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:0000000012875966

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

Precaution for Work

INFOID:0000000012875967

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

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

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

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

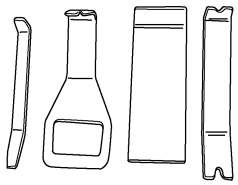
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000012875968

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

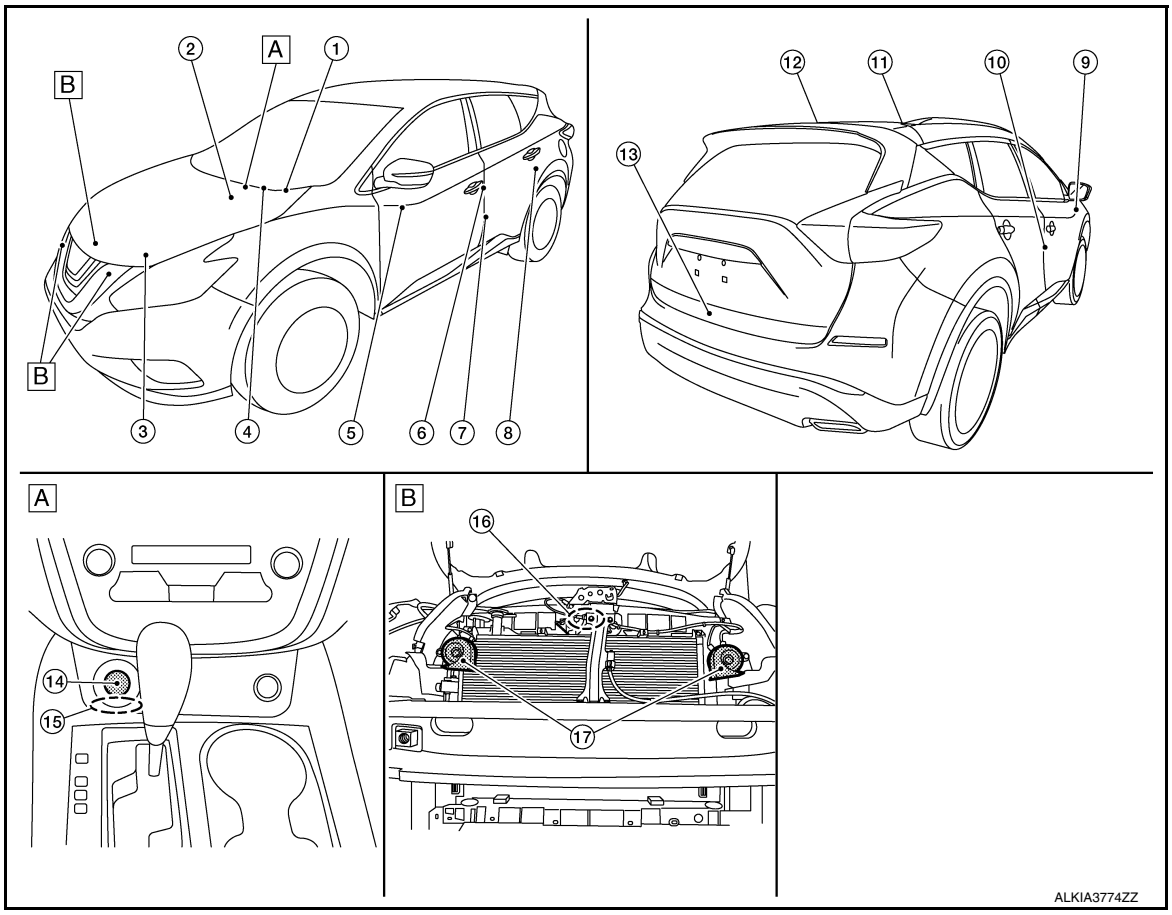
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012875969



A. View of center console.

B. View with front bumper fascia removed.

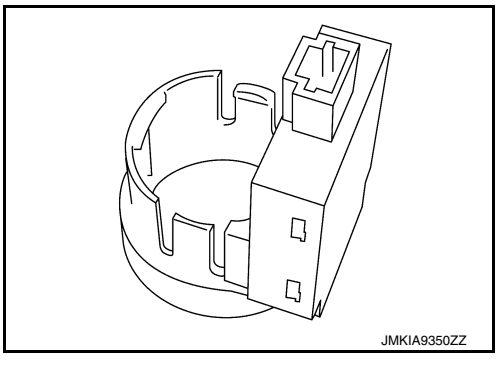
No.	Component	Function
1.	Combination meter	Combination meter transmits the vehicle speed signal to BCM via CAN communication. BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM compares both signals to detect the vehicle speed. Security indicator lamp is located on combination meter. Security indicator lamp blinks when ignition switch is in any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] is on board. Refer to MWI-5, "METER SYSTEM : Component Parts Location".
2.	Inside key antenna (instrument center)	Inside key antenna (instrument center) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-20, "Inside Key Antenna (Instrument Center)".
3.	Transmission range switch	The transmission range switch detects the selector lever position. Refer to TM-13, "CVT CONTROL SYSTEM : Transmission Range Switch".

No.	Component	Function
4.	BCM	BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [NVIS (NATS)] and VEHICLE SECURITY SYSTEM. BCM performs the ID verification between BCM and Intelligent Key when the Intelligent Key is carried into the detection area of inside key antenna, and push-button ignition switch is pressed. If the ID verification result is OK, ignition switch operation is available. Then, when the ignition switch is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine. Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
5.	Main power window and door lock/unlock switch	Door lock and unlock switch is integrated into the power window main switch. Door lock and unlock switch transmits door lock/unlock operation signal to BCM. Refer to PWC-7, "Main Power Window and Door Lock/Unlock Switch".
6.	Front door lock assembly LH	Door key cylinder switch is integrated into front door lock assembly (driver side). Door key cylinder switch detects door LOCK/UNLOCK operation using mechanical key, and then transmits the operation signal to BCM. Refer to DLK-22, "Front Door Lock Assembly (LH)".
7.	Front door switch LH	Front door switch LH transmits door open/closed signal to the BCM.
8.	Rear door switch LH	Rear door switch LH transmits door open/closed signal to the BCM.
9.	Remote keyless entry receiver	Remote keyless entry receiver receives button operation signal and key ID signal of Intelligent Key and then transmits them to BCM. Refer to DLK-19, "Remote Keyless Entry Receiver".
10.	Front door switch RH	Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.
11.	Inside key antenna (console)	Inside key antenna (console) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-20, "Inside Key Antenna (Console)".
12.	Inside key antenna (luggage room)	Inside key antenna (luggage room) detects whether Intelligent Key is inside the vehicle or not, and then transmits the signal to the BCM. Refer to DLK-20, "Inside Key Antenna (Console)".
13.	Back door lock assembly	Back door lock actuator locks/unlocks the back door latch assembly.
14.	Push-button ignition switch	Push-button ignition switch has push switch inside which detects that push-button ignition switch is pressed and then transmits ON/OFF signal to BCM. BCM changes the ignition switch position with the operation of push-button ignition switch. BCM maintains the ignition switch position status while push-button ignition switch is not operated.
15.	NATS antenna amp.	SEC-7, "NATS Antenna Amp."
16.	Hood switch	Hood switch transmits hood open/closed signal to the IPDM E/R. Refer to DLK-20, "Outside Key Antenna (Rear Bumper)".
17.	Horns	IPDM E/R energizes the horns when the security system is activated.

NATS Antenna Amp.

INFOID:0000000012875970

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



Hood Switch

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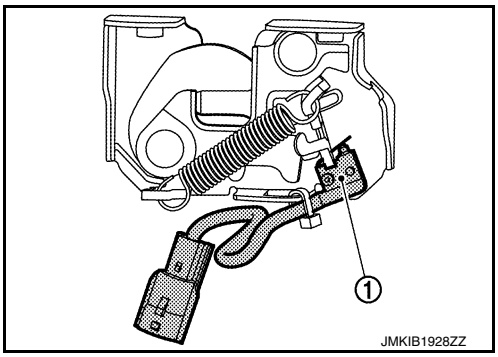
Hood switch ① detects that hood is open and then transmits ON/OFF signal to IPDM E/R. IPDM E/R transmits hood switch signal to BCM via CAN communication. Hood switch is integrated into hood lock assembly LH.



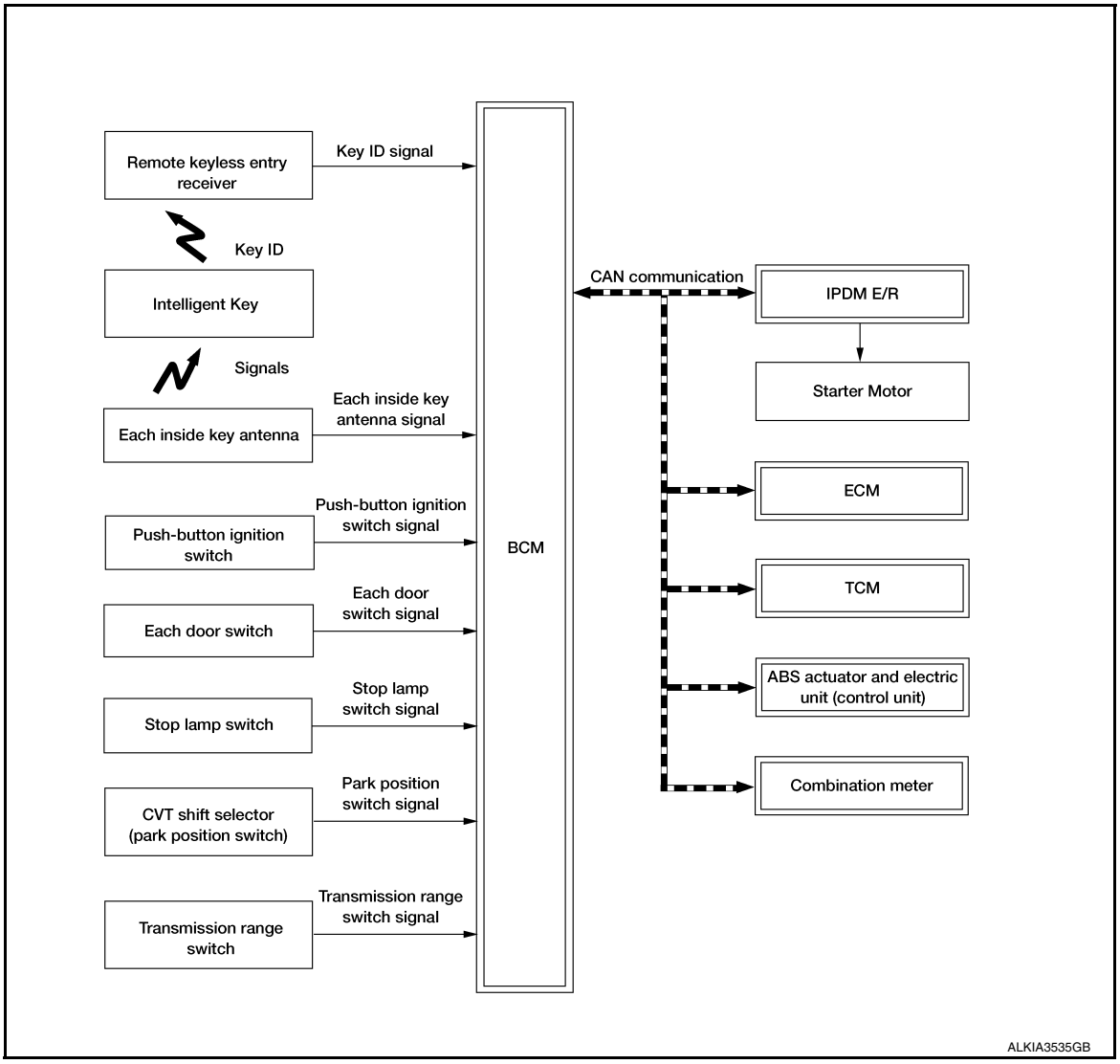
SYSTEM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:0000000012875972

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

- The engine start function of Intelligent Key system makes it possible to start and stop the engine without using the key, based on the electronic ID verification. The electronic ID verification is performed between BCM and Intelligent Key when the push-button ignition switch is pressed, while the Intelligent Key is within the detection area of inside key antenna.
  NOTE:
  The driver should carry the Intelligent Key at all times.
- Intelligent Key has 2 IDs [Intelligent Key ID and IVIS (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 IVIS (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 Key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

NOTE:
Refer to SEC-9, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description" for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

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

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

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

NOTE:

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

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

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

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

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

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

Emergency stop operation

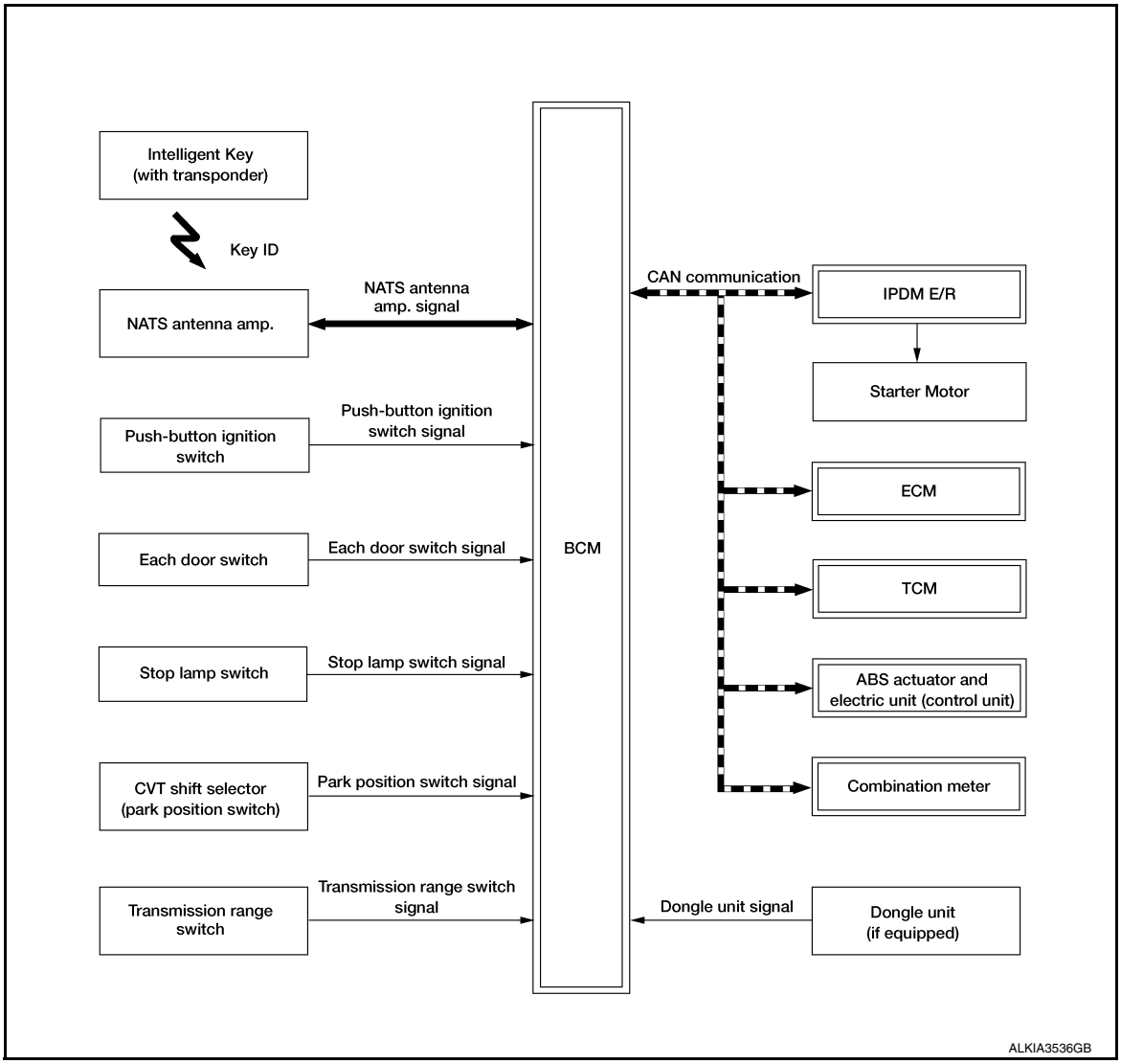
- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:0000000012875973

SYSTEM DIAGRAM



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 Key, 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-55, "Work Flow".
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-574, "Removal and Installation".

PRECAUTIONS FOR KEY REGISTRATION

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

SECURITY INDICATOR LAMP

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Emergency stop operation

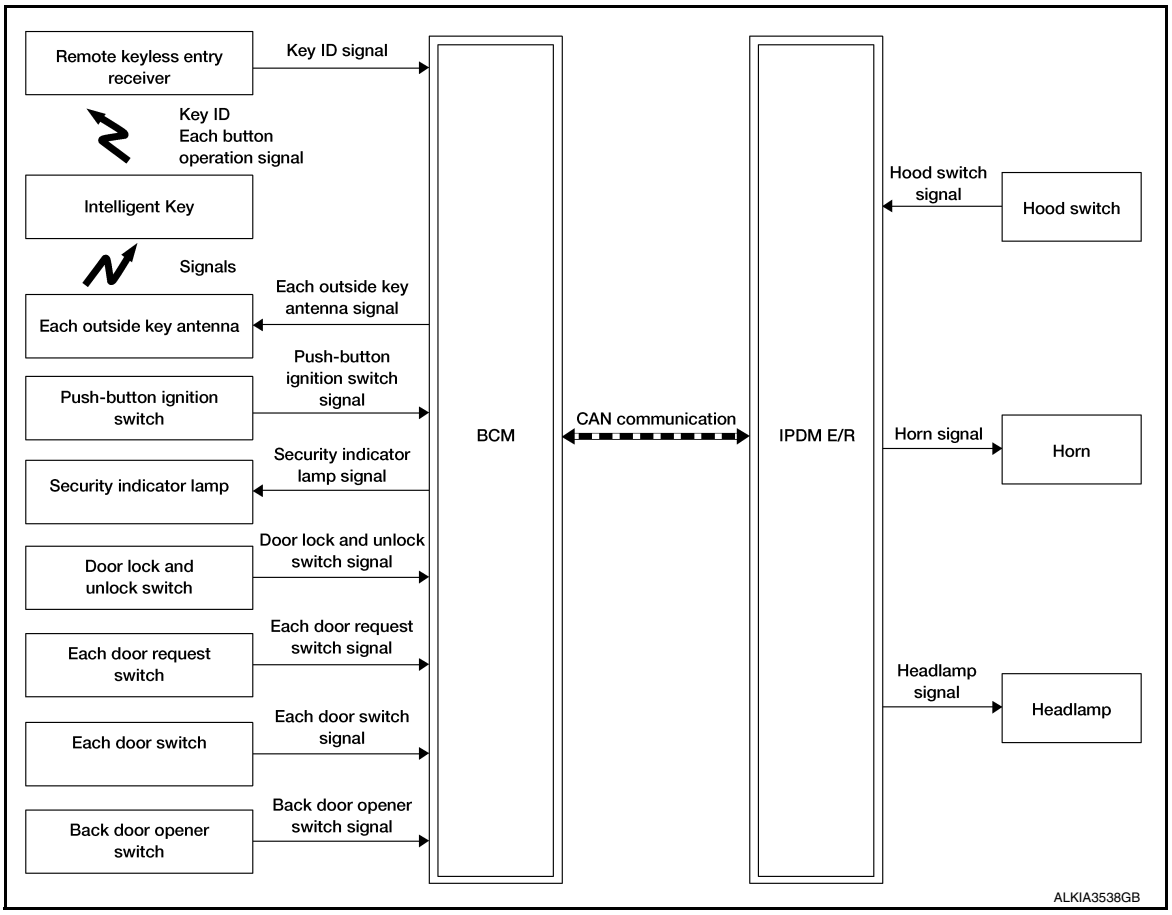
- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 times or more within 1.5 seconds.

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Description

INFOID:0000000012875974

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

- 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.

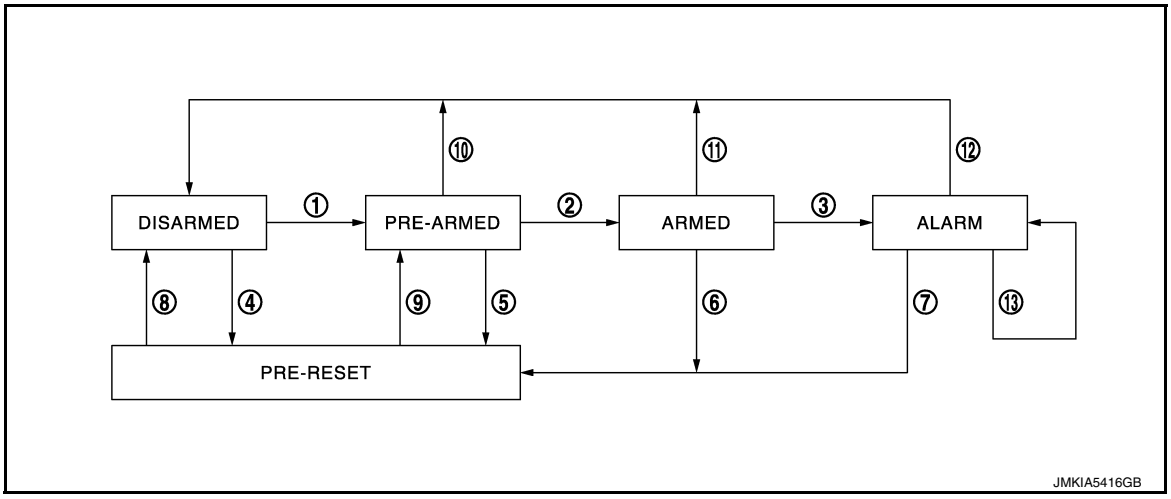
- The panic alarm does not start when the theft warning alarm is activating and the panic alarm stops when the theft warning alarm is activated.
  The priority of the functions are as per the following.

