Starter control relay control signal (IPDM E/R output). | • IPDM E/R<br>• BCM<br>• Battery |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the power supply position to start under the following conditions and wait for at least 1 second:
- CVT selector lever is in the P (Park) or N (Neutral) position.
- Depress the brake pedal.
2. Check “Self Diagnostic Result” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-84, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549558

Regarding Wiring Diagram information, refer to SEC-27, "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-47, "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 | | |
| E119 | 33 | — | Battery voltage |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> GO TO 3.

## 3. CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E119 and BCM connector M19.
2. Check continuity between IPDM E/R connector E119 and BCM connector M19.

| IPDM E/R | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E119 | 33 | M19 | 62 | Yes |

3. Check continuity between IPDM E/R connector E119 and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E119 | 33 | — | No |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Repair or replace harness or connectors.

# B210D STARTER RELAY

## DTC Logic

INFOID:0000000012549559

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B210D is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".
- If DTC B210D is displayed with DTC B2617, first perform the trouble diagnosis for DTC B2617. Refer to SEC-130, "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:<br>• Starter control relay signal (CAN) from BCM.<br>• Starter relay status signal (CAN) from BCM.<br>• Starter control relay and starter relay status signal (IPDM E/R input).<br>• Starter control relay control signal (IPDM E/R output). | • Harness or connectors (starter motor relay control circuit open or short).<br>• IPDM E/R<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Ignition switch ON under the following conditions and wait for at least 1 second:
- CVT selector lever is in the P (Park) or N (Neutral) position.
- Do not depress the brake pedal.
2. Check “Self Diagnostic Result” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-86, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549560

Regarding Wiring Diagram information, refer to SEC-27, "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-47, "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 | | |
| E119 | 33 | — | Battery voltage |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> GO TO 3.

## 3.CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connectors E119 and BCM connector M19.
2. Check continuity between IPDM E/R connector E119 and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E119 | 33 | — | No |

Is the inspection result normal?

YES >> Refer to SEC-128, "Diagnosis Procedure".
NO >> Repair or replace harness or connectors.

# B210E STARTER RELAY

## DTC Logic

INFOID:0000000012549561

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B210E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "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:<br>• Starter control relay signal (CAN) from BCM.<br>• Starter relay status signal (CAN) from BCM.<br>• Starter control relay and starter relay status signal (IPDM E/R input).<br>• Starter control relay control signal (IPDM E/R output). | • IPDM E/R<br>• BCM<br>• Battery |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions and wait for at least 1 second:
- CVT selector lever is in the P (Park) or N (Neutral) position.
- Do not depress the brake pedal.
2. Check “Self Diagnostic Result” using CONSULT.

Is DTC detected?

YES >> Refer to SEC-88, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549562

Regarding Wiring Diagram information, refer to SEC-27, "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-47, "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 | | |
| E119 | 33 | — | Battery voltage |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> GO TO 3.

## 3.CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E119 and BCM connector M19
2. Check continuity between IPDM E/R connector E119 and BCM connector M19.

| IPDM E/R | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E119 | 33 | M19 | 62 | Yes |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Repair or replace harness or connectors.

# B210F TRANSMISSION RANGE SWITCH

## Description

INFOID:0000000012549563

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

## DTC Logic

INFOID:0000000012549564

### DTC DETECTION LOGIC

**NOTE:**
- If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic"
- If DTC B210F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B210F | TRANSMISSION RANGE SWITCH | IPDM E/R detects a mismatch between the signals below for 1 second or more.<br>• Transmission range switch input signal<br>• Shift position signal from BCM (CAN) | • Harness or connectors Transmission range switch circuit is open or shorted<br>• Transmission range switch |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

## Diagnosis Procedure

INFOID:0000000012549565

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram" or PCS-21, "Wiring Diagram".

#### 1.CHECK DTC WITH BCM

Refer to BCS-52, "DTC Index".

Is the inspection result normal?

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

#### 2.CHECK TRANSMISSION RANGE SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector.
3. Turn ignition switch ON.
4. Check voltage between IPDM E/R harness connector E119 terminal 37 and ground under following condition.

| IPDM E/R | | Ground | Condition | | Voltage (V) |
|---|---|---|---|---|---|
| Connector | Terminal | | | | |
| E119 | 37 | Ground | CVT selector lever | P (Park) or N (Neutral) | Battery voltage |
| | | | | Other than above | 0 |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> GO TO 3.

## 3. CHECK TRANSMISSION RANGE SWITCH CIRCUIT FOR CONTINUITY

1. Turn ignition switch OFF.
2. Check continuity between IPDM E/R harness connector terminals 63 and 66.

| IPDM E/R | | | Condition | | Continuity |
|---|---|---|---|---|---|
| Connector | Terminals | | | | |
| F24 | 63 | 66 | Transmission range switch | P or N | Yes |
| | | | | Other | No |

Is the inspection result normal?

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

## 4. CHECK TRANSMISSION RANGE SWITCH CIRCUIT FOR SHORT

Check continuity between IPDM E/R harness connector terminals 63, 66 and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F24 | 63 | Ground | No |
| | 66 | | |

Is the inspection result normal?

YES >> Replace the IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> Repair or replace harness.

## 5. CHECK TRANSMISSION RANGE SWITCH INPUT SIGNAL CIRCUIT

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

| Transmission range switch | | IPDM E/R | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| F36 | 7 | F24 | 63 | Yes |
| | 10 | | 66 | |

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

| Transmission range switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F36 | 7 | Ground | No |
| | 10 | | |

Is the inspection result normal?

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

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# B2110 TRANSMISSION RANGE SWITCH

## Description

INFOID:0000000012549566

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

## DTC Logic

INFOID:0000000012549567

### DTC DETECTION LOGIC

**NOTE:**
- If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2110 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2110 | TRANSMISSION RANGE SWITCH | IPDM E/R detects mismatch between the signal below for 1 second or more.<br>• Transmission range switch input signal | • Harness or connectors<br>Transmission range switch circuit is open or shorted<br>• Transmission range switch |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

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

## Diagnosis Procedure

INFOID:0000000012549568

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram" or PCS-21, "Wiring Diagram".

#### 1.CHECK DTC WITH BCM

Refer to BCS-52, "DTC Index".

Is the inspection result normal?

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

#### 2.CHECK TRANSMISSION RANGE SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R harness connector.
3. Turn ignition switch ON.
4. Check voltage between IPDM E/R harness connector E119 terminal 37 and ground under following condition.

| IPDM E/R | | Ground | Condition | | Voltage (V) |
|---|---|---|---|---|---|
| Connector | Terminal | | | | |
| E119 | 37 | Ground | CVT selector lever | P (Park) or N (Neutral) | Battery voltage |
| | | | | Other than above | 0 |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> GO TO 3.

