

# SECTION **PCS**

## POWER CONTROL SYSTEM

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# RELAY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

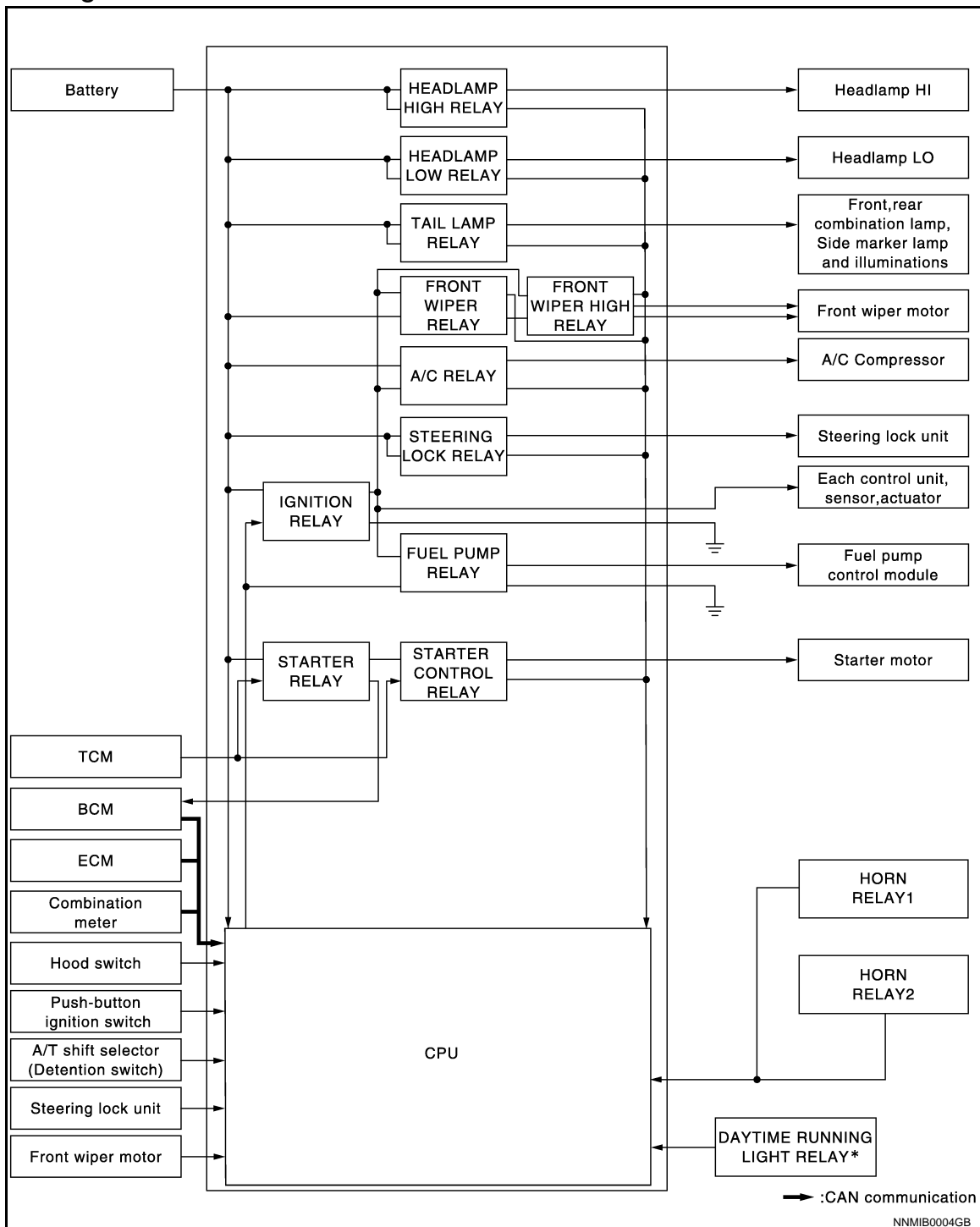
[IPDM E/R]

## SYSTEM DESCRIPTION

### RELAY CONTROL SYSTEM

#### System Diagram

INFOID:000000009163841



\*: With daytime running light system

#### System Description

INFOID:000000009163842

IPDM E/R activates the internal control circuit to perform the relay ON-OFF control according to the input signals from various sensors and the request signals received from control units via CAN communication.