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 • All doors: Closed • Hood: Closed	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	• Power supply position: OFF/LOCK • All doors: Locked • 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 • 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 • All doors: Closed • Hood: Open	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • 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 • Door key cylinder UNLOCK switch: ON • UNLOCK button of Intelligent Key: ON • Door request switch: ON • Back door opener switch: ON • UNLOCK switch of door lock and unlock switch: ON • Any door: Open
9	PRE-RESET to PRE-ARMED	When all of the following conditions are satisfied.	• Power supply position: OFF/LOCK • All doors: Closed • Hood: Closed
10	PRE-ARMED to DISARMED	When one of the following conditions is satisfied.	• Power supply position: ACC/ON/CRANKING/RUN • Door key cylinder UNLOCK switch: ON • UNLOCK button of Intelligent Key: ON • AUTO BACK DOOR button of Intelligent Key: ON • Door request switch: ON • Back door opener switch: ON • Any door: Open
11	ARMED to DISARMED	When one of the following conditions is satisfied.	• Power supply position: ACC/ON/CRANKING/RUN • Door key cylinder UNLOCK switch: ON • UNLOCK button of Intelligent Key: ON • AUTO BACK DOOR button of Intelligent Key: ON • Door request switch: ON • Back door opener switch: ON
12	ALARM to DISARMED		
13	RE-ALARM	When one of the following conditions is satisfied after the ALARM operation is finished.	• Any door: Open • 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 control button of Intelligent Key or door request switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to SEC-9, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description".
- To open back door by operating back door opener switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to DLK-25, "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:0000000013377242

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

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

SYSTEM APPLICATION
BCM can perform the following functions:

System	Sub System	Direct Diagnostic Mode						
		ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
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			×				
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×			

FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays it on CONSULT.

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed at the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) at the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power position status at the moment a particular DTC is detected*	While turning BCM status from low power consumption mode to normal mode (Power supply position is “LOCK”*).
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is “OFF”.)
	LOCK>ACC		While turning power supply position from “LOCK” *to “ACC”
	ACC>ON		While turning power supply position from “ACC” to “IGN”
	RUN>ACC		While turning power supply position from “RUN” to “ACC” (Vehicle is stopped and selector lever is in P position.)
	CRANK>RUN		While turning power supply position from “CRANKING” to “RUN” (From cranking up the engine to run it)
	RUN>URGENT		While turning power supply position from “RUN“ to “ACC” (Emergency stop operation)
	ACC>OFF		While turning power supply position from “ACC” to “OFF”
	OFF>LOCK		While turning power supply position from “OFF” to “LOCK”*
	OFF>ACC		While turning power supply position from “OFF” to “ACC”
	ON>CRANK		While turning power supply position from “IGN” to “CRANKING”
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is “OFF”.) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is “LOCK”*.) to low power consumption mode
	LOCK		Power supply position is “LOCK” (Ignition switch OFF)*
	OFF		Power supply position is “OFF” (Ignition switch OFF)
	ACC		Power supply position is “ACC” (Ignition switch ACC)
	ON		Power supply position is “IGN” (Ignition switch ON with engine stopped)
	ENGINE RUN		Power supply position is “RUN” (Ignition switch ON with engine running)
	CRANKING		Power supply position is “CRANKING” (At engine cranking)
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition is switched OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.	

NOTE:
*: Power supply position shifts to “LOCK” from “OFF”, when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met:
- Closing door
- Opening door
- Door is locked using door request switch
- Door is locked using Intelligent Key

The power supply position shifts to “ACC” when the push-button ignition switch (push switch) is pushed at “LOCK”.

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000013377243

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.
SHIFTLOCK SOLENOID PWR SUPPLY [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 park position switch received from TCM on CAN communication line.
SFT PN -IPDM [On/Off]		Indicates condition of P (park) or N (neutral) position from TCM on CAN communication line.
SFT P -MET [On/Off]		Indicates condition of P (park) position from TCM on CAN communication line.
SFT N -MET [On/Off]		Indicates condition of N (neutral) position from IPDM E/R on CAN communication line.
ENGINE STATE [Stop/Start/Crank/Run]	×	Indicates condition of engine state from ECM on CAN communication line.
VEH SPEED 1 [mph/km/h]	×	Indicates condition of vehicle speed signal received from ABS on CAN communication line.
VEH SPEED 2 [mph/km/h]	×	Indicates condition of vehicle speed signal received from combination meter on CAN communication line.
DOOR STAT -DR [LOCK/READY/UNLK]	×	Indicates condition of driver side door status.
DOOR STAT -AS [LOCK/READY/UNLK]	×	Indicates condition of passenger side door status.
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 AUTHENTICATION CANCEL TIMER [under a stop]		Indicates condition of Intelligent Key ID authentication.
ACC BATTERY SAVER [under a 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.
CRANKING TME [sec]		Indicates condition of engine cranking time from Intelligent Key.
ST RLY -REQ		Indicates condition of starter relay.
IGN RLY 1 -REQ		Indicates condition of ignition 1 relay.
IGN RLY 2 -REQ		Indicates condition of ignition 2 relay.

Monitor Item [Unit]	Main	Description
DETE SW PWR [On/Off]		Indicates condition of park position switch voltage.
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.
TRNK/HAT MNTR [On/Off]		Indicates condition of luggage room lamp switch.
RKE-LOCK [On/Off]		Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]		Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]		Indicates condition of 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		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 No2/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].
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 PW 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 SOLENOID TEST	This test is able to check shift lock solenoid operation [On/Off].
DR SEAT LAMP TEST	This test is able to check driver seat lamp illumination operation [On/Off].
AS SEAT LAMP TEST	This test is able to check passenger seat lamp illumination operation [On/Off].
SHIFT SPOT LAMP TEST	This test is able to check shift spot lamp illumination 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.
ANSWERBACK 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.
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.
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.
CONFIRM KEY FOB ID	—		Intelligent Key ID code can be checked.
SHORT CRANKING OUTPUT	Start	70 msec	Starter motor operation duration times.
		100 msec	
		200 msec	
	End		—
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:0000000013377244

DATA MONITOR

Monitor 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 -RR [On/Off]	Indicates condition of rear door request switch RH.

Monitor Item	Description
REQ SW -RL [On/Off]	Indicates condition of rear door request switch LH.
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.
TRNK/HAT MNTR [On/Off]	Indicates condition of luggage room lamp 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].
HEADLAMP(HI)	This test is able to check vehicle security lamp operation [On].

WORK SUPPORT

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

* : Initial setting

IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000013377245

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]	

Monitor Item [Unit]	Description
TP 4 [Yet/DONE]	DONE indicates the number of the Intelligent Key ID which has been registered.
TP 3 [Yet/DONE]	
TP 2 [Yet/DONE]	
TP 1 [Yet/DONE]	
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.

ACTIVE TEST

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

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:0000000013377246

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 a 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.

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-21, "DTC Index".

DATA MONITOR

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

Monitor Item [Unit]	Main Signals	Description
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 2.

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].

ECU DIAGNOSIS INFORMATION

ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:0000000012875980

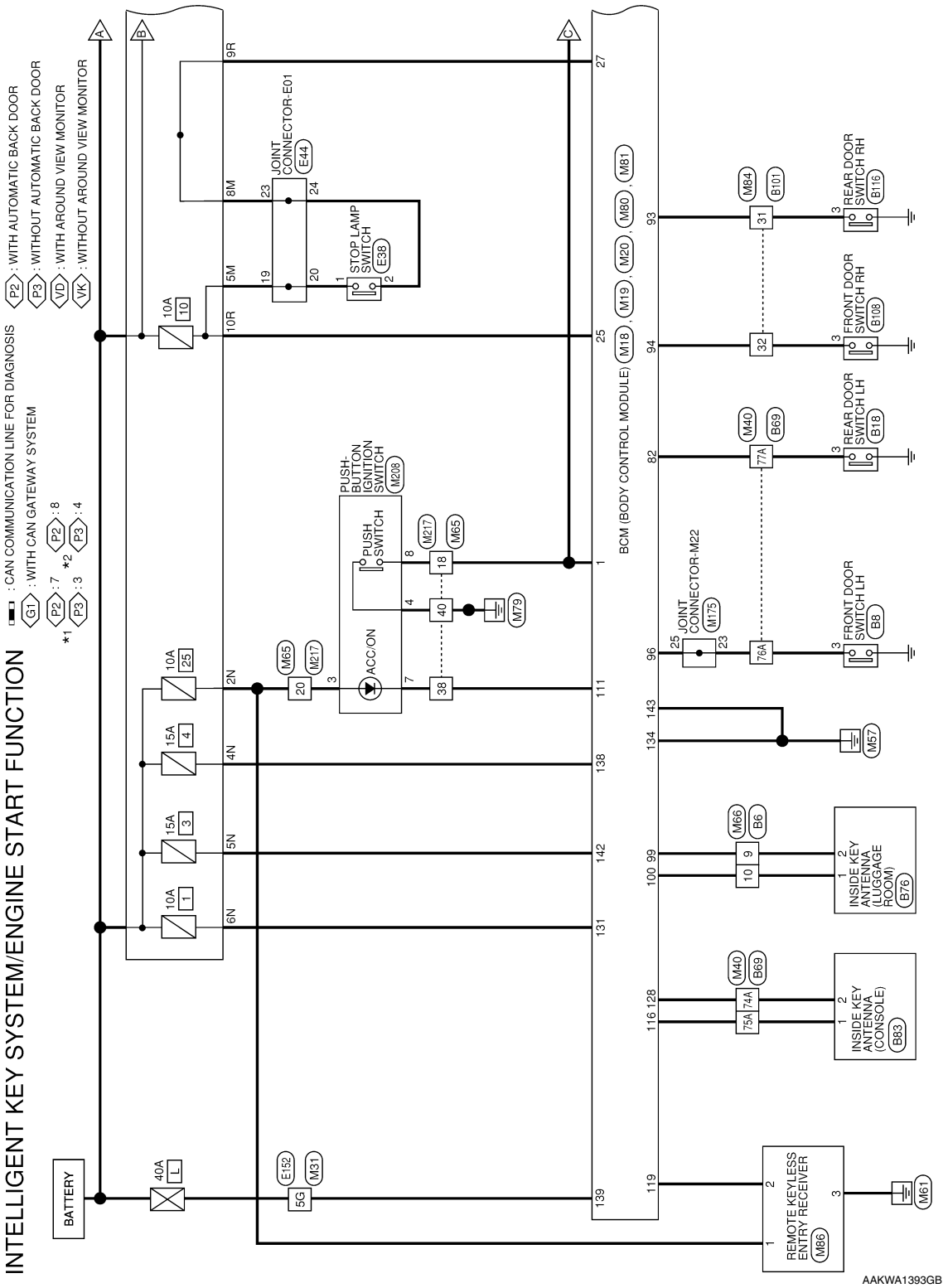
ECU	Reference
ECM	EC-84, "Reference Value"
	EC-102, "Fail-safe"
	EC-104, "DTC Inspection Priority Chart"
	EC-105, "DTC Index"
IPDM E/R	PCS-13, "Reference Value"
	PCS-20, "Fail Safe"
	PCS-21, "DTC Index"
BCM	BCS-30, "Reference Value"
	BCS-50, "Fail Safe"
	BCS-51, "DTC Inspection Priority Chart"
	BCS-52, "DTC Index"

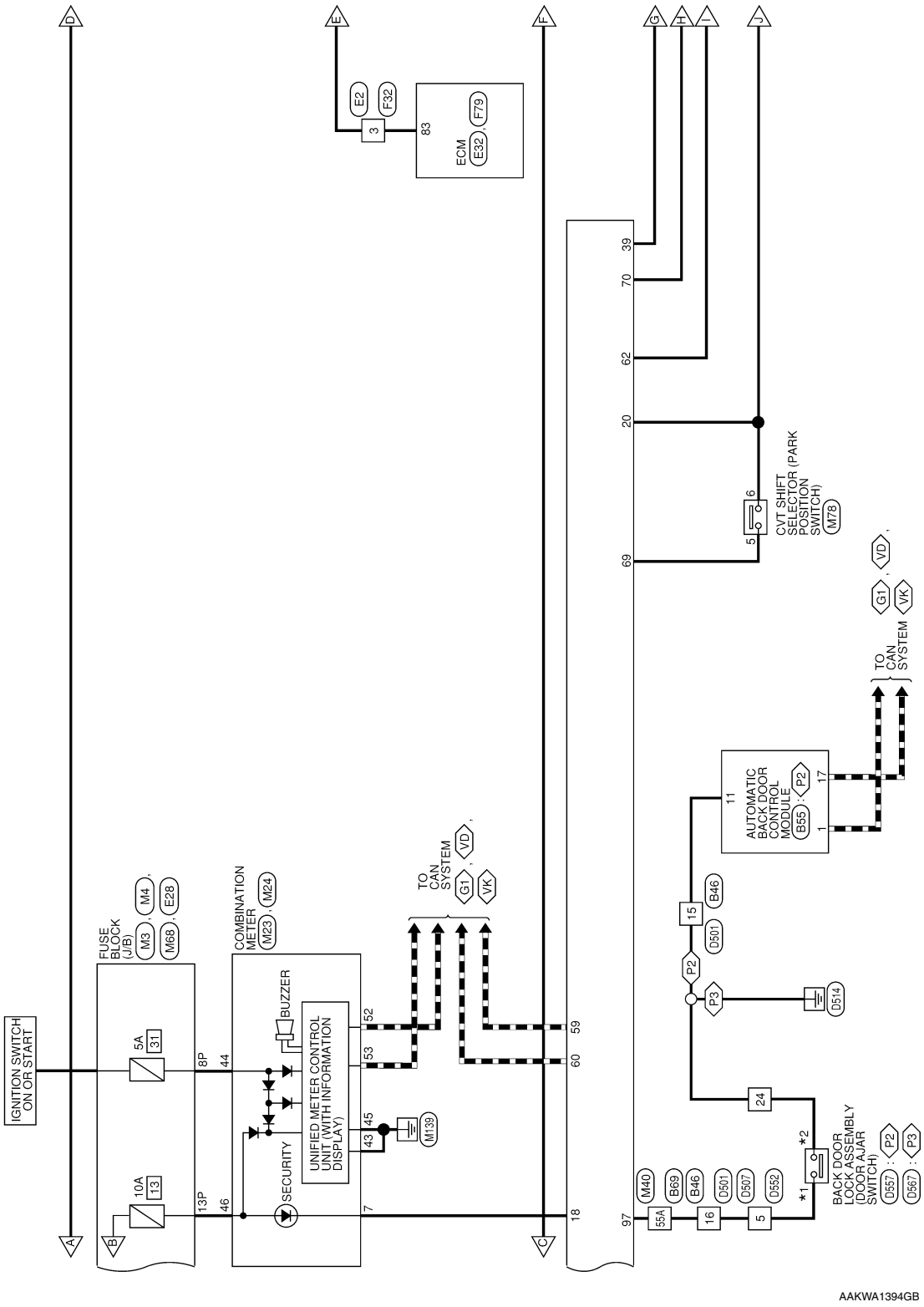
WIRING DIAGRAM

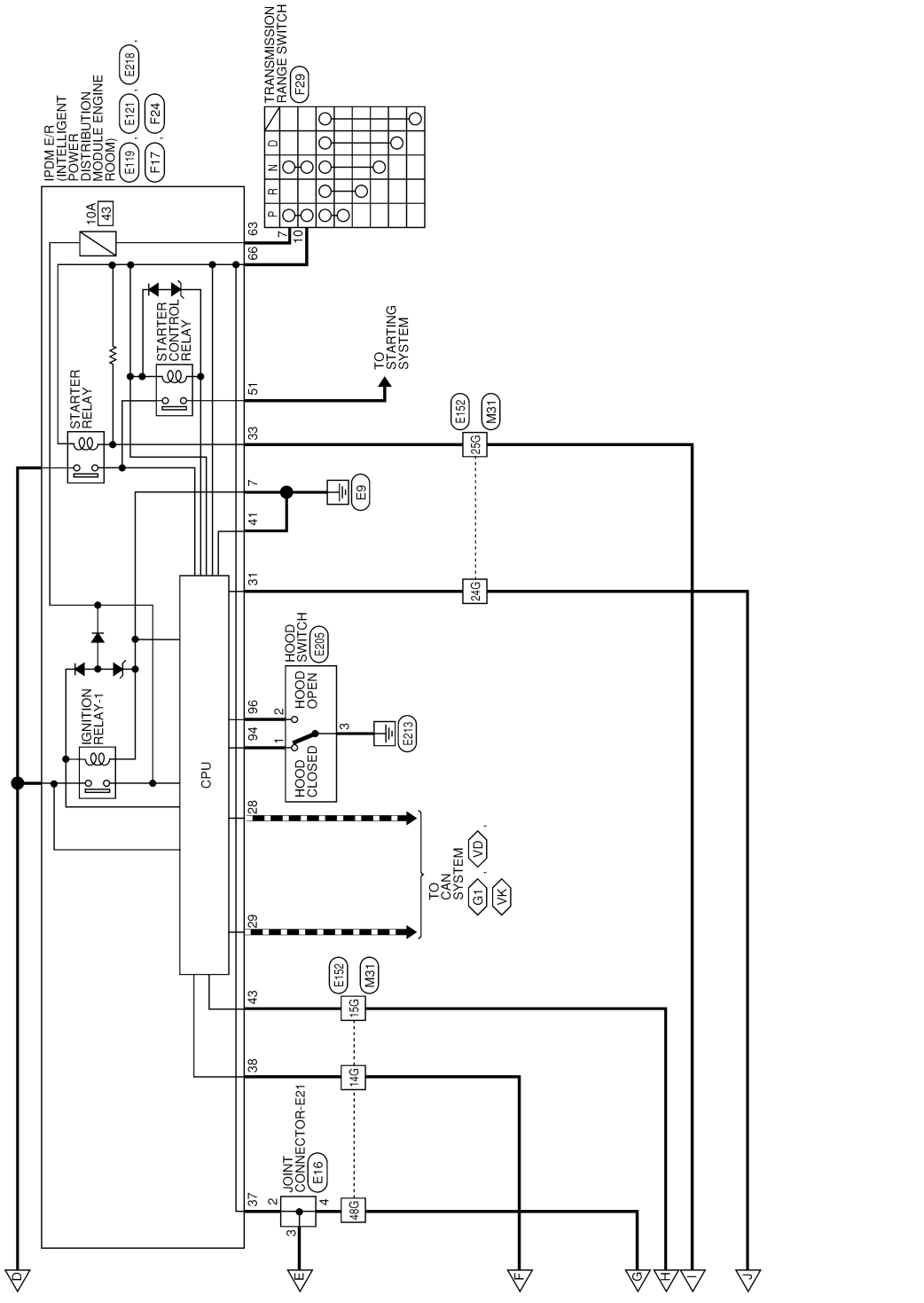
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram

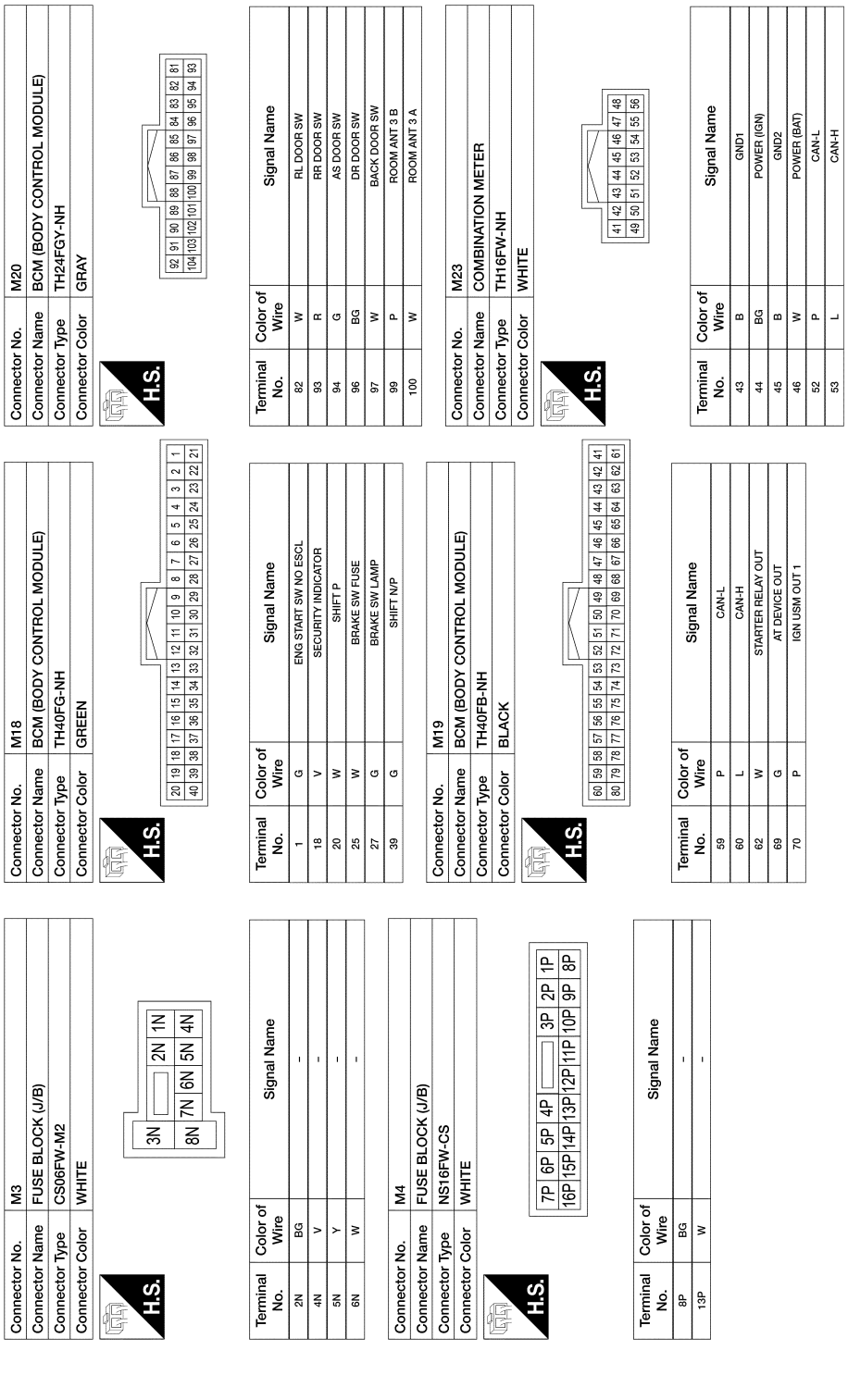
INFOID:0000000012875981




IGNITION SWITCH ON OR START
FUSE BLOCK (J/B)
M4, E28
M3, M68
5A 31
10A 13
8P 44
13P 46
COMBINATION METER M24
M23
BUZZER
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
SECURITY
52 53 45 43
M139
TO CAN SYSTEM
VD, G1, VK
E2 F32
3
83
ECM E32, F79
7 18
59 60
39 70 62 20 69
CVT SHIFT SELECTOR (PARK POSITION SWITCH) M78
5 6
AUTOMATIC BACK DOOR CONTROL MODULE B55
11 17 1
P2
B46 D501
15
P3
D514
24
*2
BACK DOOR LOCK ASSEMBLY (DOOR AJAR SWITCH)
*1
M40 B69 B46 D501 D507 D552
55A 16 5
97
D557 : P2
D567 : P3
AAKWA1394GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E119, E121, E218, F17, F24
TRANSMISSION RANGE SWITCH
F29
P R N D
10A 43
STARTER RELAY
STARTER CONTROL RELAY
TO STARTING SYSTEM
IGNITION RELAY-1
CPU
HOOD SWITCH E205
HOOD OPEN
HOOD CLOSED
E213
E9
E152 M31
25G
24G
15G
14G
48G
JOINT CONNECTOR-E21 E16
TO CAN SYSTEM VD, G1, VK
63 66 7 10 51 33 7 41 31 96 94 2 1 3 28 29 43 38 37 2 3 4
D E F G H I J
AAKWA1395GB