## 3. CHECK TRANSMISSION RANGE SWITCH CIRCUIT FOR CONTINUITY

1. Turn ignition switch OFF.
2. Check continuity between IPDM E/R harness connector terminals 63 and 66.

| IPDM E/R | | | Condition | | Continuity |
|---|---|---|---|---|---|
| Connector | Terminals | | | | |
| F24 | 63 | 66 | Transmission range switch | P or N | Yes |
| | | | | Other | No |

Is the inspection result normal?

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

## 4. CHECK TRANSMISSION RANGE SWITCH CIRCUIT FOR SHORT

Check continuity between IPDM E/R harness connector terminals 63, 66 and ground.

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F24 | 63 | Ground | No |
| | 66 | | |

Is the inspection result normal?

YES >> Replace the IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> Repair or replace harness.

## 5. CHECK TRANSMISSION RANGE SWITCH INPUT SIGNAL CIRCUIT

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

| Transmission range switch | | IPDM E/R | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| F36 | 7 | F24 | 63 | Yes |
| | 10 | | 66 | |

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

| Transmission range switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F36 | 7 | Ground | No |
| | 10 | | |

Is the inspection result normal?

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

## 6. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# B2190 NATS ANTENNA AMP.

## Description

INFOID:0000000012549569

Performs ID verification through BCM and Intelligent Key when push-button ignition switch is pressed. Prohibits starting of the engine when an unregistered ID of Intelligent Key is used.

## DTC Logic

INFOID:0000000012549570

### 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. | • Harness or connectors (The NATS antenna amp. circuit is open or shorted)<br>• NATS antenna amp.<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

YES >> GO TO SEC-96, "Diagnosis Procedure".
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE 2

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

Is DTC detected?

YES >> GO TO SEC-96, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549571

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

#### 1.CONNECTOR INSPECTION

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

Is the inspection result normal?

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

#### 2.CHECK NATS ANTENNA AMP. CIRCUIT

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

| BCM | | NATS antenna amp. | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M80 | 126 | M21 | 3 | Yes |
| | 127 | | 1 | |

3. Check continuity between BCM harness connector and ground.

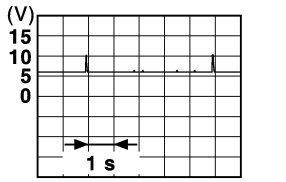
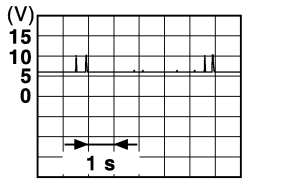
| BCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M80 | 126 | | No |
| | 127 | | |

Is the inspection result normal?

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

## 3. CHECK NATS ANTENNA AMP INPUT SIGNAL

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

| (+) BCM Connector | (+) BCM Terminal | (–) | Condition | Signal (Reference value) |
|---|---|---|---|---|
| M80 | 126, 127 | Ground | When Intelligent Key is in the antenna detection area |   JMKIA3839GB |
| | | | When Intelligent Key is not in the antenna detection area |   JMKIA5951GB |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Replace NATS antenna amp. Refer to SEC-152, "Removal and Installation".

# B2191, P1615 DIFFERENCE OF KEY

## Description

INFOID:0000000012549572

Performs ID verification through BCM and Intelligent Key when push-button ignition switch is pressed.
Prohibits starting of the engine when an unregistered ID of Intelligent Key is used.

## DTC Logic

INFOID:0000000012549573

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2191<br>P1615 | DIFFERENCE OF KEY | The ID verification results between BCM and Intelligent Key are NG. The registration is necessary. | • Intelligent Key |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Place the back side of the Intelligent Key up to the push-button ignition switch.
2. Press the push-button ignition switch.
3. Check “Self-Diagnostic Result” with CONSULT.

Is DTC detected?

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

## Diagnosis Procedure

INFOID:0000000012549574

#### 1.PERFORM INITIALIZATION

Perform initialization with CONSULT. Re-register all Intelligent Keys.
For initialization and registration of Intelligent 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 Intelligent Key?

YES >> Intelligent Key was unregistered.
NO >> Intelligent Key fob is malfunctioning.
- Replace Intelligent Key fob.
- Perform initialization again.

# B2192 ID DISCORD, IMMU-ECM

## DTC Logic

INFOID:0000000012549575

### DTC DETECTION LOGIC

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2192 | ID DISCORD BCM-ECM | The ID verification results between BCM and ECM are NG. | • Harness or connectors (The CAN communication line is open or shorted.)<br>• BCM<br>• 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-99, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549576

#### 1.PERFORM INITIALIZATION

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

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

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

#### 2.CHECK SELF-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-99, "DTC Logic".

Is DTC detected?

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

#### 3.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

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

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

#### 4.REPLACE ECM

1. Replace ECM. Refer to EC-508, "Removal and Installation" (USA and Canada) or EC-885, "Removal and Installation" (Mexico).
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”. Refer to EC-154, "Work Procedure" (USA and Canada) or EC-639, "Work Procedure" (Mexico).

>> Inspection End.

# B2193 CHAIN OF ECM-IMMU

## DTC Logic

INFOID:0000000012549577

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### 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-100, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549578

#### 1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to BCS-74, "Diagnosis Procedure".

Is the inspection result normal?

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

#### 2.CHECK ECM POWER SUPPLY AND GROUND CIRCUIT.

Check ECM power supply and ground circuit. Refer to EC-188, "Diagnosis Procedure" (USA and Canada) or EC-666, "Diagnosis Procedure" (Mexico).

Is the inspection result normal?

YES >> Replace ECM. Refer to EC-508, "Removal and Installation" (USA and Canada) or EC-885, "Removal and Installation"(Mexico). GO TO 3.
NO >> Repair or replace the harness.

#### 3.PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-100, "DTC Logic".

Does the DTC return?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation"
NO >> Inspection End.

# B2195 ANTI-SCANNING

## DTC Logic

INFOID:0000000012549579

### 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 designated specification is detected. | ID verification request out of the designated 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-101, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549580

#### 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-101, "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-101, "DTC Logic".

Is DTC detected?

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

#### 4.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

# B2196 DONGLE UNIT

## Description

INFOID:0000000012549581

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

## DTC Logic

INFOID:0000000012549582

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Turn ignition switch ON.
4. Check “Self-diagnosis result” using CONSULT.

Is the DTC detected?

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

## Diagnosis Procedure

INFOID:0000000012549583

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

#### 1.PERFORM INITIALIZATION

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

Dose the engine start?

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

#### 2.CHECK DONGLE UNIT CIRCUIT

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

| BCM | | Dongle unit | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M19 | 52 | M29 | 1 | Yes |

4. Check continuity between BCM harness connector and ground.

| BCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M19 | 52 | | No |

Is the inspection result normal?

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

## 3.CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

| Dongle unit | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M29 | 4 | | Yes |

Is the inspection result normal?