**CAUTION:**

**IPDM E/R integrated relays cannot be removed.**

# RELAY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R]

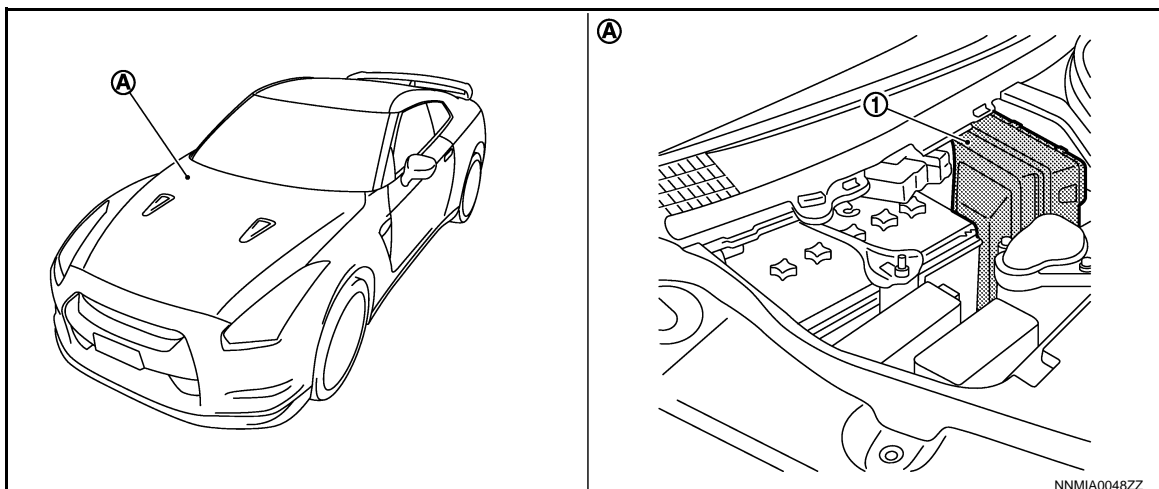
Control relay	Input/output	Transmit unit	Control part	Reference page
<ul style="list-style-type: none"> <li>Headlamp low relay</li> <li>Headlamp high relay</li> </ul>	<ul style="list-style-type: none"> <li>Low beam request signal</li> <li>High beam request signal</li> </ul>	BCM (CAN)	<ul style="list-style-type: none"> <li>Headlamp low</li> <li>Headlamp high</li> </ul>	<a href="#">EXL-3</a>
Tail lamp relay	Position light request signal	BCM (CAN)	<ul style="list-style-type: none"> <li>Parking lamp</li> <li>Side marker lamp</li> <li>License plate lamp</li> <li>Tail lamp</li> </ul>	<a href="#">EXL-11</a>
			Illuminations	<a href="#">INL-9</a>
<ul style="list-style-type: none"> <li>Front wiper relay</li> <li>Front wiper high relay</li> </ul>	Front wiper request signal	BCM (CAN)	Front wiper	<a href="#">WW-2</a>
	Front wiper stop position signal	Front wiper motor		
<ul style="list-style-type: none"> <li>Horn relay 1</li> <li>Horn relay 2</li> </ul>	<ul style="list-style-type: none"> <li>Theft warning horn request signal</li> <li>Horn reminder signal</li> </ul>	BCM (CAN)	<ul style="list-style-type: none"> <li>Horn (low)</li> <li>Horn (high)</li> </ul>	<a href="#">SEC-12</a>
<ul style="list-style-type: none"> <li>Starter relay<sup>NOTE</sup></li> <li>Starter control relay</li> </ul>	Starter control relay signal	BCM (CAN)	Starter motor	<a href="#">SEC-4</a>
	Steering lock unit condition signal	Steering lock unit		
	Starter relay control signal	TCM		
Steering lock relay	Steering lock relay signal	BCM (CAN)	Steering lock unit	<a href="#">SEC-4</a>
	Steering lock unit condition signal	Steering lock unit		
	A/T shift selector (Detention switch) signal	A/T shift selector (Detention switch)		
A/C relay	A/C compressor request signal	ECM (CAN)	A/C compressor (Magnet clutch)	<a href="#">HAC-19</a>
Ignition relay	Ignition switch ON signal	BCM (CAN)	Ignition relay	—
	Vehicle speed signal	Combination meter (CAN)		
	Push-button ignition switch signal	Push-button ignition switch		
Daytime running light relay	Daytime running light request signal	BCM (CAN)	Headlamp high (High beam at approximately half illumination)	<a href="#">EXL-7</a>