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS



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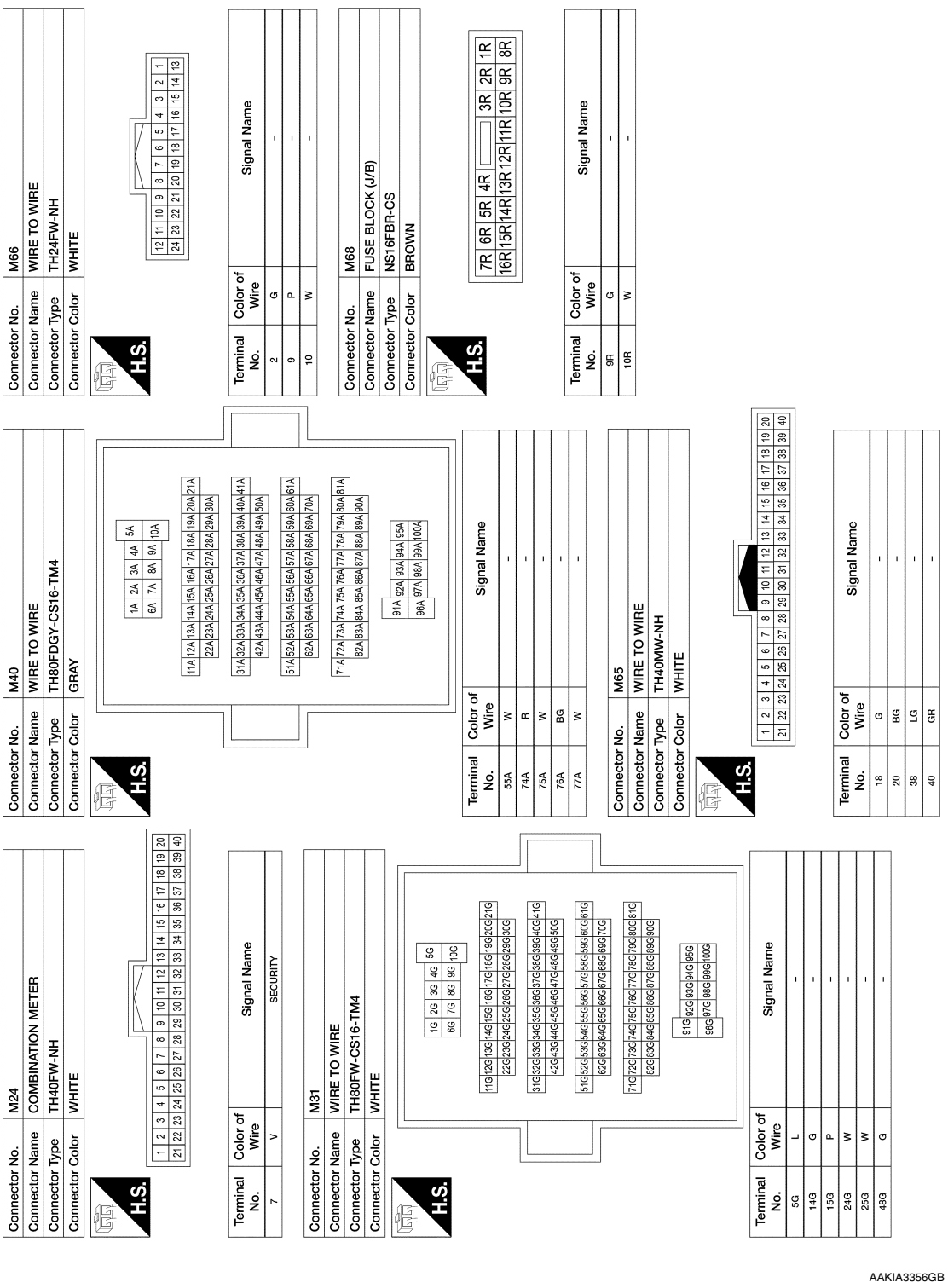


AAKIA3356GB

Connector No.	M175
Connector Name	JOINT CONNECTOR-M22
Connector Type	BJ30FW
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
23	BG	–
25	BG	–

Connector No.	M208
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Type	TH08FW-NH
Connector Color	WHITE

H.S.

4		3
5	6	7	8

Terminal No.	Color of Wire	Signal Name
3	Y	–
4	B	–
7	LG	–
8	BR	–

134	GR	GND2
138	V	BAT REAR DOOR
139	L	BAT POWER F/L
142	Y	BAT FRONT DOOR
143	GR	GND1

Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH
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
31	R	–
32	G	–

Connector No.	M86
Connector Name	REMOTE KEYLESS ENTRY RECEIVER
Connector Type	AAC04FB
Connector Color	BLACK

H.S.

1	2	3	4

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

Connector No.	M78
Connector Name	CVT SHIFT SELECTOR
Connector Type	TH12FW-NH
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 Type	TH24FB-NH
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	LG	ACC LED
116	W	ROOM ANT 2 A
119	R	RF NIMOCO
128	R	ROOM ANT 2 B

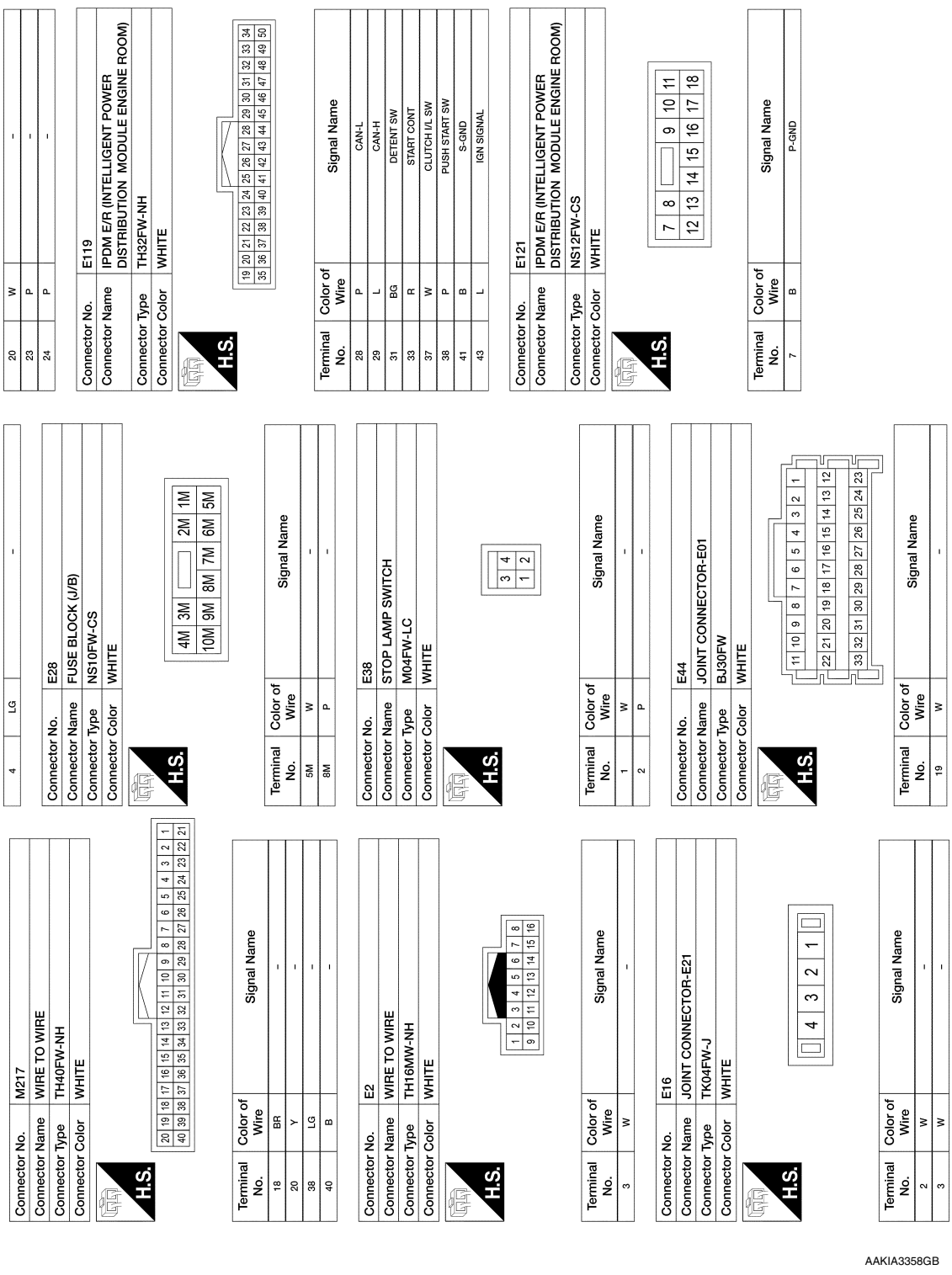
Connector No.	M81
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA09FW-FHA6-SA
Connector Color	WHITE

H.S.

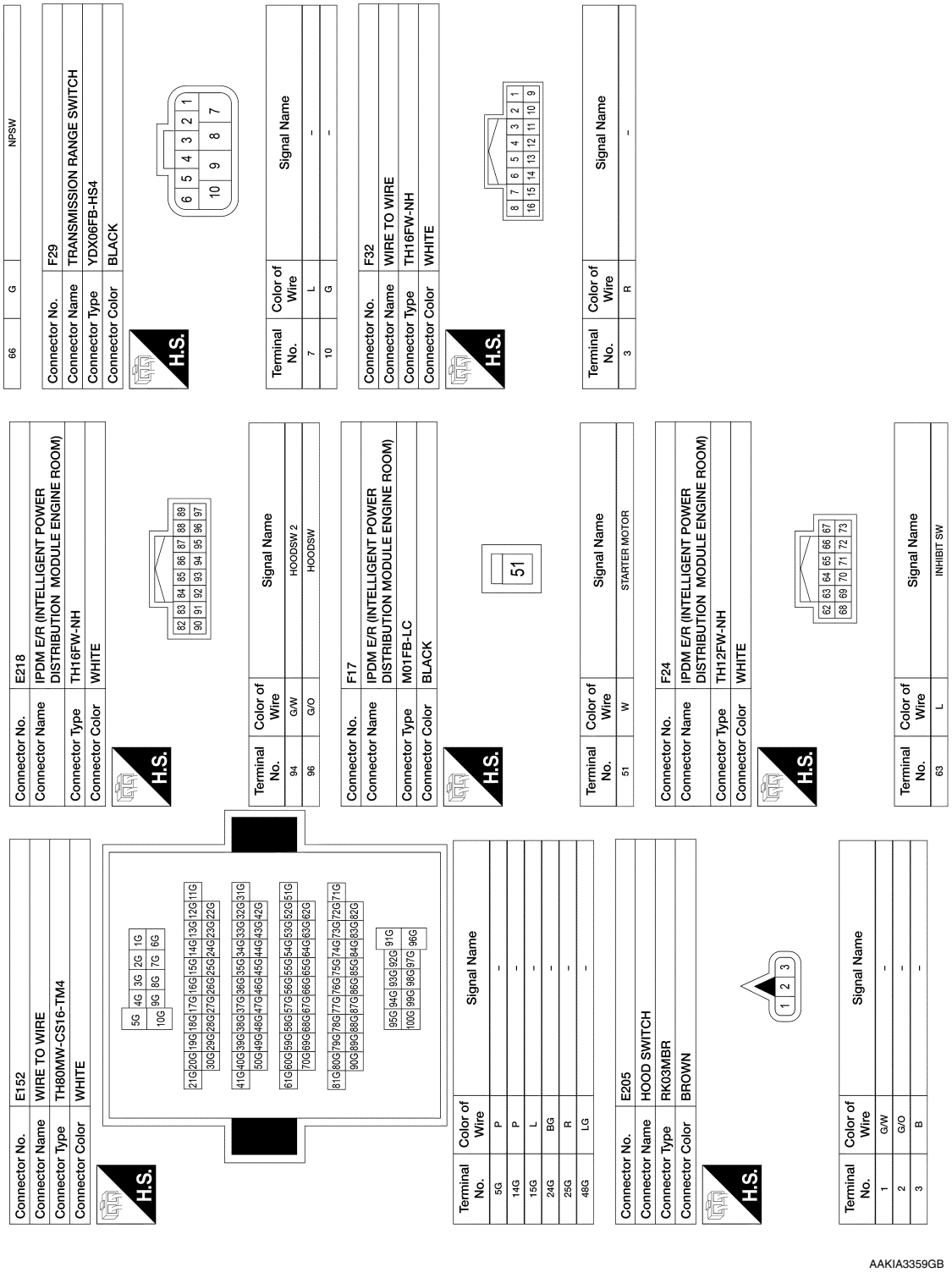
137	136	135	134	133	132	131	130	129
143	142	141	140	139	138			

Terminal No.	Color of Wire	Signal Name
131	W	BAT BCM FUSE

AAKIA3357GB



AAKIA3358GB



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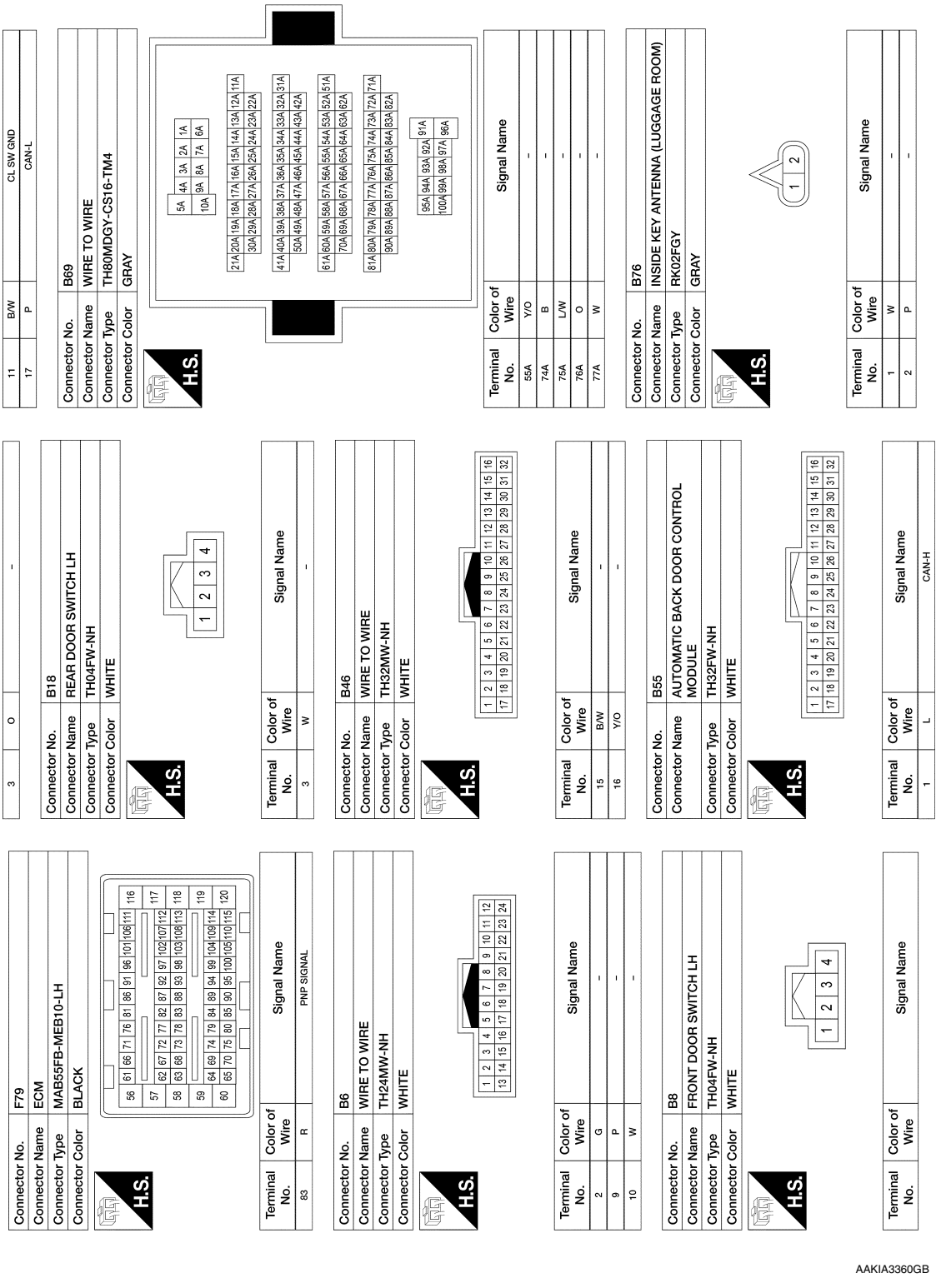