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

# B2198 NATS ANTENNA AMP.

## DTC Logic

INFOID:0000000012549584

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

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

#### 2.PERFORM DTC CONFIRMATION PROCEDURE 2

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

Is DTC detected?

YES >> GO TO SEC-104, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549585

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

#### 1.CONNECTOR INSPECTION

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

Is the inspection result normal?

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

#### 2.CHECK NATS ANTENNA AMP. CIRCUIT

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

| BCM | | NATS antenna amp. | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M80 | 126 | M21 | 3 | Yes |
| | 127 | | 1 | |

3. Check continuity between BCM harness connector and ground.

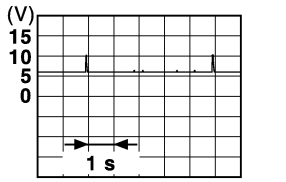
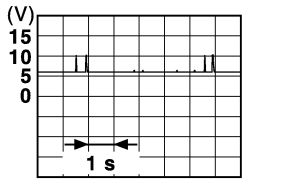
| BCM | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M80 | 126 | | No |
| | 127 | | |

Is the inspection result normal?

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

## 3. CHECK NATS ANTENNA AMP INPUT SIGNAL

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

| (+) BCM Connector | (+) BCM Terminal | (–) | Condition | Signal (Reference value) |
|---|---|---|---|---|
| M80 | 126, 127 | Ground | When Intelligent Key is in the antenna detection area |   JMKIA3839GB |
| | | | When Intelligent Key is not in the antenna detection area |   JMKIA5951GB |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Replace NATS antenna amp. Refer to SEC-152, "Removal and Installation".

# B2555 STOP LAMP

## DTC Logic

INFOID:0000000012549586

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Depress the 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-106, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549587

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

#### 1.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Stop lamp switch | | | |
| Connector | Terminal | | |
| E38 | 1 | Ground | Battery voltage |

Is the inspection result normal?

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

#### 2.CHECK STOP LAMP SWITCH INPUT SIGNAL

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

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| BCM | | | | | |
| Connector | Terminal | | | | |
| M18 | 27 | Ground | Brake pedal | Depressed | Battery voltage |
| | | | | Not depressed | 0 |

Is the inspecting result normal?

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

## 3.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

## 4.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 | |
| E38 | 2 | M18 | 27 | Yes |

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

| Stop lamp switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E38 | 2 | | No |

Is the inspection result normal?

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

## 5.CHECK STOP LAMP SWITCH

Refer to SEC-107, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace stop lamp switch. Refer to BR-20, "Exploded View".

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000012549588

## 1.CHECK STOP LAMP SWITCH

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

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace stop lamp switch. Refer to BR-20, "Exploded View".

# B2556 PUSH-BUTTON IGNITION SWITCH

## DTC Logic

INFOID:0000000012549589

### DTC DETECTION LOGIC

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> GO TO SEC-108, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549590

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

#### 1.CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| Push-button ignition switch | | | |
| Connector | Terminal | | |
| M17 | 8 | Ground | 12 |

Is the inspection result normal?

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

#### 2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

1. Disconnect BCM connector and IPDM E/R connector.
2. Check continuity between push-button ignition switch harness connector and BCM harness connector.

| Push-button ignition switch | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M17 | 8 | M18 | 1 | Yes |

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

| Push-button ignition switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M17 | 8 | | No |

Is the inspection result normal?

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

## 3.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

## 4.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-109, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace push-button ignition switch. Refer to SEC-153, "Removal and Installation".

## 5.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# Component Inspection

INFOID:0000000012549591

## 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-153, "Removal and Installation".

# B2557 VEHICLE SPEED

## DTC Logic

INFOID:0000000012549592

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "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.<br>• 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.<br>• Vehicle speed signal from combination meter is 4 km/h (2.5 MPH) or less, and vehicle speed signal from ABS actuator and electric unit (control unit) is 10 km/h (6.2 MPH) or more. | • Harness or connectors (The CAN communication line is open or shorted.)<br>• Combination meter<br>• 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-110, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549593

#### 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-47, "DTC Index" (Type 1) or BRC-206, "DTC Index" (Type 2).
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-29, "DTC Index".
NO >> GO TO 3.

#### 3.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident" .

>> Inspection End.

# B2560 STARTER CONTROL RELAY

## Description

INFOID:0000000012549594

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in N (Neutral) or P (Park) position.

## DTC Logic

INFOID:0000000012549595

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions and wait for at least 2 seconds:
- CVT selector lever is in the P (Park) position.
- Depress the brake pedal.
2. Check “Self-Diagnostic Result” with CONSULT.

Is DTC detected?

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

## Diagnosis Procedure

INFOID:0000000012549596

#### 1.CHECK DTC WITH IPDM E/R

Check “Self Diagnostic Result” with CONSULT. Refer to PCS-20, "DTC Index".

Is the inspection result normal?

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

#### 2.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# B2601 SHIFT POSITION

## DTC Logic

INFOID:0000000012549597

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2601 | SHIFT POSITION | When there is a difference between P (Park) range signal from CVT shift selector (park position switch) and P (Park) position signal from IPDM E/R (CAN). | • Harness or connectors (CAN communication line is open or shorted.)<br>• Harness or connectors [CVT shift selector (park position switch) circuit is open or shorted.]<br>• CVT shift selector (park position switch)<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Shift the selector lever to the P (Park) position.
2. Turn ignition switch ON and wait 2 seconds or more.
3. Shift the selector lever to any position other than P (Park) 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-112, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549598

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

#### 1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

1. Turn ignition switch ON.
2. Select “DETE/CANCEL SW” and "DETENT SW - IPDM" in DATA MONITOR mode with CONSULT.
3. Check “DETE/CANCEL SW” and "DETENT SW - IPDM" indication under the following conditions.

| Monitor item | Condition | | Indication |
|---|---|---|---|
| DETE/CANCEL SW | CVT Shift selector | In any position other than P (Park) | OFF |
| | | P (Park) | ON |
| DETENT SW - IPDM | CVT Shift selector | In any position other than P (Park) | OFF |
| | | P (Park) | ON |

Is the inspection result normal?

YES >> Refer to GI-47, "Intermittent Incident".
NO-1 >> If DETE/CANCEL SW function is incorrect. GO TO 2.
NO-2 >> If DETENT SW - IPDM function is incorrect. GO TO 5.

## 2.CHECK CVT SHIFT SELECTOR CIRCUIT (BCM)

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

| CVT shift selector (park position switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M78 | 6 | M18 | 20 | Yes |

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

| CVT shift selector (park position switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M78 | 6 | | No |

Is the inspection result normal?

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

## 3.CONNECTOR INSPECTION

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

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace as necessary.

## 4.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

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

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 | |
| M78 | 6 | E119 | 31 | Yes |

Is the inspection result normal?

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

## 6.CONNECTOR INSPECTION

1. Disconnect IPDM E/R.
2. Check connectors and terminals for deformation, disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace as necessary.