**NOTE:**

BCM controls the starter relay.

## Component Parts Location

INFOID:000000009163843



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# RELAY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R]

- 1. IPDM E/R
- A. Engine room dash panel (RH)

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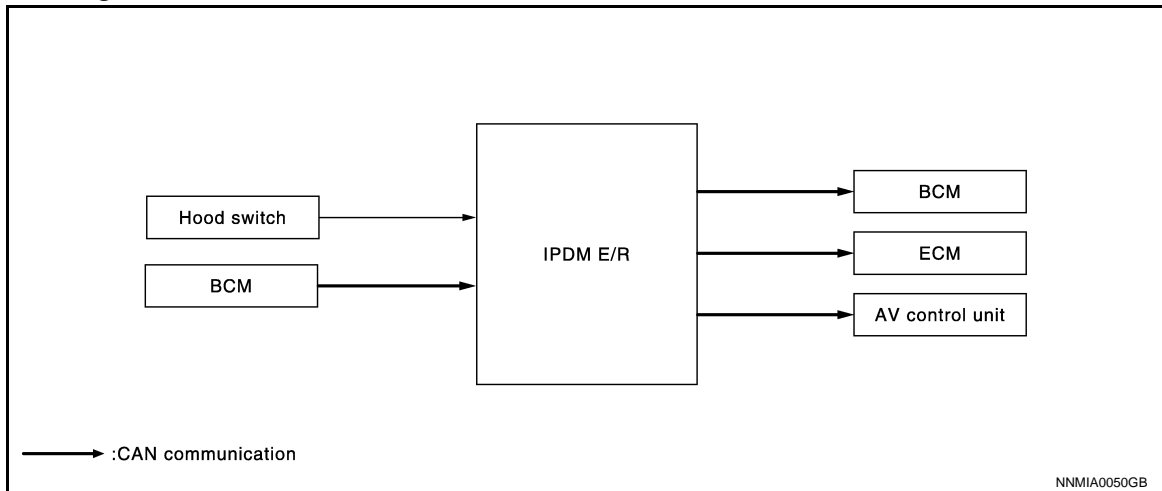
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## SIGNAL BUFFER SYSTEM