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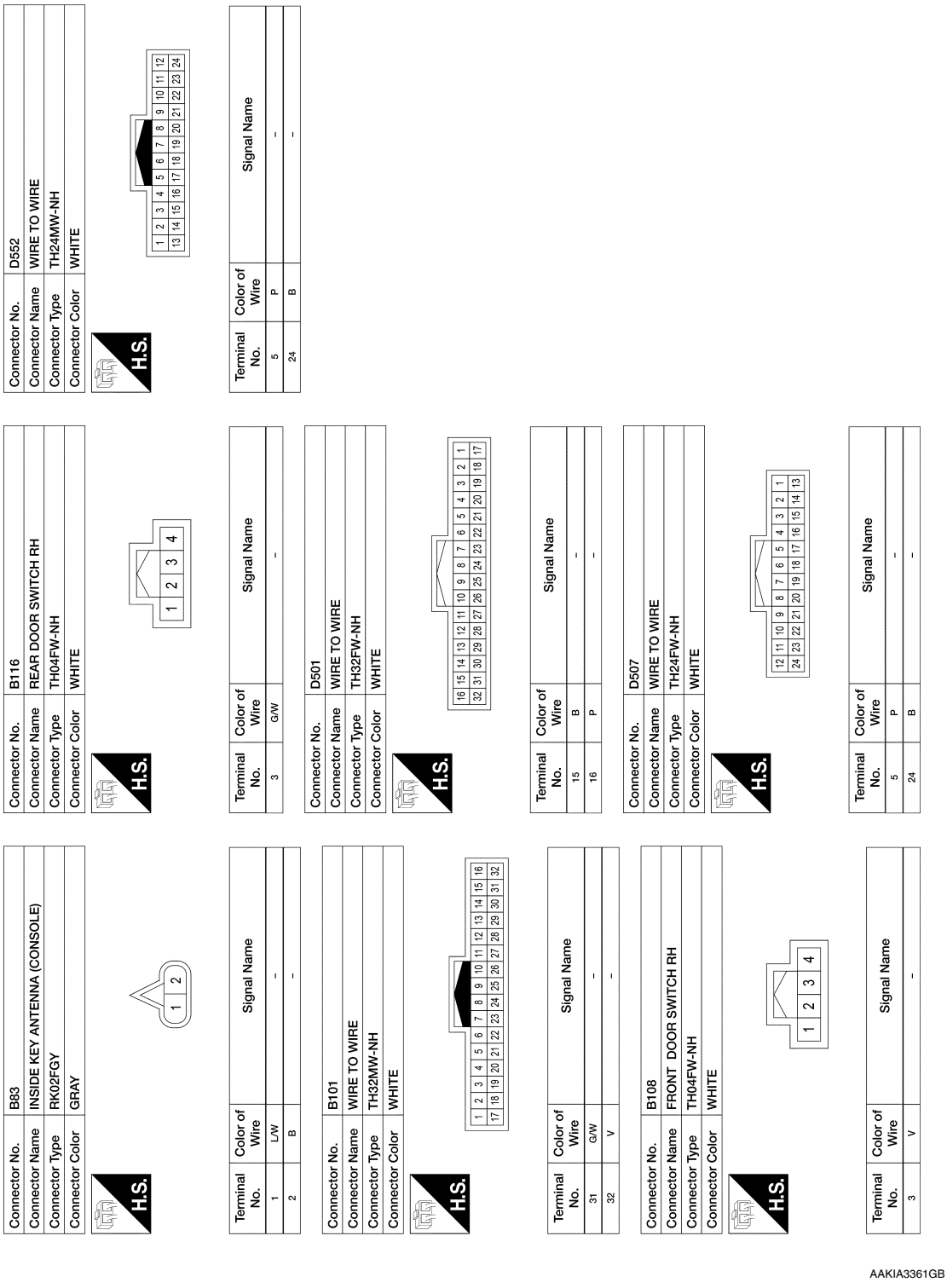
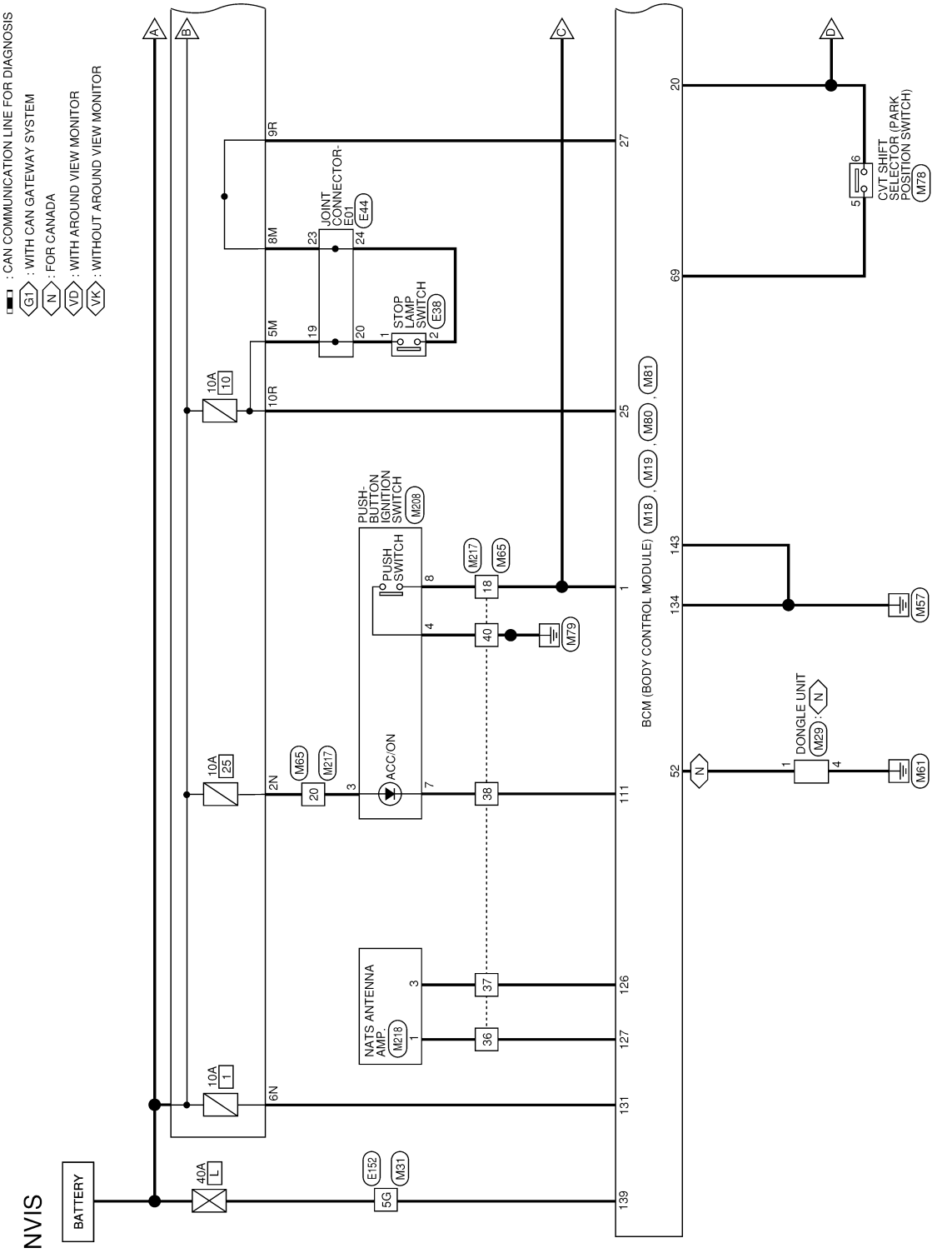


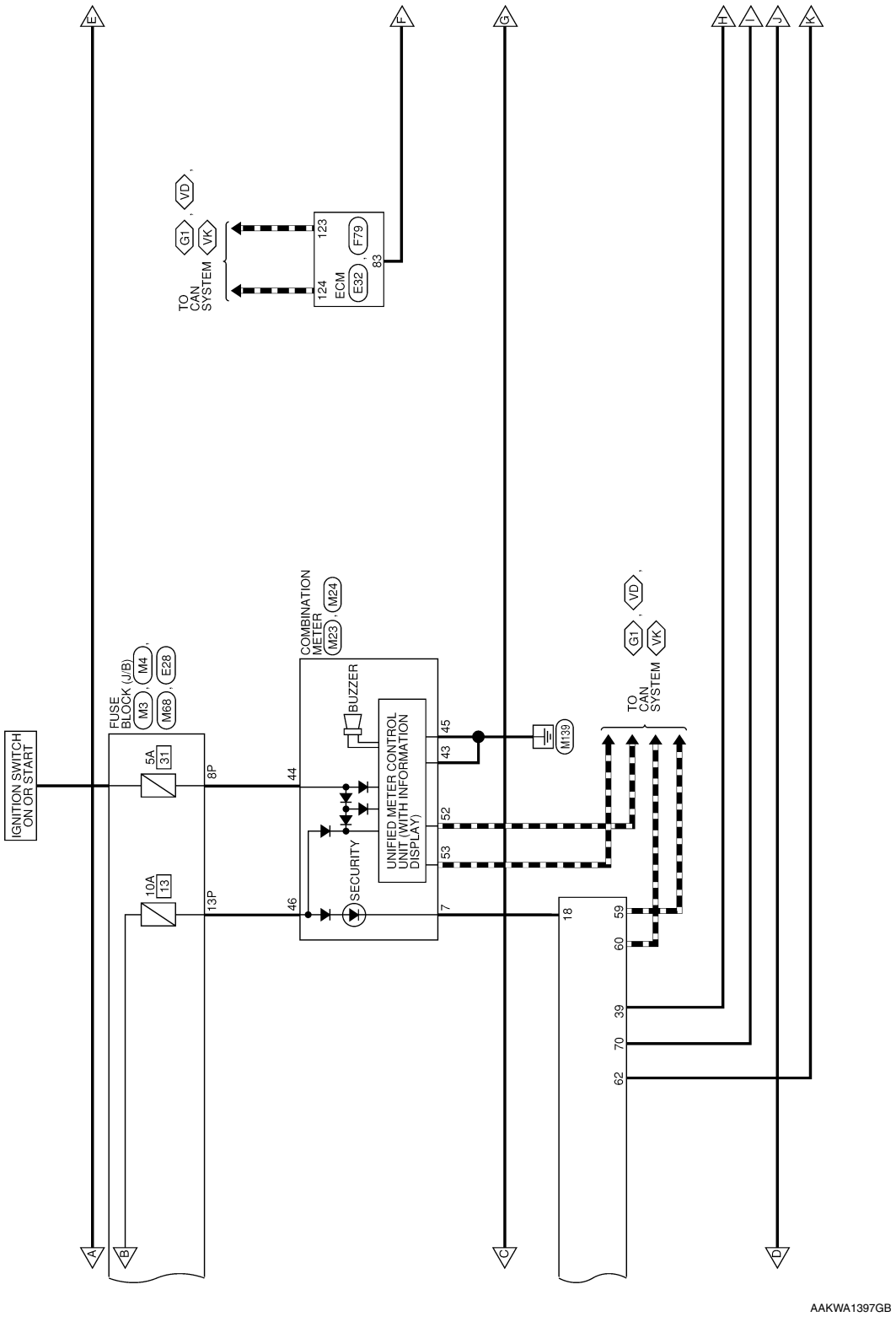
AAKIA3361GB

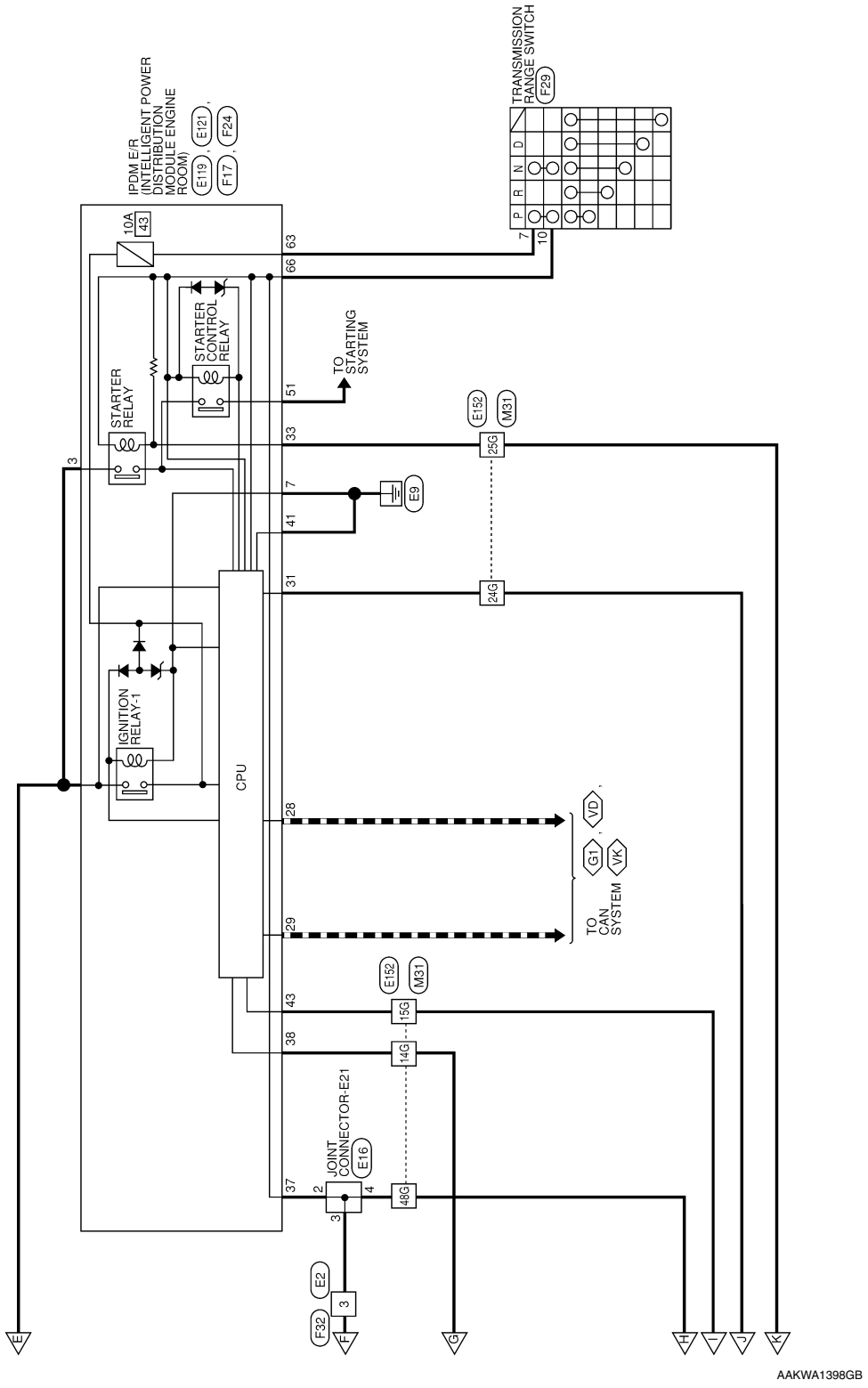
NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram

INFOID:0000000012875982




IGNITION SWITCH ON OR START
FUSE BLOCK (J/B)
M3
M4
M68
E28
5A 31
10A 13
8P
13P
44
46
COMBINATION METER
M23
M24
BUZZER
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
SECURITY
45
43
52
53
7
M139
TO CAN SYSTEM
G1
VD
VK
ECM
E32
F79
123
124
83
18
59
60
39
70
62
A
B
C
D
AAKWA1397GB


IPDM E/R
(INTELLIGENT POWER
DISTRIBUTION
MODULE ENGINE
ROOM)
E121
F24
E119
F17
10A
43
STARTER
RELAY
STARTER
CONTROL
RELAY
IGNITION
RELAY-1
CPU
TRANSMISSION
RANGE SWITCH
F29
P
R
N
D
7
10
63
66
51
TO
STARTING
SYSTEM
E152
M31
25G
33
3
7
E9
41
31
24G
28
29
VD
G1
VK
TO
CAN
SYSTEM
43
15G
38
14G
JOINT
CONNECTOR-E21
E16
37
2
4
48G
3
E2
F32
3
E
F
G
H
I
J
K
AAKWA1398GB

NVIS CONNECTORS

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	CS06FW-M2
Connector Color	WHITE

H.S.

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

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

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
8P	BG	-
13P	W	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH
Connector Color	GREEN

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	G	ENG START SW NO ESCL
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 Type	TH40FB-NH
Connector Color	BLACK

H.S.

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

Terminal No.	Color of Wire	Signal Name
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.	M23
Connector Name	COMBINATION METER
Connector Type	TH16FW-NH
Connector Color	WHITE

H.S.

41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56

Terminal No.	Color of Wire	Signal Name
43	B	GND1
44	BG	POWER (IGN)
45	B	GND2
46	W	POWER (BAT)
52	P	CAN-L
53	L	CAN-H

Connector No.	M24
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
7	V	SECURITY

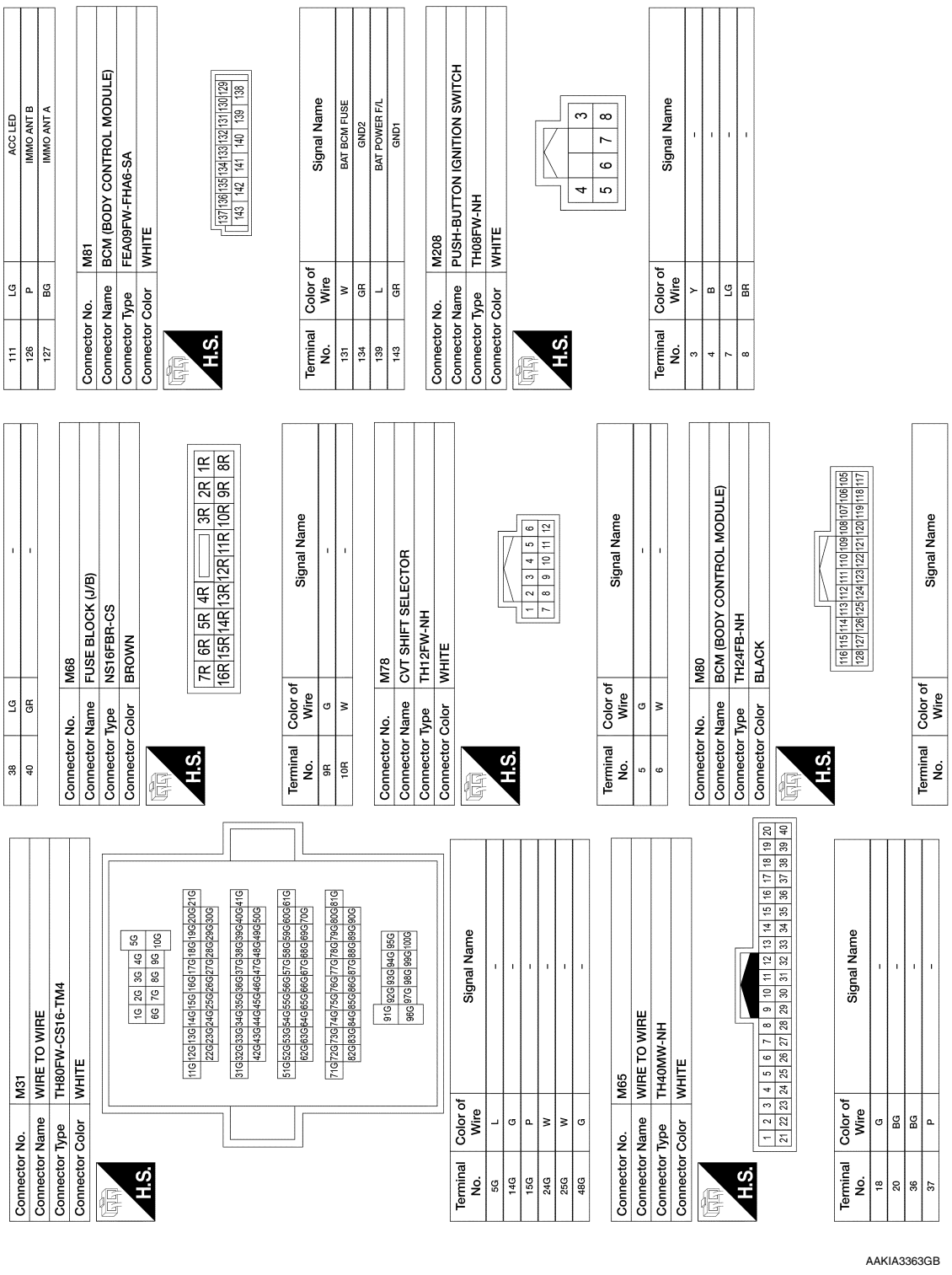
Connector No.	M29
Connector Name	DONGLE UNIT
Connector Type	TH04FW-NH
Connector Color	WHITE

H.S.