## 7.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

>> Inspection End.

## Component Inspection

INFOID:0000000012549599

### 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 | | | | |
| 5 | 6 | Selector lever | P (Park) position | No |
| | | | Other than above | Yes |

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace CVT shift selector. Refer to TM-198, "Removal and Installation" (RE0F10E) or TM-416, "Removal and Installation" (RE0F10J).

# B2602 SHIFT POSITION

## DTC Logic

INFOID:0000000012549600

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to SEC-115, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549601

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

#### 1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

1. Turn ignition switch ON.
2. Select “DETE/CANCEL SW” and "VEH SPEED 1" in DATA MONITOR mode with CONSULT.
3. Check “DETE/CANCEL SW” and "VEH SPEED 1" indication under the following conditions.

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

Is the inspection result normal?

YES >> Refer to GI-47, "Intermittent Incident".
NO-1 >> If DETE/CANCEL SW is incorrect. GO TO 4.
NO-2 >> If VEH SPEED 1 is incorrect. GO TO 2.

#### 2.CHECK DTC OF COMBINATION METER

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to MWI-29, "DTC Index".
NO >> GO TO 3.

## 3.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-47, "DTC Index" (Type 1) or BRC-206, "DTC Index" (Type 2).
NO >> GO TO 6.

## 4.CHECK CVT SHIFT SELECTOR CIRCUIT

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

| CVT shift selector (park position switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M78 | 6 | M18 | 20 | Yes |

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

| CVT shift selector (park position switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M78 | 6 | | No |

Is the inspection result normal?

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

## 5.CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to SEC-116, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CVT shift selector. Refer to TM-198, "Removal and Installation" (RE0F10E) or TM-416, "Removal and Installation" (RE0F10J).

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# Component Inspection

INFOID:0000000012549602

## 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 | | | | |
| 5 | 6 | Selector lever | P (Park) position | No |
| | | | Other than above | Yes |

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace CVT shift selector. Refer to TM-198, "Removal and Installation" (RE0F10E) or TM-416, "Removal and Installation" (RE0F10J).

# B2603 SHIFT POSITION

## DTC Logic

INFOID:0000000012549603

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to SEC-112, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible causes |
|---|---|---|---|
| B2603 | SHIFT POSI STATUS | BCM detects the following status when ignition switch is in the ON position.<br>• P (Park) position signal from TCM: approx. 0 V<br>• CVT shift selector (park position switch) signal: approx. 0 V | • Harness or connector [CVT shift selector (park position switch) circuit is open or shorted.]<br>• Harness or connectors (TCM circuit is open or shorted.)<br>• CVT shift selector (park position switch)<br>• CVT assembly (TCM)<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Shift the selector lever to the P (Park) 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-118, "Diagnosis Procedure".
NO >> GO TO 2.

#### 2.PERFORM DTC CONFIRMATION PROCEDURE 2

1. Shift the selector lever to any position other than P (Park) 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-118, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549604

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

#### 1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

1. Turn ignition switch ON.
2. Select “DETE/CANCEL SW” and "SFT PN/N SW" in DATA MONITOR mode with CONSULT.
3. Check “DETE/CANCEL SW” and "SFT PN/N SW" indication under the following conditions.

| Monitor item | Condition | | Indication |
|---|---|---|---|
| DETE/CANCEL SW | CVT Shift selector | In any position other than P (Park) | OFF |
| | | P (Park) | ON |
| SFT PN/N SW | CVT Shift selector | In any position other than P (Park) | OFF |
| | | P (Park) | ON |

Is the inspection result normal?

YES >> Refer to GI-47, "Intermittent Incident".
NO-1 >> If DETE/CANCEL SW is incorrect. GO TO 6.
NO-2 >> If SFT PN/N SW is incorrect. GO TO 2.

## 2.CHECK BCM INPUT SIGNAL

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

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| BCM | | | | | |
| Connector | Terminal | | | | |
| M18 | 39 | Ground | Selector lever | P or N position | 12 |
| | | | | Other than above | 0 |

Is the inspection result normal?

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

## 3.CHECK BCM INPUT SIGNAL CIRCUIT

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

| Transmission range switch | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| F36 | 10 | M18 | 39 | Yes |

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

| Transmission range switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F36 | 10 | | No |

Is the inspection result normal?

YES >> Refer to GI-47, "Intermittent Incident".
NO >> GOT TO 5.

## 4.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

## 5.CHECK 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-65, "DTC Index" (RE0F10E) or TM-286, "DTC Index" (RE0F10J).
NO >> Perform the trouble diagnosis related to the TCM power and ground circuits. Refer to TM-176, "Diagnosis Procedure" (RE0F10E) or TM-394, "Diagnosis Procedure"(RE0F10J).

## 6.CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

| (+) | | (–) | Voltage (V) (Approx.) |
|---|---|---|---|
| CVT shift selector (park positionswitch) | | | |
| Connector | Terminal | | |
| M78 | 5 | Ground | 12 |

Is the inspection result normal?

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

## 7.CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

| CVT shift selector (park position switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M78 | 5 | M19 | 69 | Yes |

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

| CVT shift selector (park position switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M78 | 5 | | No |

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness.

## 8.CHECK CVT SHIFT SELECTOR CIRCUIT

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

| CVT shift selector (park position switch) | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M78 | 6 | M18 | 20 | Yes |

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

| CVT shift selector (park position switch) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M78 | 6 | | No |

Is the inspection result normal?

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

## 9.CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to SEC-121, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 10.
NO >> Replace CVT shift selector. Refer to TM-198, "Removal and Installation" (RE0F10E) or TM-416, "Removal and Installation" (RE0F10J).

## 10.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

## Component Inspection

INFOID:0000000012549605

### 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 | | | | |
| 5 | 6 | Selector lever | P (Park) position | No |
| | | | Other than above | Yes |

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace CVT shift selector. Refer to TM-198, "Removal and Installation" (RE0F10E) or TM-416, "Removal and Installation" (RE0F10J).