### System Diagram

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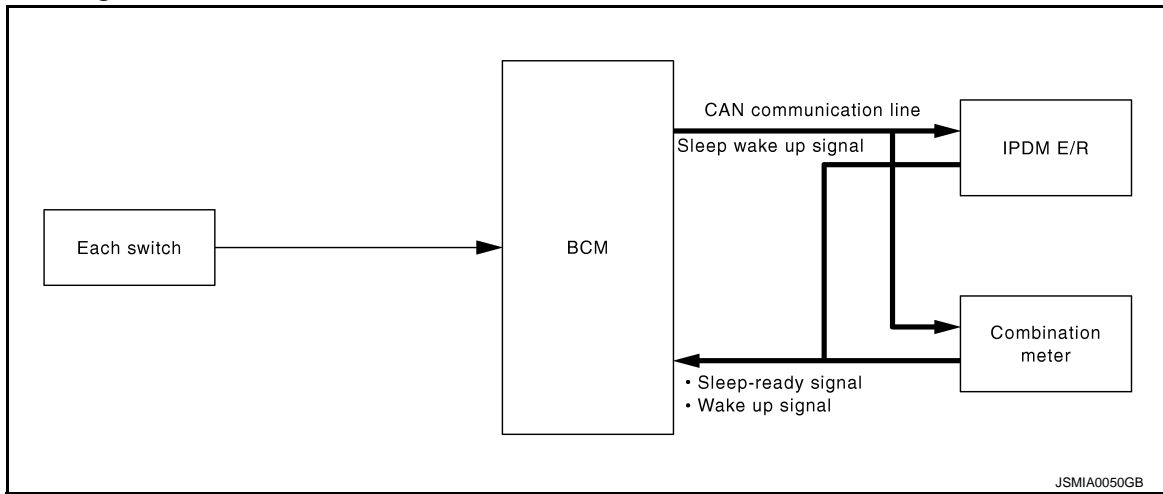
### System Description

INFOID:000000009163847

- IPDM E/R reads the status of the hood switch and transmits the hood switch signal to BCM via CAN communication. Refer to [SEC-18, "Description"](#).
- IPDM E/R receives the rear window defogger control signal from BCM via CAN communication and transmits it to ECM and AV control unit via CAN communication. Refer to [DEF-3, "System Diagram"](#).

POWER CONSUMPTION CONTROL SYSTEM

System Diagram



INFOID:000000009163848

JSMIA0050GB

System Description

INFOID:000000009163849

OUTLINE

- IPDM E/R incorporates a power consumption control function that reduces the power consumption according to the vehicle status.
- IPDM E/R changes its status (control mode) with the sleep wake up signal received from BCM via CAN communication.

Normal mode (wake-up)

- CAN communication is normally performed with other control units.
- Individual unit control by IPDM E/R is normally performed.

Low power consumption mode (sleep)

- Low power consumption control is active.
- CAN transmission is stopped.

SLEEP MODE ACTIVATION

- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
  - Outputting signals to actuators
  - Switches or relays operating
  - Hood switch status is kept 50 ms or less.
  - Output requests are being received from control units via CAN communication.
- IPDM E/R stops CAN communication and enters the low power consumption mode when it receives a sleep wake up signal (sleep) from BCM and the sleep-ready conditions are fulfilled.

WAKE-UP OPERATION

- IPDM E/R changes from the low power consumption mode to the normal mode when it receives a sleep wake-up signal (wake up) from BCM or any of the following conditions is fulfilled. In addition, it transmits a sleep-ready signal (not-ready) to BCM via CAN communication to report the CAN communication start.
  - Ignition switch ON
  - The hood switch status changes.
  - An output request is received from a control unit via CAN communication.