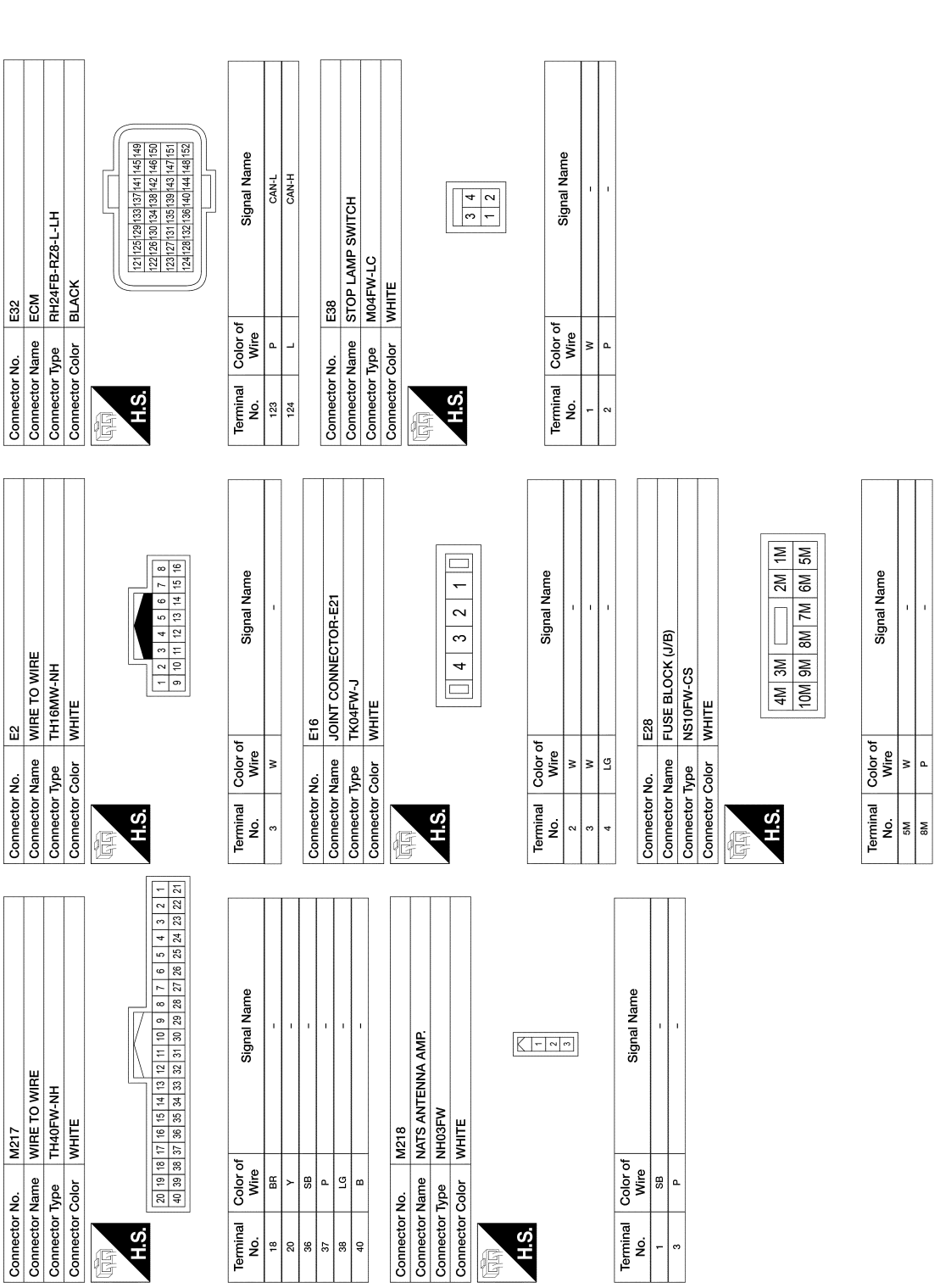
1	2	3	4

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

AAKIA3362GB



AAKIA3363GB



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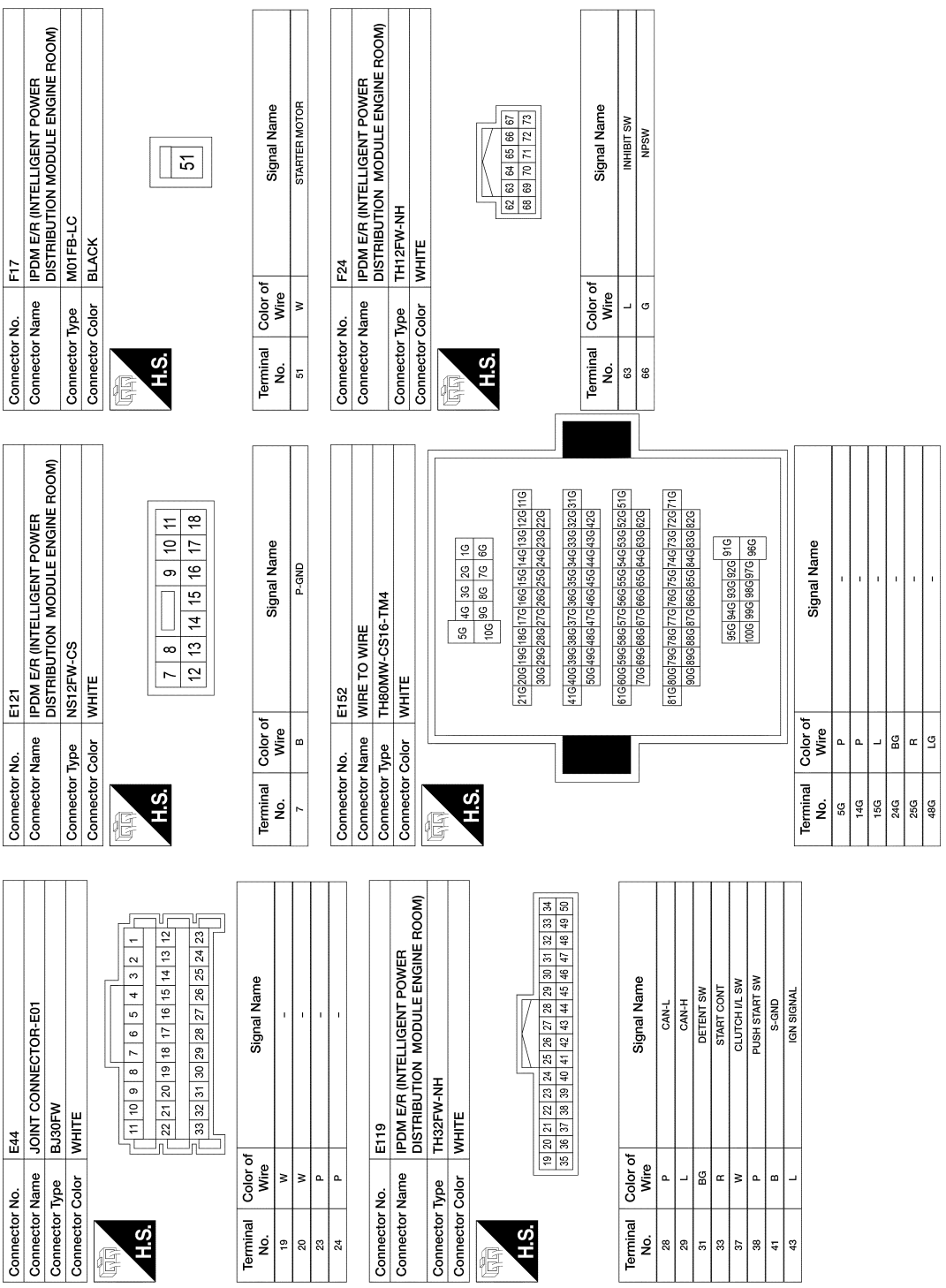
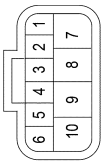


AAKIA3365GB

Connector No.	F29
Connector Name	TRANSMISSION RANGE SWITCH
Connector Type	YDX06FB-HS4
Connector Color	BLACK

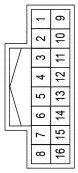
H.S.



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

Connector No.	F32
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH
Connector Color	WHITE

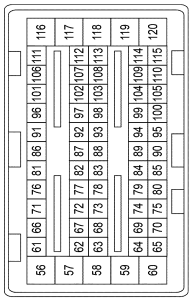
H.S.



Terminal No.	Color of Wire	Signal Name
3	R	–

Connector No.	F79
Connector Name	ECM
Connector Type	MAB55FB-MEB10-LH
Connector Color	BLACK

H.S.



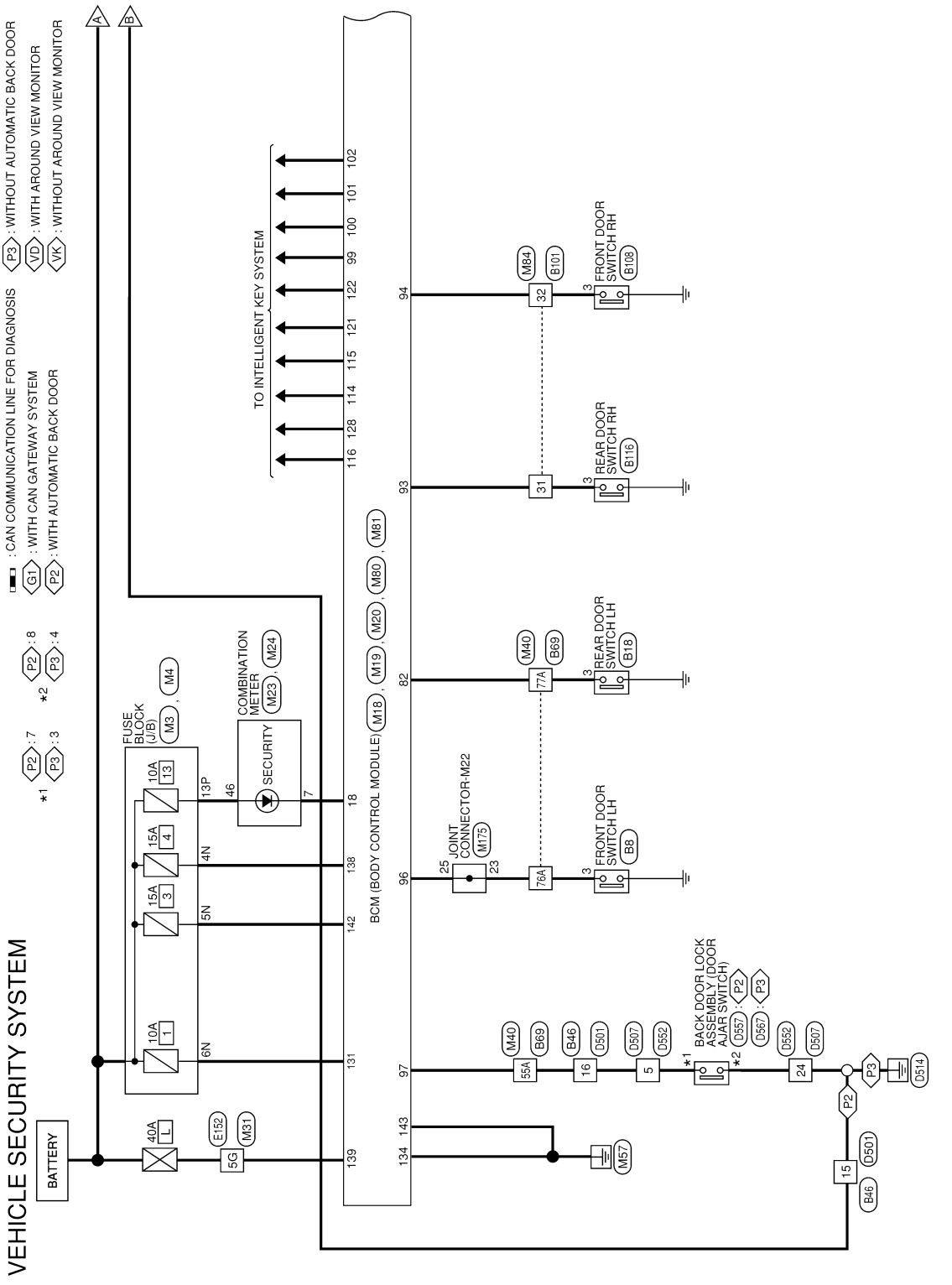
Terminal No.	Color of Wire	Signal Name
83	R	PNP SIGNAL

AAKIA3366GB

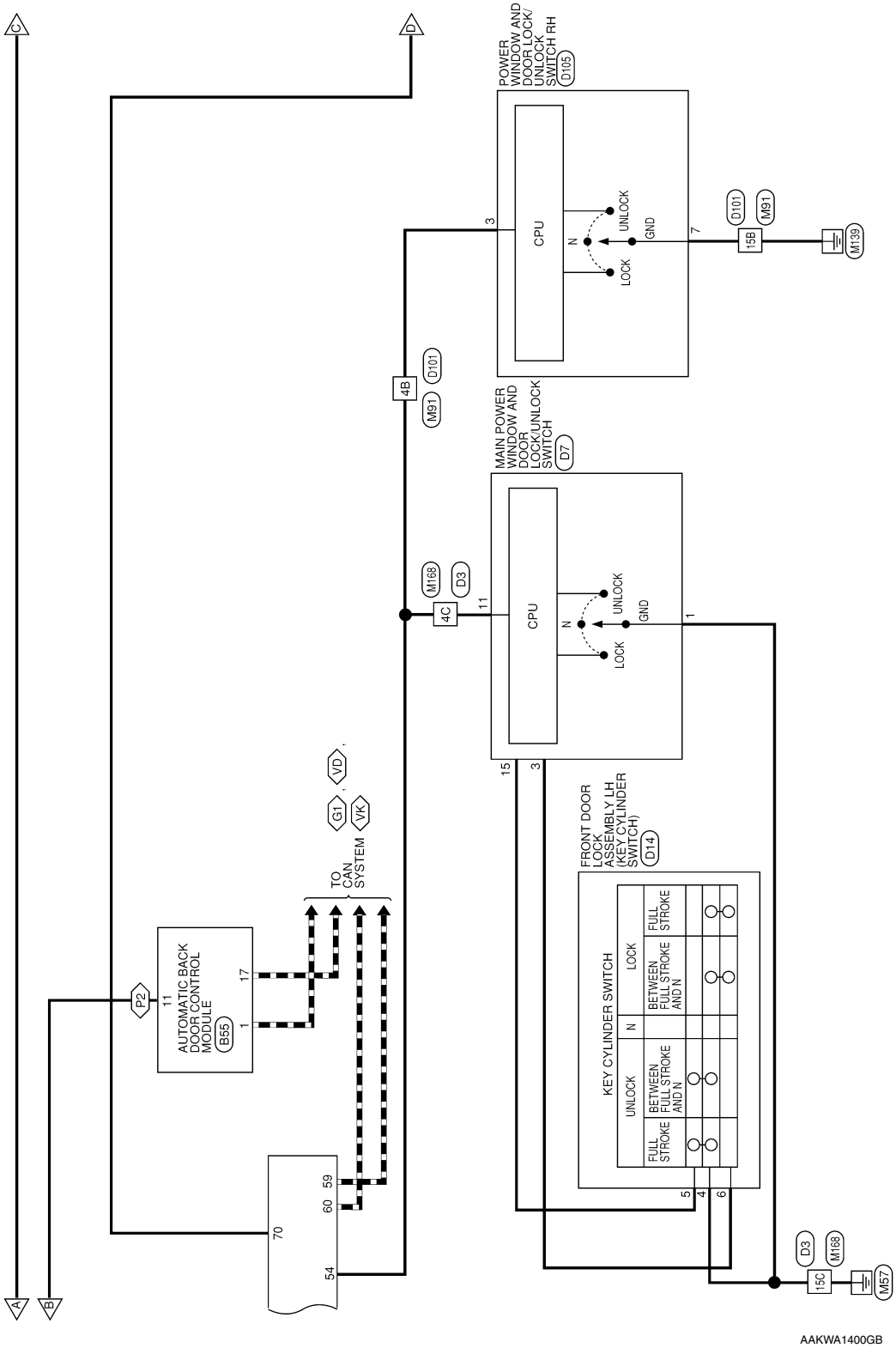
VEHICLE SECURITY SYSTEM

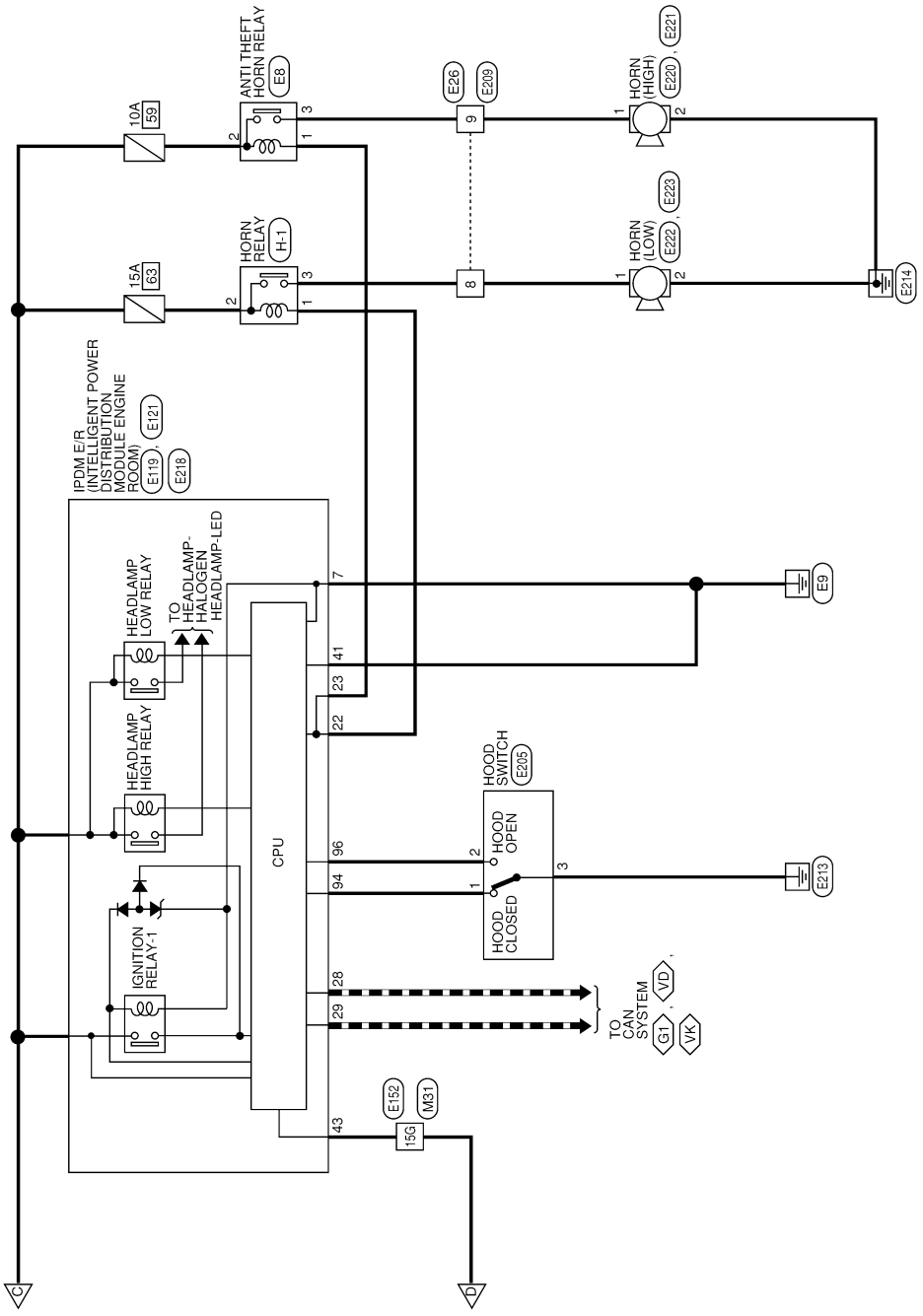
Wiring Diagram

INFOID:0000000012875983



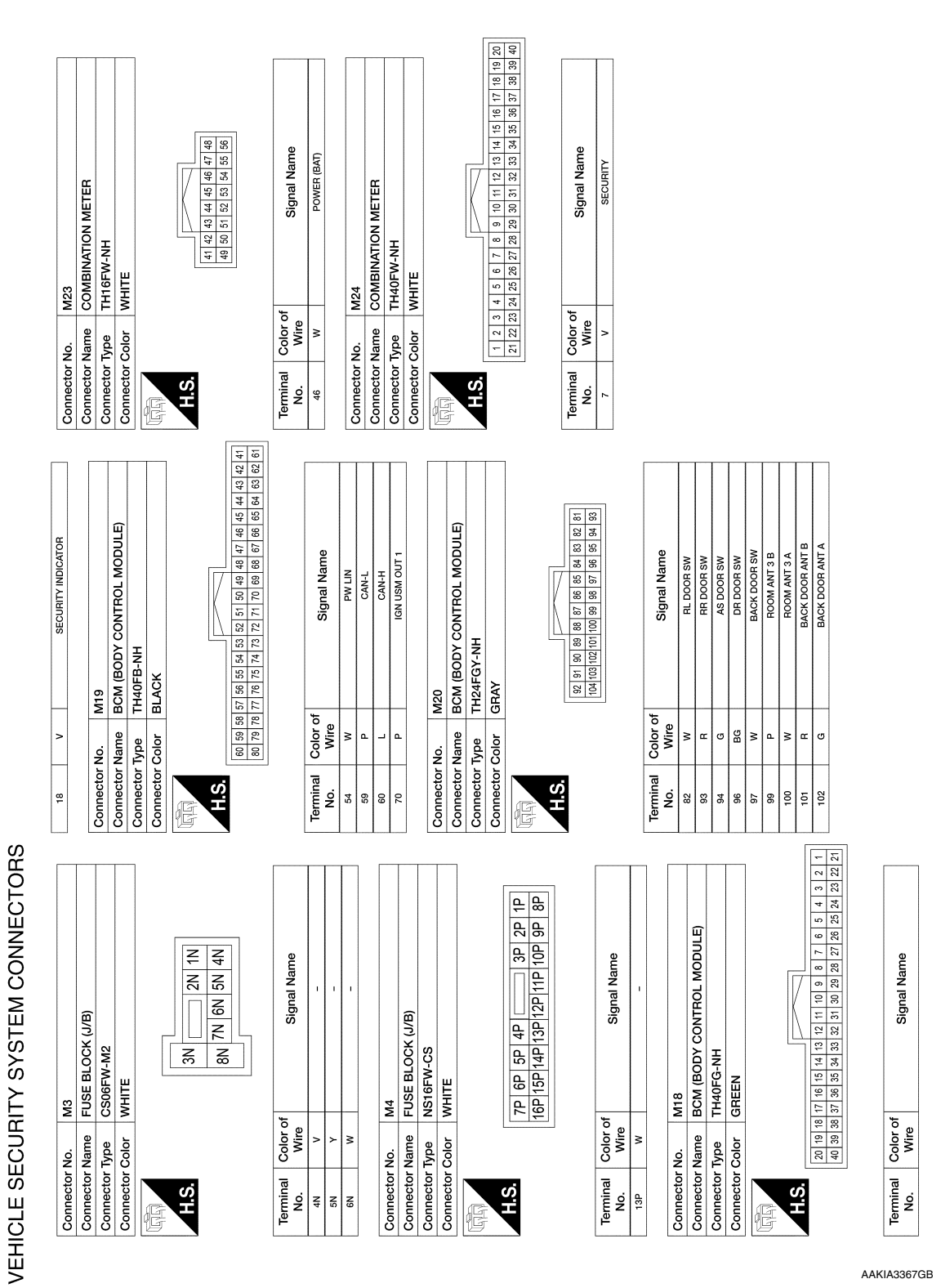
AAKWA1399GB


POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH RH
D105
CPU
UNLOCK
GND
LOCK
3
7
D101
M91
15B
M139
4B
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH
D7
M168
D3
4C
11
1
15
FRONT DOOR LOCK ASSEMBLY LH (KEY CYLINDER SWITCH)
D14
KEY CYLINDER SWITCH
UNLOCK
LOCK
FULL STROKE
BETWEEN FULL STROKE AND N
N
5
4
6
15C
M57
AUTOMATIC BACK DOOR CONTROL MODULE
B55
P2
11
17
1
TO CAN SYSTEM
G1
VD
VK
70
59
60
54
A
B
C
D
AAKWA1400GB

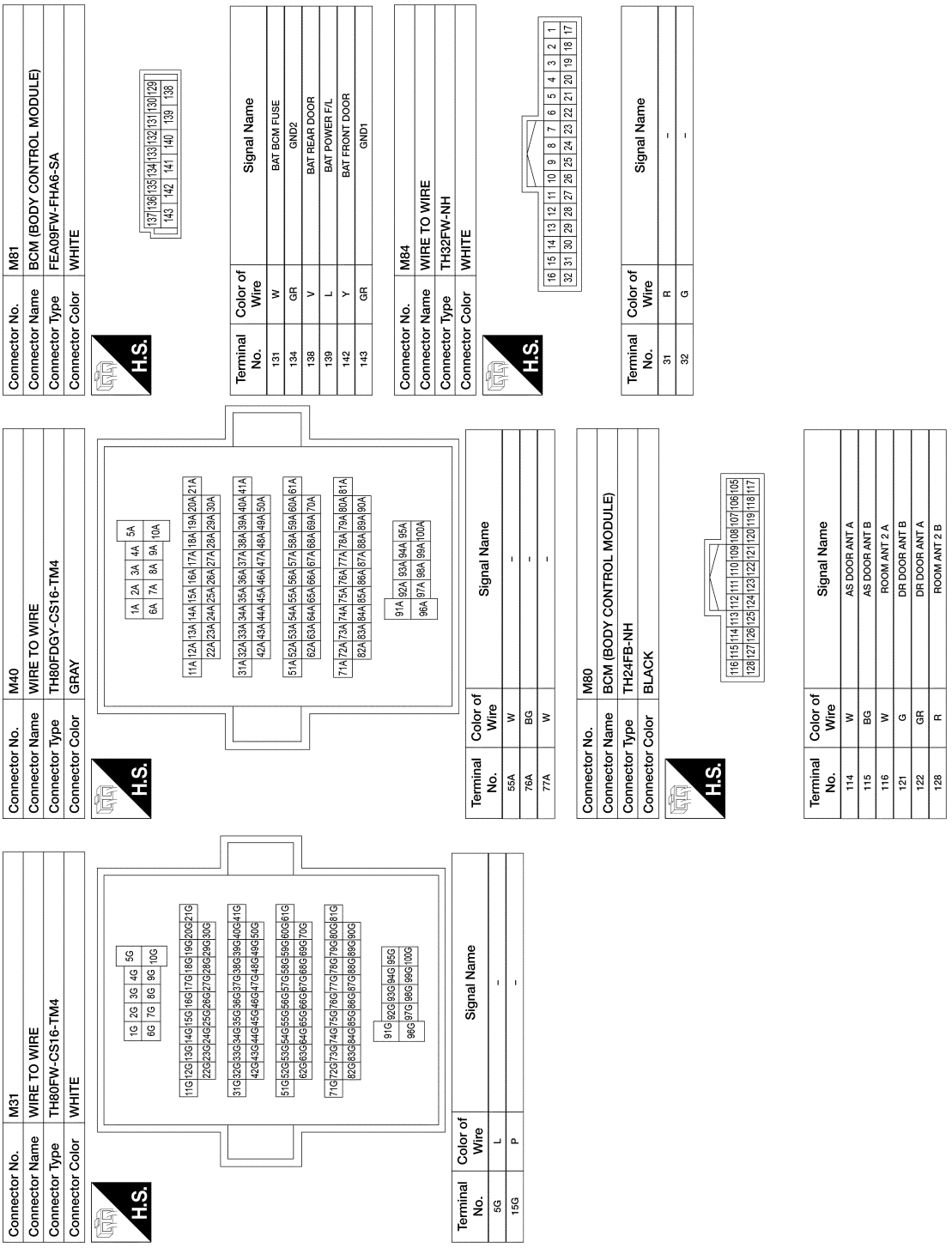


AAKWA1401GB

VEHICLE SECURITY SYSTEM CONNECTORS



AAKIA3367GB



AAKIA3368GB

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4B	W	–
15B	B	–

Connector No.	M168
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
4C	W	–
15C	B	–

Connector No.	M175
Connector Name	JOINT CONNECTOR-M22
Connector Type	BJ30FW
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
23	BG	–
25	BG	–

Connector No.	E8
Connector Name	ANTI THEFT HORN RELAY
Connector Type	M03FW-R-LC
Connector Color	WHITE

H.S.