# B2604 SHIFT POSITION

## DTC Logic

INFOID:0000000012549606

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2604 | PNP/CLUTCH SW | The following states are detected for 5 seconds while ignition switch is ON:<br>• P/N position signal is sent from TCM but shift position signal input (CAN) from TCM is other than P (Park) and N (Neutral)<br>• P/N position signal is not sent from TCM but shift position signal input (CAN) from TCM is P (Park) or N (Neutral) | • Harness or connectors (CAN communication line is open or shorted.)<br>• Harness or connectors (TCM circuit is open or shorted.)<br>• TCM<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Shift the selector lever to the P (Park) position.
2. Turn ignition switch ON and wait 5 seconds or more.
3. Shift the selector lever to the N (Neutral) position and wait 5 seconds or more.
4. Shift the selector lever to any position other than P (Park) and N (Neutral) 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-122, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549607

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

#### 1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

1. Turn ignition switch ON.
2. Select “SFT P -MET”, “SFT N -MET” and "SFT PN/N SW" in DATA MONITOR mode with CONSULT.
3. Check “SFT P -MET”, “SFT N -MET” and "SFT PN/N SW" indication under the following conditions.

| Monitor item | Condition | | Indication |
|---|---|---|---|
| SFT P -MET | CVT Shift selector | Selector lever is in any position except the P (Park) position | OFF |
| | | Selector lever is in the P (Park) position | ON |

| Monitor item | Condition | | Indication |
|---|---|---|---|
| SFT N -MET | CVT Shift selector | Selector lever is in any position except the N (Neutral) position | OFF |
| | | Selector lever is in the N (Neutral) position | ON |
| SFT PN/N SW | CVT Shift selector | Selector lever is in and position except the P (Park) or N (Neutral) position | OFF |
| | | Selector lever is in the P (Park) or N (Neutral) position | ON |

Is the inspection result normal?

YES >> Refer to GI-47, "Intermittent Incident".
NO-1 >> If SFT N -MET or SFT P -MET is incorrect. GO TO 7.
NO-2 >> If SFT PN/N SW is incorrect. GO TO 2.

## 2.CHECK DTC OF TCM

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 TM-65, "DTC Index" (RE0F10E) or TM-286, "DTC Index" (RE0F10J).
NO >> GO TO 3.

## 3.CHECK BCM INPUT SIGNAL

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

| (+) BCM Connector | (+) BCM Terminal | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| M18 | 39 | Ground | Selector lever | P (Park) or N (Neutral) position | 12 |
| | | | | Other than above | 0 |

Is the inspection result normal?

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

## 4.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

## 5.CHECK 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 | |
| F36 | 10 | M18 | 39 | Yes |

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

| Transmission range switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F36 | 10 | | No |

Is the inspection result normal?

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

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

## 7.CHECK CVT SHIFT SELECTOR RANGE SWITCH FUNCTION (METER)

1. Turn ignition switch ON.
2. Select “SHIFT IND" in DATA MONITOR mode (METER) with CONSULT.
3. Check “SHIFT IND" indication under the following conditions.

| Monitor item | Condition | | Indication |
|---|---|---|---|
| SHIFT IND | CVT Shift selector | P (Park) position | P |
| | | N (Neutral) position | N |

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to TM-111, "Component Inspection" (RE0F10E) or TM-331, "Component Inspection" (RE0F10J).

# B2605 SHIFT POSITION

## DTC Logic

INFOID:0000000012549608

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B2605 | PNP/CLUTCH SW | When ignition switch is ON, P/N position signal input from TCM and P/N position signal (CAN) input from IPDM E/R do not match. | • Harness or connectors (CAN communication line is open or shorted.)<br>• Harness or connectors (TCM circuit is open or shorted.)<br>• IPDM E/R<br>• BCM |

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Shift the selector lever to the P (Park) position.
2. Turn ignition switch ON and wait 1 second or more.
3. Shift the selector lever to the N (Neutral) position and wait 1 second or more.
4. Shift the selector lever to any position other than P (Park) and N (Neutral) 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-125, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549609

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

#### 1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

1. Turn ignition switch ON.
2. Select “SFT PN-IPDM” and "SFT PN/N SW" in DATA MONITOR mode with CONSULT.
3. Check “SFT PN-IPDM” and "SFT PN/N SW" indication under the following conditions.

| Monitor item | Condition | | Indication |
|---|---|---|---|
| SFT PN-IPDM | CVT Shift selector | Any position other than P (Park) or N (Neutral) position | OFF |
| | | P (Park) or N (Neutral) position | ON |
| SFT PN/N SW | CVT Shift selector | Any position other than P (Park) or N (Neutral) position | OFF |
| | | P (Park) or N (Neutral) position | ON |

Is the inspection result normal?

YES >> Refer to GI-47, "Intermittent Incident".

NO-1 >> If SFT PN-IPDM is incorrect. GO TO 2.
NO-2 >> If SFT PN/N SW is incorrect. GO TO 5.

## 2.CHECK IPDM E/R INPUT SIGNAL

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

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| IPDM E/R | | | | | |
| Connector | Terminal | | | | |
| F24 | 66 | Ground | Selector lever | P (Park) or N (Neutral) position | 12 |
| | | | | Other than above | 0 |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> GO TO 3.

## 3.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. 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 | |
| E119 | 37 | F36 | 10 | Yes |

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E119 | 37 | | No |

Is the inspection result normal?

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

## 4.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

>> Inspection End.

## 5.CHECK BCM INPUT SIGNAL

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

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| BCM | | | | | |
| Connector | Terminal | | | | |
| M18 | 39 | Ground | Selector lever | P (Park) or N (Neutral) position | 12 |
| | | | | Other than above | 0 |

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 7.

## 6. REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

## 7. 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 | |
| F36 | 10 | M18 | 39 | Yes |

5. Check continuity between TCM harness connector and ground.

| Transmission range switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| F36 | 10 | | No |

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness.

## 8. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# B2608 STARTER RELAY

## DTC Logic

INFOID:0000000012549610

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine.
- Shift selector lever: In the P (Park) position
- Brake 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-128, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549611

Regarding Wiring Diagram information, refer to SEC-27, "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 BCM POWER SUPPLY CIRCUIT

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

| (+) | | (–) | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| BCM | | | | | |
| Connector | Terminal | | | | |
| M19 | 62 | Ground | Selector lever | N (Neutral) or P (Park) position | 12 |
| | | | | Other than above | 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 connector.
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 | |
| E119 | 33 | M19 | 62 | Yes |

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E119 | 33 | | No |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> Repair or replace harness.

## 4.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# B2617 STARTER RELAY CIRCUIT

## Description

INFOID:0000000012549612

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

## DTC Logic

INFOID:0000000012549613

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B2617 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B2617 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-130, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549614

Regarding Wiring Diagram information, refer to SEC-27, "Wiring Diagram".

#### 1.CHECK STARTER RELAY

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

| BCM | | Ground | Condition | Voltage (V) |
|---|---|---|---|---|
| Connector | Terminal | | | |
| M19 | 62 | Ground | Ignition switch cranking | 0 |
| | | | Ignition switch ON (Park or Neutral) | Battery voltage |
| | | | Other than above | 0 |

Is the measurement value within the specification.

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

#### 2.CHECK STARTER RELAY CIRCUIT

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

| IPDM E/R | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E119 | 33 | M19 | 62 | Yes |

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E119 | 33 | Ground | No |

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Repair harness or connector.

## 3.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# B261E VEHICLE TYPE

## Description

INFOID:0000000012549615

There are two types of vehicles.
- HEV
- Conventional

## DTC Logic

INFOID:0000000012549616

### DTC DETECTION LOGIC

**NOTE:**
- If DTC B261E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B261E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> GO TO SEC-132, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549617

#### 1.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self-diagnostic result” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure. Refer to SEC-132, "DTC Logic".