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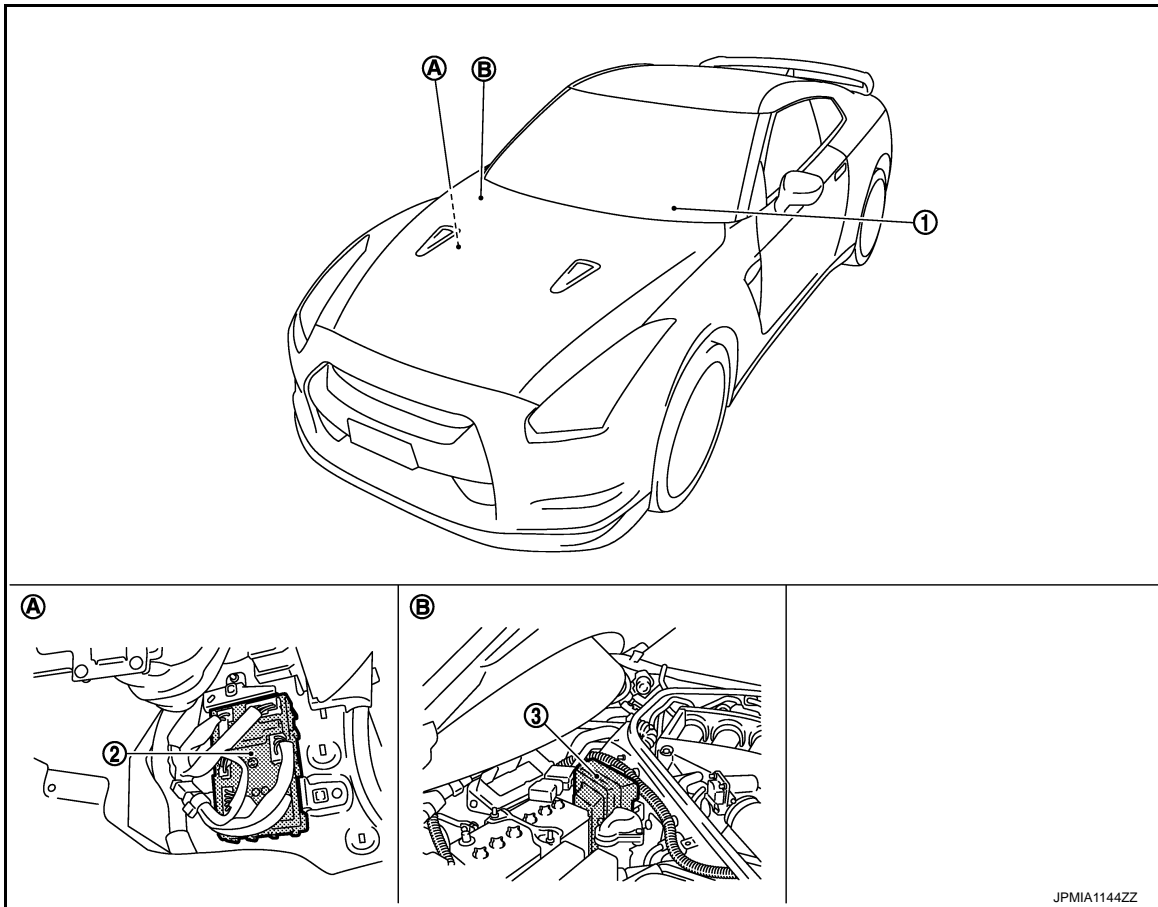
# POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R]

## Component Parts Location

INFOID:000000009163850



1. Combination meter

2. BCM

3. IPDM E/R

A. Dash side lower (passenger side)

B. Engine room dash panel (RH)



## DIAGNOSIS SYSTEM (IPDM E/R)

### Diagnosis Description

INFOID:000000009163851

#### AUTO ACTIVE TEST

##### Description

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

- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Side marker lamps
- Tail lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (cooling fan control module)

##### Operation Procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)  
**NOTE:**  
 When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn the ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.  
**CAUTION:**  
**Close passenger door.**
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. After a series of the following operations is repeated 3 times, auto active test is completed.

##### NOTE:

When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF.

##### CAUTION:

- **If auto active test mode cannot be actuated, check door switch system. Refer to [DLK-44, "Component Function Check"](#).**
- **Do not start the engine.**

##### Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 5 steps are repeated 3 times.