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

Connector No.	E26
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
8	G	–
9	L	–

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH32FW-NH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
22	Y	HORN RLY

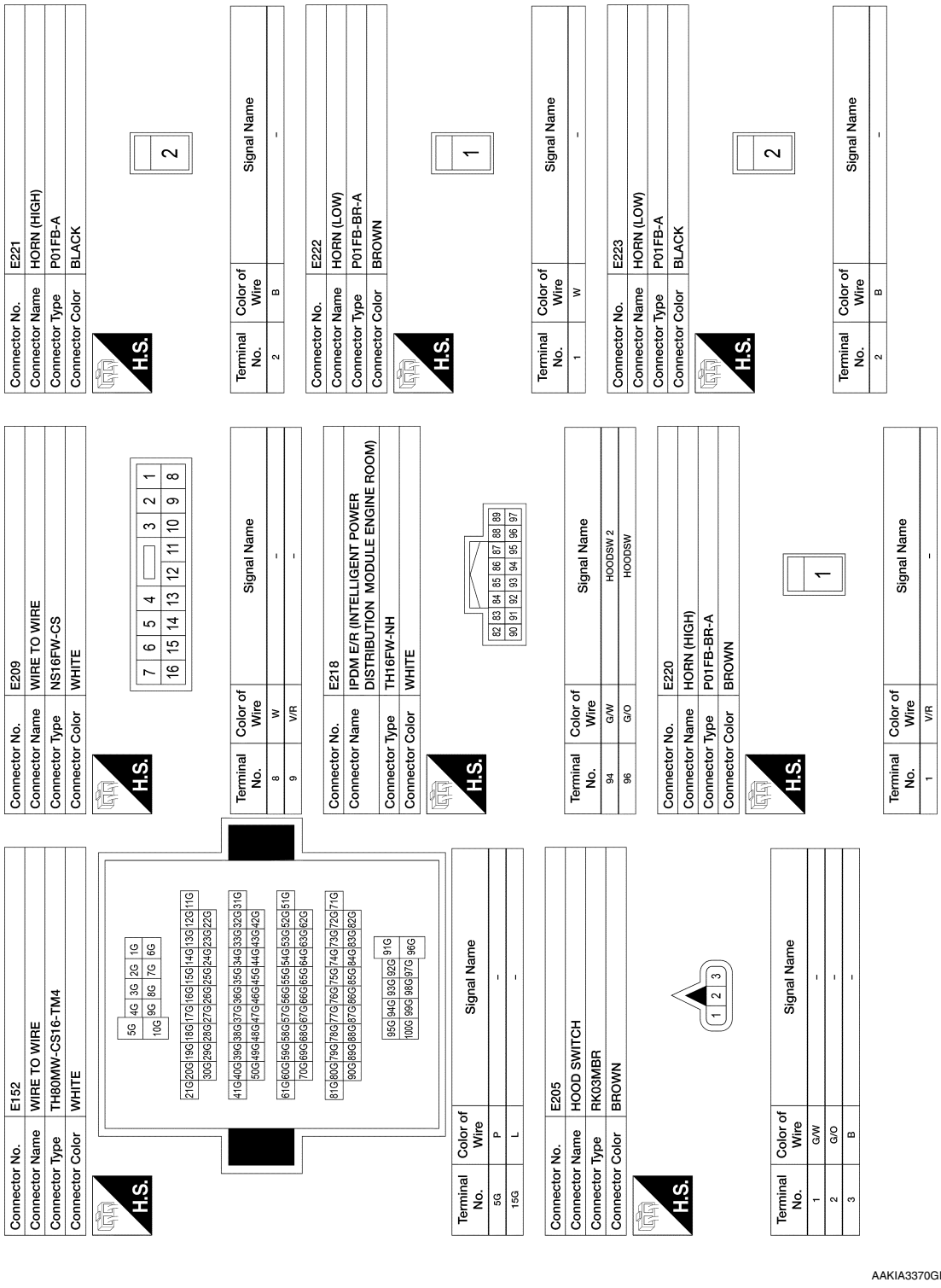
23	Y	HORN SW
28	P	CAN-L
29	L	CAN-H
41	B	S-GND
43	L	IGN SIGNAL

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS12FW-CS
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	B	P-GND

AAKIA3369GB



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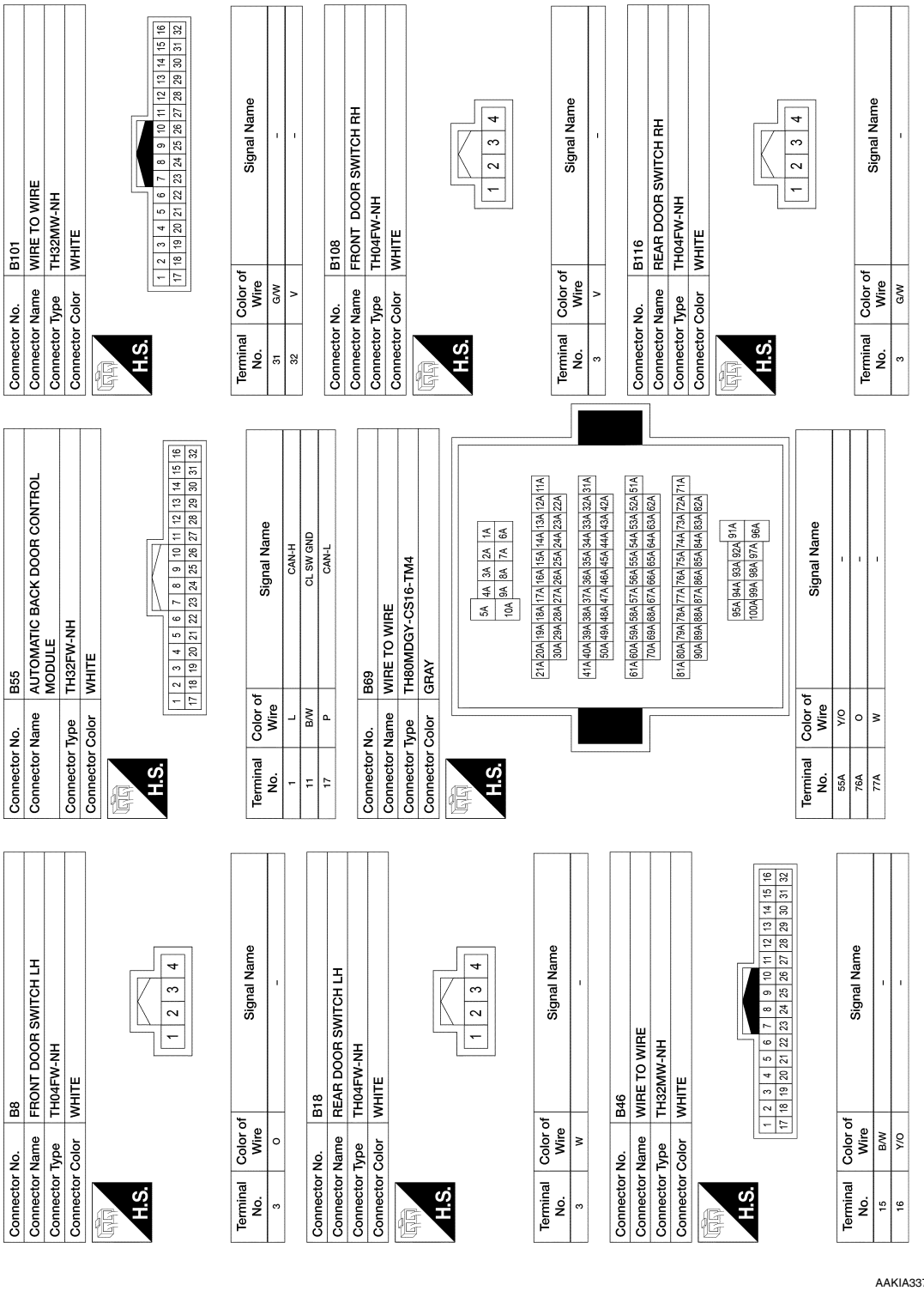

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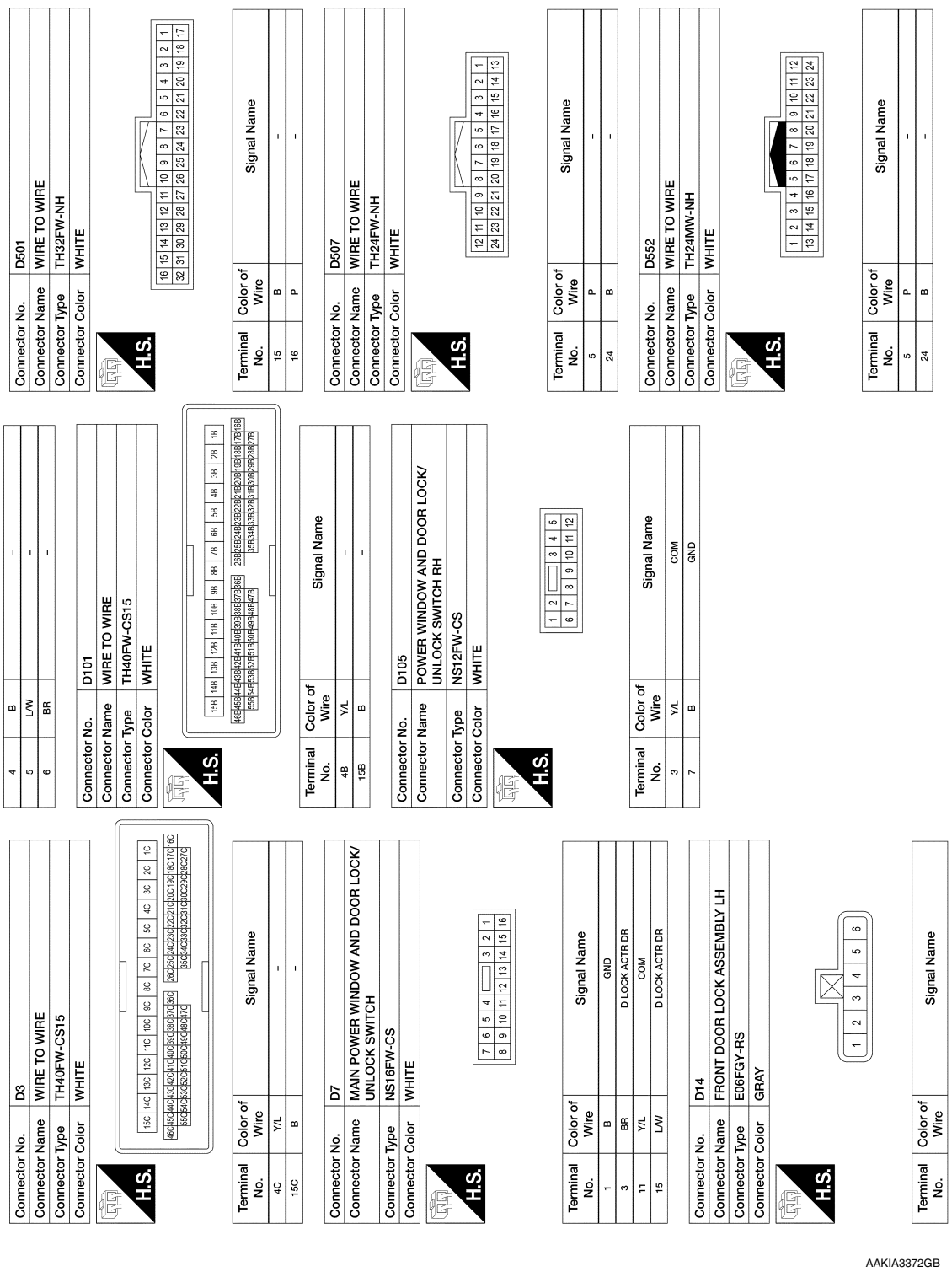


AAKIA3372GB

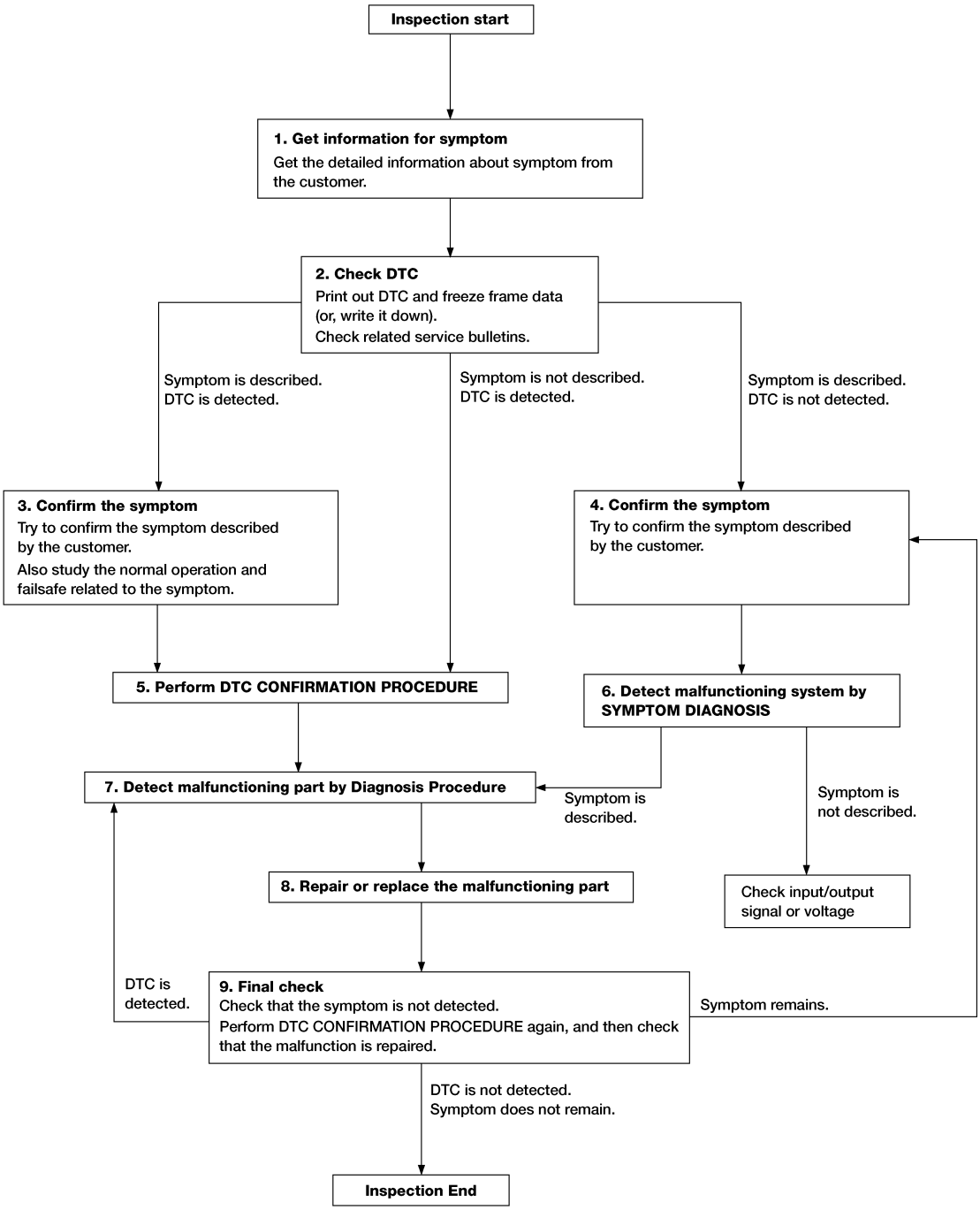
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000012875984

OVERALL SEQUENCE



ALAIA0158GB

DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

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

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-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-42, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

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

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-42, "Intermittent Incident".

8.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9.FINAL CHECK

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

Is DTC detected and does symptom remain?

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ECM

ECM : Description

INFOID:0000000012875985

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:0000000012875986

1.PERFORM ECM RECOMMUNICATING FUNCTION

1. Install ECM.
2. Contact back side 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-150, "Work Procedure".

>> End.

BCM

BCM : Description

INFOID:0000000012875987

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

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

NOTE:
When replacing BCM, perform the system initialization (NATS).

BCM : Work Procedure

INFOID:0000000012875988

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “READ CONFIGURATION” to save or print current vehicle specification. Refer to BCS-63, "CONFIGURATION (BCM) : Description".
NOTE:

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

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-79, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “WRITE CONFIGURATION - Config file” or “WRITE CONFIGURATION - Manual selection” to write vehicle specification. Refer to BCS-63, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

4.INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Inspection End.

DTC/CIRCUIT DIAGNOSIS

P1610 LOCK MODE

DTC Description

INFOID:0000000012875989

DTC DETECTION LOGIC

NOTE:

- If DTC P1610 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC P1610 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
P1610	LOCK MODE	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	—
		Threshold	When ECM detects a communication malfunction between ECM and BCM 5 times or more
		Diagnosis delay time	—

POSSIBLE CAUSE

—

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “ENGINE”.
3. Check DTC.

Is DTC detected?

YES >> Go to SEC-60, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012875990

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 Description

INFOID:0000000012875991

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
P1611	ID DISCORD, IMMU-ECM	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	The ID verification results between BCM and ECM are not good
		Diagnosis delay time	—

POSSIBLE CAUSE

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

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Go to SEC-61, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012875992

1.PERFORM INITIALIZATION

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

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

CONSULT
1. Select “Self Diagnostic Result” mode of “ENGINE”.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-61, "DTC Description".

Is DTC detected?

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

3.REPLACE BCM

CONSULT
1. Replace BCM. Refer to BCS-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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

YES >> Inspection End.

NO >> GO TO 4.

4. REPLACE ECM

1. Replace ECM. Refer to EC-574, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”. Refer to EC-150, "Work Procedure".

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

DTC Description

INFOID:0000000012875993

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
P1612	CHAIN OF BCM-ECM	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	Inactive communication between BCM and ECM
		Diagnosis delay time	—

POSSIBLE CAUSE

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

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012875994

NOTE:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to BCS-72, "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-184, "Diagnosis Procedure".

Is the inspection result normal?

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

3. PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-63, "DTC Description".

Does the DTC return?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".
NO >> Inspection End.

P1614 CHAIN OF IMMU-KEY

DTC Description

INFOID:0000000012875995

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
P1614	CHAIN OF IMMU-KEY	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	Inactive communication between NATS antenna amp. and BCM
		Diagnosis delay time	—

POSSIBLE CAUSE

- NATS antenna amp.
- Harness or connector
  (NATS antenna amp. circuit is open or shorted.)
- BCM
- Intelligent Key fob

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

YES >> GO TO SEC-65, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

CONSULT
1. Select “Self Diagnostic Result” mode of “ENGINE”.
2. Check DTC.

Is DTC detected?