Is the 1st trip DTC B261E displayed again?

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

#### 2.PERFORM BCM CONFIGURATION.

Perform the BCM configuration. Refer to BCS-65, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 3.

#### 3.INSPECTION START

1. Turn ignition switch ON.
2. Check “Self-diagnostic result” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure.
   Refer to SEC-132, "DTC Logic".

Is the 1st trip DTC B261E displayed again?

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

## 4. CONFIRM ECM PART NUMBER.

Confirm the part number of the installed ECM is correct.

Is the ECM part number correct?

YES >> Replace BCM. Refer to BCS-81, "Removal and Installation".
NO >> Replace ECM. Refer to EC-508, "Removal and Installation" (USA and Canada) or EC-885, "Removal and Installation" (Mexico).

# B26F3 STARTER CONTROL RELAY

## DTC Logic

INFOID:0000000012549618

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

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

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine:
- Shift selector lever: In the P (Park) position
- Brake pedal: 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-134, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549619

#### 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-47, "Intermittent Incident".

>> Inspection End.

# B26F4 STARTER CONTROL RELAY

## DTC Logic

INFOID:0000000012549620

### DTC DETECTION LOGIC

**NOTE:**

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-68, "DTC Logic".
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-69, "DTC Logic".

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B26F4 | START CONT RELAY 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. | • Harness or connectors (CAN communication line is open or shorted.)<br>• 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.

- Shift selector lever: In the P (Park) position
- Brake pedal: Depressed

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

Is DTC detected?

YES >> GO TO SEC-135, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549621

#### 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-47, "Intermittent Incident".

>> Inspection End.

# B26F7 BCM

## DTC Logic

INFOID:0000000012549622

### 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-136, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549623

#### 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-136, "DTC Logic".

Is DTC detected?

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

#### 2.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

# B26F8 BCM

## DTC Logic

INFOID:0000000012549624

### DTC DETECTION LOGIC

**NOTE:**
DTC B26F8 can be detected even though the related circuit is not used in this vehicle.

| DTC No. | Trouble diagnosis name | DTC detecting condition | Possible cause |
|---|---|---|---|
| B26F8 | BCM | 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-137, "Diagnosis Procedure".
NO >> Inspection End.

## Diagnosis Procedure

INFOID:0000000012549625

#### 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-137, "DTC Logic".

Is DTC detected?

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

#### 2.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

# HEADLAMP FUNCTION

## Component Function Check

INFOID:0000000012549626

### 1.CHECK FUNCTION

1. Perform HEAD LAMP(HI) in ACTIVE TEST mode of THEFT ALM of BCM using CONSULT.
2. Check headlamps operation.

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to SEC-138, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000012549627

### 1.CHECK HEADLAMP FUNCTION

Refer to SEC-138, "Component Function Check".

Is the inspection result normal?

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

### 2.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# HOOD SWITCH

## Component Function Check

INFOID:0000000012549628

### 1.CHECK FUNCTION

1. Select HOOD SW in Data Monitor mode of IPDM E/R using CONSULT.
2. Check HOOD SW indication under the following condition.

| Monitor item | Condition | | Indication |
|---|---|---|---|
| HOOD SW | Hood | Open | ON |
| | | Close | OFF |

Is the indication normal?

YES >> Hood switch is OK.
NO >> Go to SEC-139, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000012549629

Regarding Wiring Diagram information, refer to SEC-56, "Wiring Diagram".

### 1.CHECK HOOD SWITCH SIGNAL CIRCUITS

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

| (+) | | (–) | Voltage (V) |
|---|---|---|---|
| Hood switch | | | |
| Connector | Terminal | | |
| E205 | 1 | Ground | Battery voltage |
| | 2 | | |

Is the inspection result normal?

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

### 2.CHECK HOOD SWITCH SIGNAL CIRCUITS

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

| IPDM E/R | | Hood switch | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E218 | 94 | E205 | 1 | Yes |
| | 96 | | 2 | |

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E218 | 94 | | No |
| | 96 | | |

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> Repair or replace harness.

## 3.CHECK HOOD SWITCH GROUND CIRCUIT

Check continuity between hood switch harness connector and ground.

| Hood switch | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E205 | 3 | | Yes |

Is the inspection result normal?

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

## 4.CHECK HOOD SWITCH

Refer to SEC-140, "Component Inspection" .

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace hood switch. Refer to DLK-269, "HOOD LOCK : Removal and Installation".

## 5.CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

>> Inspection End.

# Component Inspection

INFOID:0000000012549630

## 1.CHECK HOOD SWITCH

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

| Hood switch | | Condition | | Continuity |
|---|---|---|---|---|
| Terminal | | | | |
| 1 | 3 | Hood switch | Press | Yes |
| | | | Release | No |
| 2 | | | Press | No |
| | | | Release | Yes |

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace hood switch. Refer to DLK-269, "HOOD LOCK : Removal and Installation".

# HORN FUNCTION

## Component Function Check

INFOID:0000000012549631

### 1.CHECK FUNCTION

1. Perform VEHICLE SECURITY HORN in ACTIVE TEST mode of THEFT ALM of BCM using CONSULT.
2. Check the horn operation.

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

Is the operation normal?

YES >> Inspection End.
NO >> Go to SEC-141, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000013027881

Regarding Wiring Diagram information, refer to SEC-56, "Wiring Diagram".

### 1.CHECK HORN FUNCTION

Check horn function with horn switch.

Does the horn sound?

YES >> GO TO 2.
NO >> Refer to HRN-3, "Wiring Diagram".

### 2.CHECK HORN RELAY POWER SUPPLY

1. Turn ignition switch ON.
2. Perform “Active Test” of “HORN” using CONSULT.
3. Using an oscilloscope or analog voltmeter to check voltage between IPDM E/R connector and ground.

| IPDM E/R | | Ground | Test item | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| Connector | Terminal | | | | |
| E119 | 23 | Ground | HORN | ON | Battery voltage → 0 → Battery voltage |
| | | | | Other than above | Battery voltage |

Is the inspection result normal?

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

### 3.CHECK HORN RELAY CIRCUIT

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

| IPDM E/R | | Horn relay | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| E119 | 23 | H-1 | 1 | Yes |

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

| IPDM E/R | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| E119 | 23 | Ground | No |

Is the inspection result normal?

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

## 4. CHECK INTERMITTENT INCIDENT

Refer to GI-47, "Intermittent Incident".

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".
NO >> Repair or replace the malfunctioning part.

# SECURITY INDICATOR LAMP

## Component Function Check

INFOID:0000000012549633

### 1.CHECK FUNCTION

1. Perform THEFT IND in ACTIVE TEST mode of IMMU of BCM using CONSULT.
2. Check security indicator lamp operation.

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Go to SEC-143, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000012549634

Regarding Wiring Diagram information, refer to SEC-56, "Wiring Diagram".