YES >> GO TO SEC-65, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012875996

Regarding Wiring Diagram information, refer to SEC-38, "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	M218	3	Yes
	127		1	

3. Check continuity between BCM harness connector and ground.

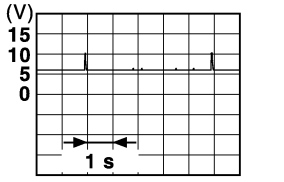
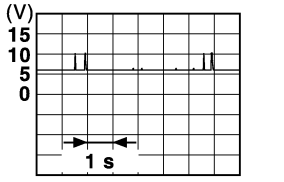
BCM		Ground	Continuity
Connector	Terminal		
M80	126		No
	127		

Is the inspection result normal?

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

3. CHECK NATS ANTENNA AMP INPUT SIGNAL 1

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-79, "Removal and Installation".
NO >> Replace NATS antenna amp. Refer to SEC-138, "Removal and Installation".

B210B STARTER CONTROL RELAY

DTC Description

INFOID:0000000012875997

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

DTC DETECTION LOGIC

NOTE:

- If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B210B is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B210B	START CONT RLY ON	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second: • Starter control relay ON/OFF signal from BCM • Transmission range switch input signal
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R
- Harness or connector

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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” mode.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012875998

1.INSPECTION START

CONSULT

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” mode.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   See BCS-52, "DTC Index".

Is the DTC B210B displayed again?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".
NO >> Inspection End.

B210C STARTER CONTROL RELAY

DTC Description

INFOID:0000000012875999

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

DTC DETECTION LOGIC

NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B210C is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B210C	START CONT RLY OFF	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	IPDM E/R detects that the relay is stuck at OFF position even if the following conditions are met for about 1 second: • Starter control relay ON/OFF signal from BCM • Transmission range switch input signal
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R
- Harness or connector

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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” mode.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876000

1.INSPECTION START

CONSULT

1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” mode.
3. Touch “ERASE”.
4. **Perform DTC Confirmation Procedure.**
   Refer to PCS-21, "DTC Index".

Is the DTC B210C displayed again?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".
NO >> Inspection End.

B210D STARTER RELAY

DTC Description

INFOID:0000000012876001

Located in IPDM E/R, the starter relay 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 DETECTION LOGIC

NOTE:

- If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B210D is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B210D	STARTER RELAY ON	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	IPDM E/R terminal 3
		Threshold	IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second: • Starter control relay ON/OFF signal from BCM • Transmission range switch input
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R
- Harness or connector

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876002

Regarding Wiring Diagram information, refer to SEC-28, "Wiring Diagram".

1.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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

IPDM E/R		Ground	Voltage (Approx.)
Connector	Terminal		
E120	3	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".
NO >> Check harness for open or short between IPDM E/R and battery.

B210E STARTER RELAY

DTC Description

INFOID:0000000012876003

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 DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B210E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B210E	STARTER RELAY OFF	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second: • Starter control relay ON/OFF signal from BCM • Transmission range switch input
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R
- Harness or connector

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876004

Regarding Wiring Diagram information, refer to SEC-28, "Wiring Diagram".

1.CHECK STARTER RELAY OUTPUT SIGNAL/CVT MODELS

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

BCM connector		Ground	Condition			Voltage (Approx.)
Connector	Terminal		Ignition switch	Brake pedal	CVT selector lever	
M19	62	Ground	ON	Depressed	P (Park) or N (Neutral)	Battery voltage
					Other than above	0

Is the inspection result normal?

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

2.CHECK STARTER RELAY OUTPUT SIGNAL CIRCUIT

1. Disconnect IPDM E/R harness connector.
2. 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

3. Check continuity between BCM harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E119	33	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".
NO >> Repair harness connector.

3.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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

IPDM E/R		Ground	Voltage (V) (Approx.)
Connector	Terminal		
E119	33	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".
NO >> Check harness for open or short between IPDM E/R and battery.

B210F TRANSMISSION RANGE SWITCH

DTC Description

INFOID:0000000012876005

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

DTC DETECTION LOGIC

NOTE:
- If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B210F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B210F	TRANSMISSION RANGE SWITCH	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	IPDM E/R detects a mismatch between the signals below for 1 second or more: • Transmission range switch input signal • Shift position signal from BCM (CAN)
		Diagnosis delay time	—

FAIL-SAFE

—

POSSIBLE CAUSE

- Transmission range switch
- Harness or connector
  Transmission range switch circuit is open or shorted

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
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. Select “Self Diagnostic Result” mode.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876006

Regarding Wiring Diagram information, refer to SEC-28, "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 and ground under following condition:

IPDM E/R		Ground	Condition		Voltage (Approx.)
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-36, "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.

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 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-36, "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	
F29	7	F24	63	Yes
	10		66	

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

Transmission range switch		Ground	Continuity
Connector	Terminal		
F29	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-42, "Intermittent Incident".

>> Inspection End.

B2110 TRANSMISSION RANGE SWITCH

DTC Description

INFOID:0000000012876007

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

DTC DETECTION LOGIC

NOTE:
- If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2110 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2110	TRANSMISSION RANGE SWITCH	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	IPDM E/R terminals 63 and 66
		Threshold	IPDM E/R detects mismatch between the signal below for 1 second or more: • Transmission range switch input signal
		Diagnosis delay time	—

POSSIBLE CAUSE

- Transmission range switch
- Transmission range switch circuit is open or shorted.
- Harness or connector

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
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. Select “Self Diagnostic Result” mode.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876008

Regarding Wiring Diagram information, refer to SEC-28, "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 and ground under following condition:

IPDM E/R		Ground	Condition		Voltage (Approx.)
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-36, "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.

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 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-36, "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	
F29	7	F24	63	Yes
	10		66	

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

Transmission range switch		Ground	Continuity
Connector	Terminal		
F29	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-42, "Intermittent Incident".

>> Inspection End.

B2192 ID DISCORD, IMMU-ECM

DTC Description

INFOID:0000000012876009

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2192	ID DISCORD BCM-ECM	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	The ID verification results between BCM and ECM are not good
		Diagnosis delay time	—

POSSIBLE CAUSE

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

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Check DTC.

Is DTC detected?

YES >> GO TO SEC-79, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876010

1.PERFORM INITIALIZATION

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

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

CONSULT

1. Select “Self Diagnostic Result” mode of “BCM”.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2192. Refer to SEC-79, "DTC Description".

Is DTC detected?

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

3.REPLACE BCM

1. Replace BCM. Refer to BCS-79, "Removal and Installation".

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

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

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

4. REPLACE ECM

1. Replace ECM. Refer to EC-574, "Removal and Installation".
2. Perform “ADDITIONAL SERVICE WHEN REPLACING ECM”. Refer to EC-150, "Work Procedure".

>> Inspection End.

B2193 CHAIN OF ECM-IMMU

DTC Description

INFOID:0000000012876011

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2193	CHAIN OF BCM-ECM	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	Inactive communication between BCM and ECM
		Diagnosis delay time	—

POSSIBLE CAUSE

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

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876012

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

1.CHECK BCM POWER SUPPLY AND GROUND CIRCUIT.

Check BCM power supply and ground circuit. Refer to BCS-72, "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-184, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace ECM. Refer to EC-574, "Removal and Installation". GO TO 3.
NO >> Repair or replace the harness.

3. PERFORM DTC CONFIRMATION PROCEDURE.

Perform the DTC confirmation procedure. Refer to SEC-81, "DTC Description".

Does the DTC return?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".
NO >> Inspection End.

B2195 ANTI-SCANNING

DTC Description

INFOID:0000000012876013

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2195	ANTI-SCANNING	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	ID verification between BCM and ECM that is out of the designated specification is detected
		Diagnosis delay time	—

POSSIBLE CAUSE

- ID verification request out of the designated specification

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876014

1.CHECK SELF DIAGNOSTIC RESULT 1

CONSULT
1. Select “Self Diagnostic Result” mode of “BCM”.
2. Erase DTC.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-83, "DTC Description".

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

CONSULT
1. Obtain the customers approval to remove unspecified accessory part related to engine start, and then remove it.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Erase DTC.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-83, "DTC Description".

Is DTC detected?

YES >> GO TO 4.

NO >> Inspection End.

4.REPLACE BCM

1. Replace BCM. Refer to BCS-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

B2196 DONGLE UNIT

DTC Description

INFOID:0000000012876015

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

DTC DETECTION LOGIC

NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2196	DONGLE NG	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	The ID verification results between BCM and dongle unit is not good
		Diagnosis delay time	—

POSSIBLE CAUSE

- Dongle unit
- Harness or connector
  (Dongle unit circuit is open or shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF.
3. Turn ignition switch ON.
4. Select “Self Diagnosis Result” mode.
5. Check DTC.

Is the DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876016

Regarding Wiring Diagram information, refer to SEC-38, "Wiring Diagram".

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and reregistration of all Intelligent Keys using CONSULT.
2. Start the engine.

Does the engine start?

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

2.CHECK DONGLE UNIT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and dongle unit connector.

3. Check continuity between BCM harness connector and dongle unit harness connector.

BCM		Dongle unit		Continuity
Connector	Terminal	Connector	Terminal	
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 Description

INFOID:0000000012876017

DTC DETECTION LOGIC

NOTE:

- If DTC B2198 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2198 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2198	NATS ANTENNA AMP	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	Inactive communication between NATS antenna amp. and BCM
		Diagnosis delay time	—

POSSIBLE CAUSE

- BCM
- NATS antenna amp.
- Harness or connector
  (The NATS antenna amp. circuit is open or shorted)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

CONSULT

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

Is DTC detected?

YES >> GO TO SEC-87, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

CONSULT

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

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876018

Regarding Wiring Diagram information, refer to SEC-38, "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	M218	3	Yes
	127		1	

3. Check continuity between BCM harness connector and ground.

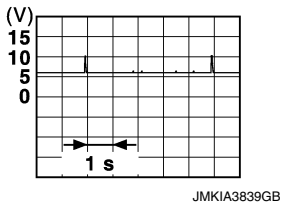
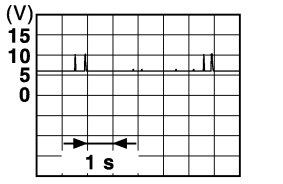
BCM		Ground	Continuity
Connector	Terminal		
M80	126		No
	127		

Is the inspection result normal?

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

3.CHECK NATS ANTENNA AMP INPUT SIGNAL 1

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-79, "Removal and Installation".
NO >> Replace NATS antenna amp. Refer to SEC-138, "Removal and Installation".

B2555 STOP LAMP

DTC Description

INFOID:0000000012876019

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2555	STOP LAMP	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	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
		Diagnosis delay time	—

POSSIBLE CAUSE

- Stop lamp switch
- Fuse
- BCM
- Harness or connector
  (Stop lamp switch circuit is open or shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Depress the brake pedal and wait 1 second or more.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Check DTC.

Is DTC detected?

YES >> Go to SEC-89, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876020

Regarding Wiring Diagram information, refer to SEC-28, "Wiring Diagram".

1.CHECK BRAKE SWITCH FUNCTION

CONSULT
1. Turn ignition switch ON.
2. Select “BRAKE SW1” and “BRAKE SW2” in “Data Monitor” mode of “INTELLIGENT KEY”.
3. Check “BRAKE SW1” and “BRAKE SW2” indication under the following conditions:

Monitor item	Condition		Indication
BRAKE SW1	Brake pedal	Depressed	OFF
		Released	ON
BRAKE SW2	Brake pedal	Depressed	ON
		Released	OFF

Is the inspection result normal?

YES >> Refer to GI-42, "Intermittent Incident".

NO-1 >> If “BRAKE SW1” is incorrect. GO TO 2.
NO-2 >> If “BRAKE SW2” is incorrect. GO TO 3.

2.CHECK STOP LAMP SWITCH INPUT SIGNAL 1

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

(+)		(–)	Voltage (Approx.)
BCM			
Connector	Terminal		
M18	25	Ground	Battery voltage

Is the inspection normal?

YES >> GO TO 7.
NO-1 >> Check 10 A fuse [No. 10, located in the fuse block (J/B)].
NO-2 >> Check harness for open or short between BCM and fuse.

3.CHECK STOP LAMP SWITCH INPUT SIGNAL 2

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

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

Is the inspecting result normal?

YES >> GO TO 7.
NO >> GO TO 4.

4.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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

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

Is the inspection result normal?

YES >> GO TO 5.
NO >> Check harness for open or short between stop lamp switch and fuse.

5.CHECK STOP LAMP SWITCH CIRCUIT

1. 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

2. 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 6.
NO >> Repair or replace harness.

6.CHECK STOP LAMP SWITCH

Refer to SEC-91, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 9.
NO >> Replace stop lamp switch. Refer to BR-20, "Exploded View".

7.CONNECTOR INSPECTION

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

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace as necessary.

8.REPLACE BCM

1. Replace BCM. Refer to BCS-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

9.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000012876021

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 Terminal		Condition		Continuity
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 Description

INFOID:0000000012876022

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2556	PUSH-BTN IGN SW	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	BCM detects the push-button ignition switch stuck at ON for 100 seconds or more
		Diagnosis delay time	—

POSSIBLE CAUSE

- Push-button ignition switch
- BCM
- Harness or connector
  (Push-button ignition switch circuit is shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
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. Select “Self Diagnostic Result” mode of “BCM”.
4. Check DTC.

Is DTC detected?

YES >> GO TO SEC-92, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876023

Regarding Wiring Diagram information, refer to SEC-28, "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 (Approx.)
Push-button ignition switch			
Connector	Terminal		
M208	8	Ground	Battery voltage

Is the inspection result normal?

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

2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

1. Disconnect BCM connector and IPDM E/R connector.

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

Push-button ignition switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M208	8	M18	1	Yes

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M208	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-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

4.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-93, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace push-button ignition switch. Refer to SEC-139, "Removal and Installation".

5.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000012876024

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-139, "Removal and Installation".

B2557 VEHICLE SPEED

DTC Description

INFOID:0000000012876025

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2557	VEHICLE SPEED	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	BCM detects one of the following conditions for 10 seconds continuously: • Vehicle speed signal from combination meter is 10 km/h (6.2 MPH) or more, and vehicle speed signal from ABS actuator and electric unit (control unit) is 4 km/h (2.5 MPH) or less • Vehicle speed signal from combination meter is 4 km/h (2.5 MPH) or less, and vehicle speed signal from ABS actuator and electric unit (control unit) is 10 km/h (6.2 MPH) or more
		Diagnosis delay time	—

POSSIBLE CAUSE

- ABS actuator and electric unit (control unit)
- Combination meter
- Harness or connector
  (The CAN communication line is open or shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode of “BCM”.
4. Check DTC.

Is DTC detected?

YES >> GO TO SEC-94, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876026

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

CONSULT

Check DTC in “Self Diagnostic Result” mode of “ABS”.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BRC-228, "DTC Index".
NO >> GO TO 2.

2.CHECK DTC OF “COMBINATION METER”

CONSULT

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

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-42, "Intermittent Incident".

>> Inspection End.

B2560 STARTER CONTROL RELAY

DTC Description

INFOID:0000000012876027

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

DTC DETECTION LOGIC

NOTE:

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2560	STARTER CONTROL RELAY	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	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)
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876028

1.CHECK DTC WITH IPDM E/R

CONSULT

Check “Self Diagnostic Result” mode. Refer to PCS-21, "DTC Index".

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

B2601 SHIFT POSITION

DTC Description

INFOID:0000000012876029

DTC DETECTION LOGIC

NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2601	SHIFT POSITION	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	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)
		Diagnosis delay time	—

POSSIBLE CAUSE

- CVT shift selector (park position switch)
- BCM
- Harness or connector
  (The CAN communication line is open or shorted.)
- Harness or connector
  [CVT shift selector (park position switch) circuit is open or shorted.]

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode of “BCM”.
5. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876030

Regarding Wiring Diagram information, refer to SEC-28, "Wiring Diagram".

1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

CONSULT

1. Turn ignition switch ON.
2. Select “DETE/CANCEL SW” and “DETENT SW - IPDM” in “Data Monitor” mode.
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-42, "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-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> 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-36, "Removal and Installation".

>> Inspection End.

Component Inspection

INFOID:0000000012876031

1.CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

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

CVT shift selector (park position switch) Terminal		Condition		Continuity
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-196, "Removal and Installation".

B2602 SHIFT POSITION

DTC Description

INFOID:0000000012876032

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2602	SHIFT POSITION	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	BCM detects the following status for 10 seconds: • Selector lever is in the P (Park) position • Vehicle speed is 4 km/h (2.5 MPH) or more • Ignition switch is in the ON position
		Diagnosis delay time	—

POSSIBLE CAUSE

- Harness or connectors
  (CAN communication line is open or shorted.)
- Harness or connectors
  [CVT shift selector (park position switch) circuit is open or shorted.]
- CVT shift selector (park position switch)
- Combination meter
- BCM

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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

Is DTC detected?

YES >> Go to SEC-100, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876033

Regarding Wiring Diagram information, refer to SEC-28, "Wiring Diagram".

1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

CONSULT

1. Turn ignition switch ON.
2. Select “DETE/CANCEL SW” and “VEH SPEED 1” in “Data Monitor” mode.
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-42, "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

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

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)

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to BRC-228, "DTC Index".
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-102, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace CVT shift selector. Refer to TM-196, "Removal and Installation".

6.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000012876034

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-196, "Removal and Installation".

B2603 SHIFT POSITION

DTC Description

INFOID:0000000012876035

DTC DETECTION LOGIC

NOTE:

• If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to SEC-97, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2603	SHIFT POSI STATUS	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	BCM detects the following status when ignition switch is in the ON position: • P (Park) position signal from TCM: approx. 0V • CVT shift selector (park position switch) signal: approx. 0V
		Diagnosis delay time	—

POSSIBLE CAUSE

• Harness or connector
[CVT shift selector (park position switch) circuit is open or shorted.]
• Harness or connectors
(TCM circuit is open or shorted.)
• CVT shift selector (park position switch)
• CVT assembly (TCM)
• BCM

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

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

Is DTC detected?

YES >> Go to SEC-103, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE 2

CONSULT
1. Shift the selector lever to any position other than P (Park) and wait 1 second or more.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Check DTC.

Is DTC detected?

YES >> Go to SEC-103, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876036

Regarding Wiring Diagram information, refer to SEC-28, "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.
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-42, "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 (Approx.)
BCM					
Connector	Terminal				
M18	39	Ground	Selector lever	P or N position	Battery voltage
				Other than above	0

Is the inspection result normal?

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

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	
F29	10	M18	39	Yes

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

Transmission range switch		Ground	Continuity
Connector	Terminal		
F29	10		No

Is the inspection result normal?

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

4.REPLACE BCM

1. Replace BCM. Refer to BCS-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

5.CHECK DTC OF TCM

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to TM-58, "DTC Index".
NO >> Perform the trouble diagnosis related to the TCM power and ground circuits. Refer to TM-181, "Diagnosis Procedure".

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 (Approx.)
CVT shift selector (park position switch)			
Connector	Terminal		
M78	5	Ground	Battery voltage

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-106, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 10.
NO >> Replace CVT shift selector. Refer to TM-196, "Removal and Installation".

10.REPLACE BCM

1. Replace BCM. Refer to BCS-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

Component Inspection

INFOID:0000000012876037

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-196, "Removal and Installation".

B2604 SHIFT POSITION

DTC Description

INFOID:0000000012876038

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2604	PNP/CLUTCH SW	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	The following states are detected for 5 seconds while ignition switch is ON: • P/N position signal is sent from TCM but shift position signal input (CAN) from TCM is other than P (Park) and N (Neutral) • P/N position signal is not sent from TCM but shift position signal input (CAN) from TCM is P (Park) or N (Neutral)
		Diagnosis delay time	—

POSSIBLE CAUSE

- Harness or connectors
  (CAN communication line is open or shorted.)
- BCM
- TCM
- Harness or connector
  (TCM circuit is open or shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode of “BCM”.
6. Check DTC.

Is DTC detected?

YES >> Go to SEC-107, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876039

Regarding Wiring Diagram information, refer to SEC-28, "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.
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
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-42, "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

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to TM-58, "DTC Index".
NO >> GO TO 3.

3.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	Battery voltage
				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-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> 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	
F29	10	M18	39	Yes

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

Transmission range switch		Ground	Continuity
Connector	Terminal		
F29	10		No

Is the inspection result normal?

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

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

7. CHECK CVT SHIFT SELECTOR RANGE SWITCH FUNCTION (METER)

CONSULT
1. Turn ignition switch ON.
2. Select “SHIFT IND” in “Data Monitor” mode (METER).
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-198, "Inspection".

B2605 SHIFT POSITION

DTC Description

INFOID:0000000012876040

DTC DETECTION LOGIC

NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2605	PNP/CLUTCH SW	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	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
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R
- BCM
- Harness or connectors
  (TCM circuit is open or shorted.)
- Harness or connector
  (The CAN communication line is open or shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode of “BCM”.
6. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876041

Regarding Wiring Diagram information, refer to SEC-28, "Wiring Diagram".

1.CHECK CVT SHIFT SELECTOR SWITCH FUNCTION

CONSULT

1. Turn ignition switch ON.
2. Select “SFT PN-IPDM” and “SFT PN/N SW” in “Data Monitor” mode.
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-42, "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 (Approx.)
IPDM E/R					
Connector	Terminal				
F24	66	Ground	Selector lever	P (Park) or N (Neutral) position	Battery voltage
				Other than above	0

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "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	F29	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-36, "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 (Approx.)
BCM					
Connector	Terminal				
M18	39	Ground	Selector lever	P (Park) or N (Neutral) position	Battery voltage
				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-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> 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	
F29	10	M18	39	Yes

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

Transmission range switch		Ground	Continuity
Connector	Terminal		
F29	10		No

Is the inspection result normal?

YES >> GO TO 8.
NO >> Repair or replace harness.