### 1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

| (+) | | (–) | Voltage (V) |
|---|---|---|---|
| Combination meter | | | |
| Connector | Terminal | | |
| M24 | 22 | Ground | Battery voltage |

Is the inspection result normal?

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

### 2.CHECK SECURITY INDICATOR LAMP SIGNAL

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

| (+) | | (–) | Voltage (V) |
|---|---|---|---|
| BCM | | | |
| Connector | Terminal | | |
| M18 | 18 | Ground | Battery voltage |

Is the inspection result normal?

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

### 3.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

## 4. CHECK SECURITY INDICATOR LAMP CIRCUIT

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

| Combination meter | | BCM | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M24 | 6 | M18 | 18 | Yes |

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

| Combination meter | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M24 | 6 | | No |

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-85, "Removal and Installation".
NO >> Repair or replace harness.

# SYMPTOM DIAGNOSIS

## INTELLIGENT KEY SYSTEM SYMPTOMS

### Diagnosis Procedure

INFOID:0000000013320665

**NOTE:**
Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

SYMPTOM TABLE 1 (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)

| No. | Door lock operation (remote keyless entry) | Door lock operation (request switch) or back door open operation (opener switch of back door panel) | Engine started with push-button ignition switch operation (registered Intelligent Key is within the detection area of inside key antenna) | Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch) | Symptom |
|---|---|---|---|---|---|
| 1 | OK | OK | No start | No start | SEC-146 |
| 2 | OK | NG | OK | OK | DLK-229 |
| 3 | OK | NG | No crank, No start | OK | DLK-231 |
| 4 | NG | NG | No crank, No start | OK | DLK-233 |
| 5 | NG | NG | No start | No start | DLK-234 |
| 6 | OK | OK | No crank, No start | OK | SEC-147 |
| 7 | NG | OK | OK | OK | DLK-236 |
| 8 | NG | NG | OK | OK | DLK-237 |
| 9 | Poor range | OK | OK | OK | DLK-238 |

SYMPTOM TABLE 2 (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NORMALLY)

| No. | Door lock operation (remote keyless entry) | Door lock operation (request switch) or back door open operation (opener switch of back door panel) | Engine started with push-button ignition switch operation (Intelligent Key is within the detection area of inside key antenna) | Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch) | Symptom |
|---|---|---|---|---|---|
| 1 | NG | OK | OK | OK | DLK-240 |
| 2 | NG | NG | No crank, No start | OK | DLK-241 |
| 3 | NG | NG | No crank, No start | No crank, No start | DLK-243 |
| 4 | OK | OK | No crank, No start | No crank, No start | SEC-149 |
| 5 | OK | NG | No crank, No start | OK | SEC-150 |
| 6 | Poor range | OK | OK | OK | DLK-245 |

# ENGINE CAN NOT START

## Description

INFOID:0000000013320666

Engine does not start when push-button ignition switch is pressed.

SYMPTOM TABLE (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)

| Door lock operation (remote keyless entry) | Door lock operation (request switch) or back door open operation (opener switch of back door panel) | Engine started with push-button ignition switch operation (registered Intelligent Key is within the detection area of inside key antenna) | Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch) |
|---|---|---|---|
| OK | OK | No start | No start |

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)
“ENGINE START BY I-KEY” setting in “Work support” mode of “INTELLIGENT KEY” of “BCM” is ON.

DIAGNOSIS PROCEDURE
Refer to SEC-146, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000013320667

### 1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.
Refer to DLK-228, "Diagnosis Procedure".

>> GO TO 2.

### 2.PERFORM SELF-DIAGNOSIS RESULT

Select “Self Diagnostic Result” mode of all systems, and check if DTC is detected.

>> Follow troubleshooting for each DTC.

# ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

## Description

INFOID:0000000013320668

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

**NOTE:**

- Before starting diagnosis check that vehicle condition is as shown in “Conditions of vehicle”, 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.

SYMPTOM TABLE (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)

| Door lock operation (remote keyless entry) | Door lock operation (request switch) or back door open operation (opener switch of back door panel) | Engine started with push-button ignition switch operation (registered Intelligent Key is within the detection area of inside key antenna) | Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch) |
|---|---|---|---|
| OK | OK | No crank, No start | OK |

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 Intelligent Keys with a registered Intelligent Key ID are in the vehicle.

DIAGNOSIS PROCEDURE

Refer to SEC-147, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000013320669

### 1. CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.
Refer to DLK-228, "Diagnosis Procedure".

>> GO TO 2.

### 2. PERFORM SELF-DIAGNOSIS RESULT

Select “Self Diagnostic Result” mode of “BCM”, and check if DTC is detected.

Is DTC detected?

YES >> Perform the trouble diagnosis for the detected DTC.
NO >> GO TO 3.

### 3. CHECK “ENGINE START BY I-KEY” SETTING IN “WORK SUPPORT”

1. Select “INTELLIGENT KEY” of “BCM” using CONSULT.
2. Select “ENGINE START BY I-KEY” of “Work support” mode.
3. Check “ENGINE START BY I-KEY” in “Work support”.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Set “On” in “ENGINE START BY I-KEY”.

### 4. CHECK INSIDE KEY ANTENNA

Use SIGNAL TECH II to check each inside key antenna. For the inspection method and how to use SIGNAL TECH II, refer to “NISSAN/INFINITI SIGNAL TECH II USER GUIDE”.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace malfunctioning parts.

## 5. REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

# ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE (ONE KEY)

## Description

INFOID:0000000013320670

Engine does not start when push-button ignition switch is pressed. (One Intelligent Key has the symptom, other keys operate normally.)

SYMPTOM TABLE (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NORMALLY)

| Door lock operation (remote keyless entry) | Door lock operation (request switch) or back door open operation (opener switch of back door panel) | Engine started with push-button ignition switch operation (Intelligent Key is within the detection area of inside key antenna) | Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch) |
|---|---|---|---|
| OK | OK | No crank, No start | No crank, No start |

DIAGNOSIS PROCEDURE

Refer to SEC-149, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000013320671

### 1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.
Refer to DLK-228, "Diagnosis Procedure".

>> GO TO 2.

### 2.REGISTER INTELLIGENT KEY

1. Register the Intelligent Key.
2. Check operation after replacement.

Is the inspection result normal?

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

### 3.REPLACE INTELLIGENT KEY

1. Replace the Intelligent Key and perform registration again.
2. Check operation after replacement.

Is the inspection result normal?

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

### 4.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

# DOOR DOES NOT LOCK/UNLOCK AND ENGINE DOES NOT START (REQ SW/PUSH SW) (ONE KEY)

## Description

INFOID:0000000013320672

Door does not lock/unlock with door request switch, and engine does not start when push-button ignition switch is pressed while carrying Intelligent Key. (One Intelligent Key has the symptom, other keys operate normally.)

SYMPTOM TABLE (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NORMALLY)

| Door lock operation (remote keyless entry) | Door lock operation (request switch) or back door open operation (opener switch of back door panel) | Engine started with push-button ignition switch operation (Intelligent Key is within the detection area of inside key antenna) | Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch) |
|---|---|---|---|
| OK | NG | No crank, No start | OK |

DIAGNOSIS PROCEDURE

Refer to SEC-150, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000013320673

### 1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.
Refer to DLK-228, "Diagnosis Procedure".

>> GO TO 2.

### 2.CHECK INTELLIGENT KEY LOW BATTERY WARNING

Check that the Intelligent Key low battery warning operates.

Is the Intelligent Key low battery warning operated?

YES >> Replace Intelligent Key battery. Refer to DLK-291, "Removal and Installation".
NO >> GO TO 3.

### 3.CHECK INTELLIGENT KEY BATTERY

Check the Intelligent Key battery.

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace Intelligent Key battery. Refer to DLK-291, "Removal and Installation".

### 4.REGISTER INTELLIGENT KEY

1. Register the Intelligent Key.
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 5.

### 5.REPLACE INTELLIGENT KEY

1. Replace the Intelligent Key and perform registration again.
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 6.

### 6.REPLACE BCM

1. Replace BCM. Refer to BCS-81, "Removal and Installation".
2. Check operation after replacement.

Is the inspection result normal?

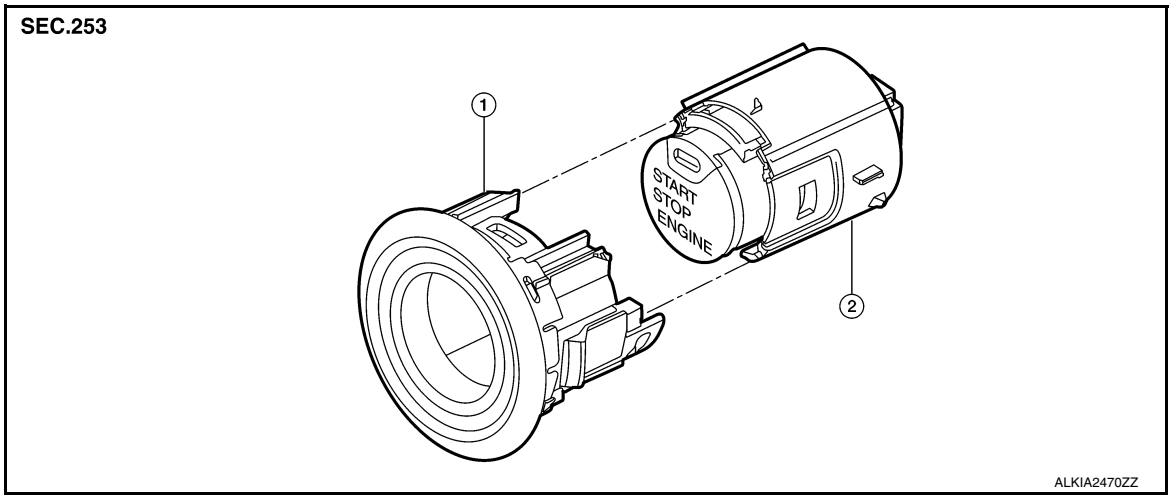
YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-47, "Intermittent Incident".

# REMOVAL AND INSTALLATION

## NATS ANTENNA AMP.

### Exploded View

INFOID:0000000012549649




1. NATS antenna amp.
2. Push-button ignition switch

### Removal and Installation

INFOID:0000000012549650

REMOVAL

1. Remove the instrument lower panel LH. Refer to IP-25, "Removal and Installation".
2. Disconnect the harness connector from the NATS antenna amp and the push button ignition switch.
3. Release the pawl on each side of NATS antenna amp and remove from the instrument pad (LH).
4. Release the pawl on each side and remove the NATS antenna amp from the push-button ignition switch.

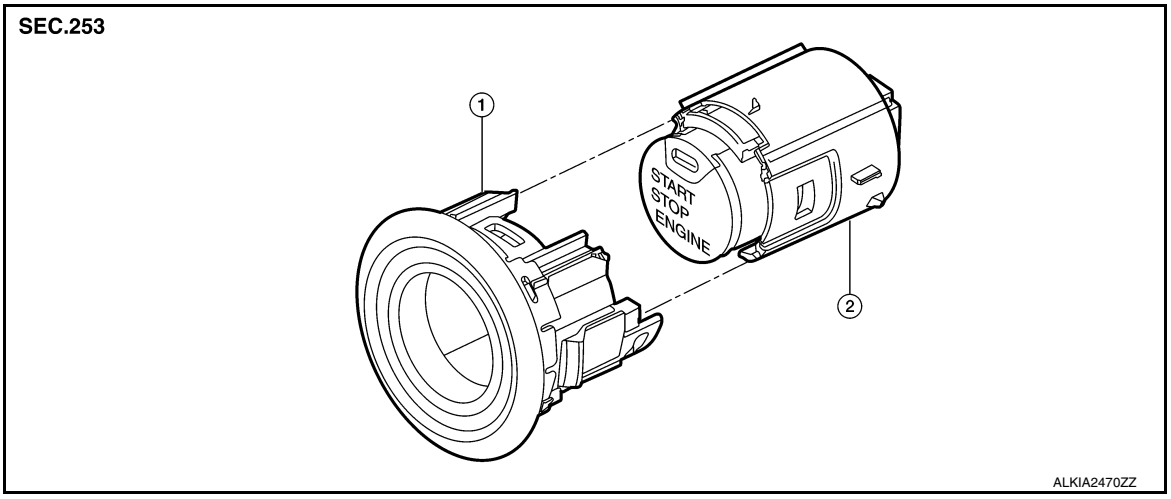
INSTALLATION

Installation is in the reverse order of removal.

# PUSH-BUTTON IGNITION SWITCH

## Exploded View

INFOID:0000000012549651




1. NATS antenna amp.
2. Push-button ignition switch

## Removal and Installation

INFOID:0000000012549652

### REMOVAL

1. Remove the instrument lower panel LH. Refer to IP-25, "Removal and Installation".
2. Disconnect the harness connector from the NATS antenna amp and the push button ignition switch.
3. Release the pawl on each side of NATS antenna amp and remove from the instrument pad (LH).
4. Release the pawl on each side and remove the NATS antenna amp from the push-button ignition switch.

### INSTALLATION

Installation is in the reverse order of removal.

# IMMOBILIZER CONTROL MODULE

## Removal and Installation

INFOID:0000000012549653

The immobilizer control module is integrated into the body control module (BCM). For removal and installation, refer to BCS-81, "Removal and Installation".