8.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

B2608 STARTER RELAY

DTC Description

INFOID:0000000012876042

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B2608	STARTER RELAY	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	BCM outputs starter motor relay OFF signal but BCM receives starter motor relay ON signal from IPDM E/R (CAN)
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R
- Harness or connectors
  (Starter relay circuit is open or shorted.)
- Harness or connector
  (The CAN communication line is open or shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode of “BCM”.
4. Check DTC.

Is DTC detected?

YES >> Go to SEC-113, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876043

Regarding Wiring Diagram information, refer to SEC-28, "Wiring Diagram".

1.CHECK DTC OF IPDM E/R

CONSULT

Check DTC in “Self Diagnostic Result” mode of “IPDM E/R”.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to PCS-21, "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 (Approx.)
BCM					
Connector	Terminal				
M19	62	Ground	Selector lever	N (Neutral) or P (Park) position	Battery voltage
				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-36, "Removal and Installation".
NO >> Repair or replace harness.

4.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

B260F ENGINE STATUS

DTC Description

INFOID:0000000012876044

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B260F	ENG STATE SIG LOST	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.
		Diagnosis delay time	—

POSSIBLE CAUSE

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

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1000: Refer to BCS-66, "DTC Description". U1010: Refer to BCS-67, "DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to SEC-115, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-42, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000012876045

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. U1000: Refer to BCS-66, "DTC Description". U1010: Refer to BCS-67, "DTC Description".
NO >> GO TO 2.

2.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM” using CONSULT.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to SEC-115, "DTC Description".

Is DTC detected?

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

3.REPLACE ECM

Replace ECM. Refer EC-574, "Removal and Installation".

>> Inspection End.

B261E VEHICLE TYPE

DTC Description

INFOID:0000000012876046

There are two types of vehicles.
- HEV
- Conventional

DTC DETECTION LOGIC

NOTE:
- If DTC B261E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B261E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B261E	VEHICLE TYPE	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	Difference of BCM configuration
		Diagnosis delay time	—

POSSIBLE CAUSE

- BCM mis-configuration
- Wrong ECM installed

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
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. Select “Self Diagnostic Result” mode.
3. Check DTC.

Is DTC detected?

YES >> GO TO SEC-117, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876047

1.INSPECTION START

CONSULT
1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” mode.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure. Refer to SEC-117, "DTC Description".

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-63, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 3.

3.INSPECTION START

CONSULT
1. Turn ignition switch ON.
2. Check “Self Diagnostic Result” mode.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure.
   Refer to SEC-117, "DTC Description".

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-79, "Removal and Installation".
NO >> Replace ECM. Refer to EC-574, "Removal and Installation".

B26F3 STARTER CONTROL RELAY

DTC Description

INFOID:0000000012876048

DTC DETECTION LOGIC

NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B26F3	START CONT RLY ON	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	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)
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R
- Harness or connector
  (The CAN communication line is open or shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode of “BCM”.
4. Check DTC.

Is DTC detected?

YES >> GO TO SEC-119, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876049

1.CHECK DTC OF IPDM E/R

CONSULT

Check DTC in “Self Diagnostic Result” mode of “IPDM E/R”.

Is DTC detected?

YES >> Perform the diagnosis procedure related to the detected DTC. Refer to PCS-21, "DTC Index".
NO >> GO TO 2.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

B26F4 STARTER CONTROL RELAY

DTC Description

INFOID:0000000012876050

DTC DETECTION LOGIC

NOTE:

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Description".
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Description".

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B26F4	START CONT RELAY OFF	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	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
		Diagnosis delay time	—

POSSIBLE CAUSE

- IPDM E/R
- Harness or connector
  (The CAN communication line is open or shorted.)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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. Select “Self Diagnostic Result” mode of “BCM”.
3. Check DTC.

Is DTC detected?

YES >> GO TO SEC-120, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876051

1.CHECK DTC OF IPDM E/R

CONSULT

Check DTC in “Self Diagnostic Result” mode of “IPDM E/R”.

Is DTC detected?

YES >> Perform the diagnosis procedure related to the detected DTC. Refer to PCS-21, "DTC Index".
NO >> GO TO 2.

2.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

B26F7 BCM

DTC Description

INFOID:0000000012876052

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B26F7	BCM	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	Inside key antenna output circuit in BCM is malfunctioning
		Diagnosis delay time	—

POSSIBLE CAUSE

- BCM

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Press door request switch.
2. Turn ignition switch ON.
3. Select “Self Diagnostic Result” mode of “BCM”.
4. Check DTC.

Is DTC detected?

YES >> GO TO SEC-121, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000012876053

1.INSPECTION START

CONSULT
1. Turn ignition switch ON.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Touch “ERASE”.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B26F7. Refer to SEC-121, "DTC Description".

Is DTC detected?

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

2.REPLACE BCM

1. Replace BCM. Refer to BCS-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

B26FC KEY REGISTRATION

DTC Description

INFOID:0000000012876054

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B26FC	KEY REGISTRATION	Diagnosis condition	When the ignition switch is ON.
		Signal (terminal)	—
		Threshold	Intelligent Key that does not match the vehicle is registered
		Diagnosis delay time	—

POSSIBLE CAUSE

- Improper registration operation
- Intelligent Key
- BCM

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Perform initialization of BCM and reregistration of all Intelligent Keys.
2. Select “Self Diagnostic Result” mode of “BCM”.
3. Check DTC.

Is DTC detected?

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

Diagnosis Procedure

INFOID:0000000012876055

1.REPLACE INTELLIGENT KEY

CONSULT

1. Prepare Intelligent Key that matches the vehicle.
2. Perform initialization of BCM and registration of Intelligent Key using CONSULT.
3. Select “Self Diagnostic Result” mode of “BCM”.
4. Check DTC.

Is DTC detected?

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

2.REPLACE BCM

1. Replace BCM. Refer to BCS-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

HEADLAMP FUNCTION

Component Function Check

INFOID:0000000012876056

1.CHECK FUNCTION

CONSULT
1. Perform “HEAD LAMP(HI)” in “ACTIVE TEST” mode of “THEFT ALM” of “BCM”.
2. Check headlamps operation.

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

Is the inspection result normal?

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

Diagnosis Procedure

INFOID:0000000012876057

1.CHECK HEADLAMP FUNCTION

Refer to SEC-123, "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-42, "Intermittent Incident".

>> Inspection End.

HOOD SWITCH

Component Function Check

INFOID:0000000012876058

1.CHECK FUNCTION

CONSULT
1. Select “HOOD SW” in “Data Monitor” mode of “IPDM E/R”.
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-124, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012876059

Regarding Wiring Diagram information, refer to SEC-46, "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) (Approx.)
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-36, "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-125, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace hood switch. Refer to DLK-316, "HOOD LOCK : Removal and Installation".

5.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

Component Inspection

INFOID:0000000012876060

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 SEC-142, "Removal and Installation".

HORN FUNCTION

Component Function Check

INFOID:0000000012876061

1.CHECK FUNCTION 1

CONSULT
1. Disconnect anti-theft horn relay.
2. Perform “VEHICLE SECURITY HORN” in “Active Test” mode of “THEFT ALM” of “BCM”.
3. Check the horn operation.

Test item		Description	
VHICLE SECURITY HORN	ON	Anti-theft horn	Sounds (for 0.5 sec)

Is the operation normal?

YES >> GO TO 2.
NO >> Go to SEC-126, "Diagnosis Procedure".

2.CHECK FUNCTION 2

CONSULT
1. Reconnect anti-theft horn relay.
2. Disconnect horn relay.
3. Perform “VEHICLE SECURITY HORN” in “Active Test” mode of “THEFT ALM” of “BCM”.
4. Check the horn operation.

Test item		Description	
VHICLE SECURITY HORN	ON	Anti-theft horn	Sounds (for 0.5 sec)

Is the operation normal?

YES >> Inspection End.
NO >> Go to SEC-126, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012876062

Regarding Wiring Diagram information, refer to SEC-46, "Wiring Diagram".

1.INSPECTION START

Perform inspection in accordance with procedure that confirms malfunction.

Which procedure confirms malfunction?

Component Function Check 1>>GO TO 2.
Component Function Check 2>>GO TO 4.

2.CHECK HORN FUNCTION

Check that horns function properly using horn switch.

Do horns sound?

YES >> GO TO 3.
NO >> Check horn circuit. Refer to HRN-3, "Wiring Diagram".

3.CHECK HORN CONTROL CIRCUIT

1. Disconnect horn relay.
2. Disconnect IPDM E/R 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	22	H1	1	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E119	22		No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".
NO >> Repair or replace harness.

4. CHECK ANTI-THEFT HORN RELAY POWER SUPPLY

1. Disconnect anti-theft horn relay.
2. Check voltage between anti-theft horn relay harness connector and ground.

(+)		(–)	Voltage (V) (Approx.)
Anti-theft horn relay			
Connector	Terminal		
E8	2	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.
NO-1 >> Check 10 A fuse [No. 59 located in the fuse and fusible link box].
NO-2 >> Check harness for open or short between anti-theft horn relay and fuse.

5. CHECK ANTI-THEFT HORN CONTROL CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector and anti-theft horn relay harness connector.

IPDM E/R		Anti theft horn relay		Continuity
Connector	Terminal	Connector	Terminal	
E119	23	E8	1	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E119	23		No

Is the inspection result normal?

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

6. CHECK ANTI-THEFT HORN CIRCUIT

1. Check continuity between anti-theft horn relay harness connector and anti-theft horn harness connector.

Anti-theft horn relay		Anti-theft horn		Continuity
Connector	Terminal	Connector	Terminal	
E8	3	E220	1	Yes

2. Check continuity between anti-theft horn relay harness connector and ground.

Anti-theft horn relay		Ground	Continuity
Connector	Terminal		
E8	3		No

Is the inspection result normal?

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

7.CHECK ANTI-THEFT HORN RELAY

Refer to SEC-128, "Component Inspection".

Is the inspection result normal?

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

Component Inspection

INFOID:0000000012876063

1.CHECK ANTI-THEFT HORN RELAY

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

(+) anti-theft horn relay Terminal	(−)	Condition	Voltage (V) (Approx.)
3	Ground	12 V direct current supply between terminals 1 and 2	12
		No current supply	0

Is the inspection result normal?

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

SECURITY INDICATOR LAMP

Component Function Check

INFOID:0000000012876064

1.CHECK FUNCTION

CONSULT
1. Perform “THEFT IND” in “ACTIVE TEST” mode of “IMMU” of “BCM”.
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-129, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000012876065

Regarding Wiring Diagram information, refer to SEC-46, "Wiring Diagram".

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (V) (Approx.)
Combination meter			
Connector	Terminal		
M23	46	Ground	Battery voltage

Is the inspection result normal?

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

2.CHECK SECURITY INDICATOR LAMP SIGNAL

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

(+)		(–)	Voltage (V) (Approx.)
BCM			
Connector	Terminal		
M18	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-79, "Removal and Installation".
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> 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	7	M18	18	Yes

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

Combination meter		Ground	Continuity
Connector	Terminal		
M24	7		No

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-72, "Removal and Installation".
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

INTELLIGENT KEY SYSTEM SYMPTOMS

Diagnosis Procedure

INFOID:0000000013334824

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 of front/rear/back door) or trunk/back door open operation (opener switch of trunk/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-132
2	OK	NG	OK	OK	DLK-266
3	OK	NG	No crank, No start	OK	DLK-263
4	NG	NG	No crank, No start	OK	DLK-260
5	NG	NG	No start	No start	DLK-262
6	OK	OK	No crank, No start	OK	SEC-133
7	NG	OK	OK	OK	DLK-267
8	NG	NG	OK	OK	DLK-263
9	Poor range	OK	OK	OK	DLK-267

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 of front/rear/back door) or trunk/back door open operation (opener switch of trunk/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-265
2	NG	NG	No crank, No start	OK	DLK-272
3	NG	NG	No crank, No start	No crank, No start	DLK-270
4	OK	OK	No crank, No start	No crank, No start	SEC-135
5	OK	NG	No crank, No start	OK	SEC-136
6	Poor range	OK	OK	OK	DLK-274

ENGINE CAN NOT START

Description

INFOID:0000000013334825

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 of front/rear/back door) or trunk/back door open operation (opener switch of trunk/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-132, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013334826

1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.
Refer to DLK-257, "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:0000000013334827

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 of front/rear/back door) or trunk/back door open operation (opener switch of trunk/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-133, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013334828

1. CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.
Refer to DLK-257, "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.
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident.

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE (ONE KEY)

Description

INFOID:0000000013334829

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 of front/rear/back door) or trunk/back door open operation (opener switch of trunk/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-135, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013334830

1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.
Refer to DLK-257, "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.
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

DOOR DOES NOT LOCK/UNLOCK AND ENGINE DOES NOT START (REQ SW/PUSH SW) (ONE KEY)

Description

INFOID:0000000013334831

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 of front/rear/back door) or trunk/back door open operation (opener switch of trunk/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-136, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000013334832

1.CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.
Refer to DLK-257, "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-339, "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-339, "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-79, "Removal and Installation".
2. Check operation after replacement.

Is the inspection result normal?

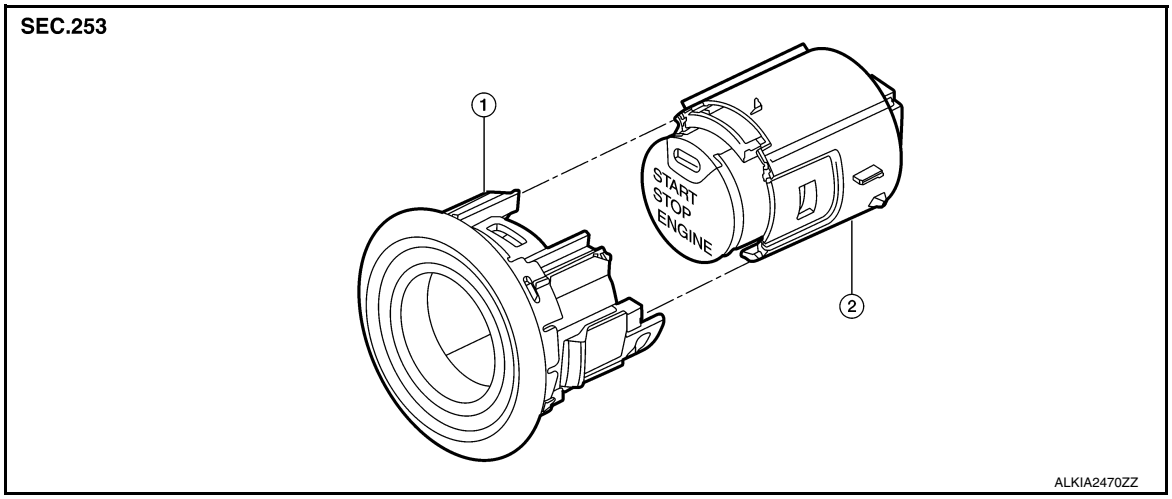
YES >> Inspection End.
NO >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

REMOVAL AND INSTALLATION

NATS ANTENNA AMP.

Exploded View

INFOID:0000000012876080



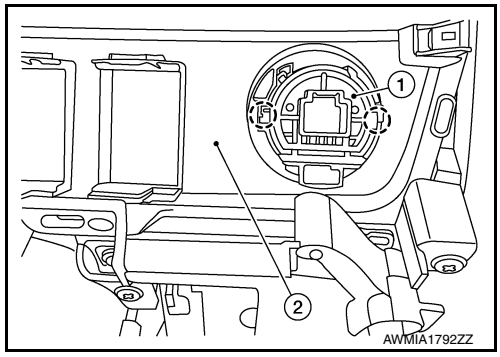
1. NATS antenna amp.
2. Push-button ignition switch

Removal and Installation

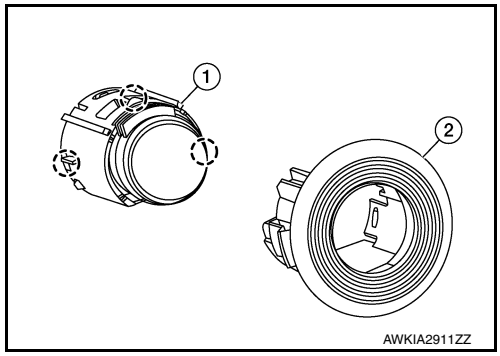
INFOID:0000000012876081

REMOVAL

1. Remove the shift selector finisher. Refer to IP-19, "Exploded View".
2. Release the pawl on each side of NATS antenna amp (1) using suitable tool and remove from the shift selector finisher (2).
   ◌: Pawl



3. Release the pawl on each side and remove the NATS antenna amp (2) from the push-button ignition switch (1).
   ◌: Pawl



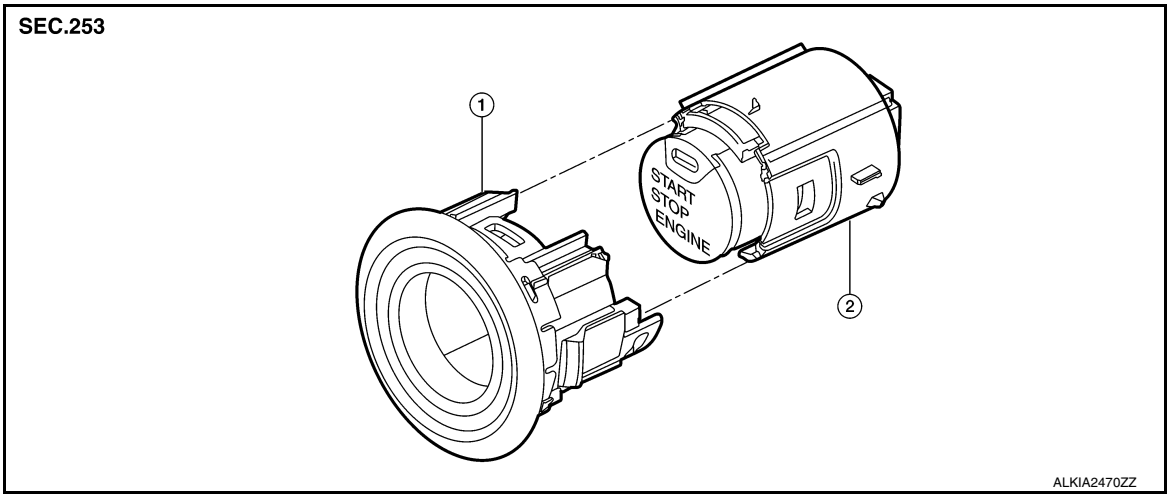
INSTALLATION

Installation is in the reverse order of removal.

PUSH-BUTTON IGNITION SWITCH

Exploded View

INFOID:0000000012876082



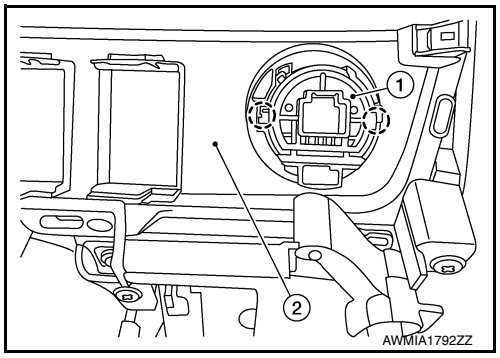
1. NATS antenna amp.
2. Push-button ignition switch

Removal and Installation

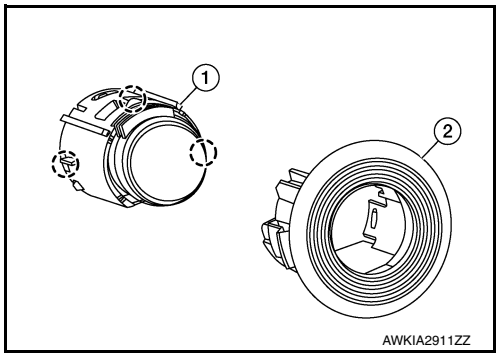
INFOID:0000000012876083

REMOVAL

1. Remove the shift selector finisher. Refer to IP-19, "Exploded View".
2. Release the pawls on each side of NATS antenna amp (1) using suitable tool and remove from the shift selector finisher (2).
   ◌: Pawl



3. Release the pawl on each side using suitable tool and remove the push-button ignition switch (1) from the NATS antenna amp (2).
   ◌: Pawl



INSTALLATION

Installation is in the reverse order of removal.

IMMOBILIZER CONTROL MODULE

Removal and Installation

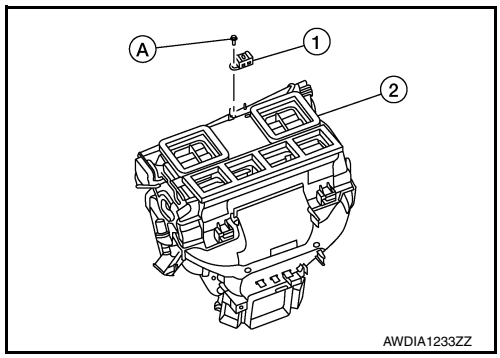
INFOID:0000000012876084

Removal

The immobilizer control module is integrated into the body control module (BCM). For removal and installation, refer to BCS-79, "Removal and Installation".

Removal (Canada only)

1. Remove instrument panel assembly. IP-15, "INSTRUMENT PANEL ASSEMBLY : Removal and Installation".
2. Disconnect the harness connector from the dongle unit (1).
3. Remove screw (A) and dongle unit (1) from heating and cooling unit assembly(2).



INSTALLATION

Installation is in the reverse order of removal.

REMOTE KEYLESS ENTRY RECEIVER

Removal and Installation

INFOID:0000000012876085

REMOVAL

1. Remove the glove box assembly. Refer to IP-25, "Removal and Installation".
2. Remove the remote keyless entry receiver bolt.
3. Disconnect the harness connector from remote keyless entry receiver and remove.

INSTALLATION

Installation is in the reverse order of removal.

HOOD SWITCH

Removal and Installation

INFOID:0000000012876086

The hood switch is part of the hood lock assembly. For removal and installation, refer to DLK-316, "HOOD LOCK : Removal and Installation".