Operation sequence	Inspection location	Operation
1	Front wiper	LO for 5 seconds → HI for 5 seconds
2	<ul style="list-style-type: none"> <li>• Parking lamps</li> <li>• License plate lamps</li> <li>• Side marker lamps</li> <li>• Tail lamps</li> </ul>	10 seconds
3	Headlamps	LO ↔ HI 5 times
4	A/C compressor (magnet clutch)	ON ↔ OFF 5 times
5*	Cooling fan	MID for 5 seconds → HI for 5 seconds

\*: Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

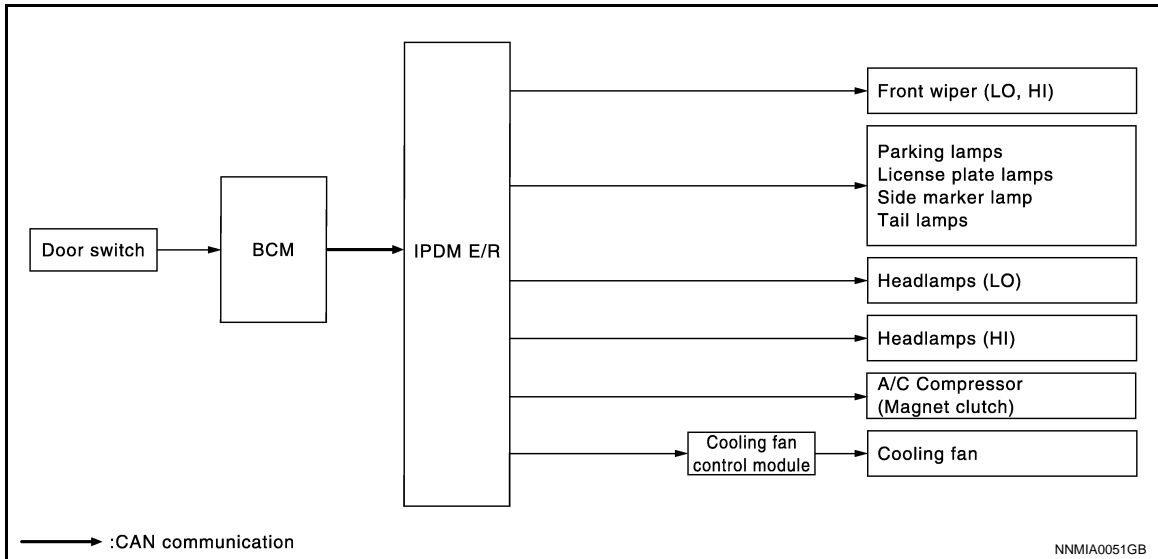
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# DIAGNOSIS SYSTEM (IPDM E/R)

[IPDM E/R]

< SYSTEM DESCRIPTION >

Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents	Possible cause
Any of the following components do not operate <ul style="list-style-type: none"> <li>• Parking lamps</li> <li>• License plate lamps</li> <li>• Side marker lamps</li> <li>• Tail lamps</li> <li>• Headlamp (HI, LO)</li> <li>• Front wiper (HI, LO)</li> </ul>	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> <li>• Lamp or motor</li> <li>• Lamp or motor ground circuit</li> <li>• Harness or connector between IPDM E/R and applicable system</li> <li>• IPDM E/R</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> <li>• A/C amp. signal input circuit</li> <li>• CAN communication signal between A/C amp. and ECM</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• Magnet clutch</li> <li>• Harness or connector between IPDM E/R and magnet clutch</li> <li>• IPDM E/R</li> </ul>
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES <ul style="list-style-type: none"> <li>• ECM signal input circuit</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• Cooling fan</li> <li>• Harness or connector between cooling fan and cooling fan control module</li> <li>• Cooling fan control module</li> <li>• Harness or connector between IPDM E/R and cooling fan control module</li> <li>• Cooling fan relay</li> <li>• Harness or connector between IPDM E/R and cooling fan relay</li> <li>• IPDM E/R</li> </ul>

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT

#### Diagnosis Procedure

INFOID:000000009163862

#### 1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible links are not blown.

Signal name	Fuses and fusible link No.
Battery power supply	C
	50
	51

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

#### 2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		Voltage (Approx.)
(+)	(-)	
IPDM E/R		Battery voltage
Connector	Terminal	
E4	1	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

#### 3. CHECK GROUND CIRCUIT

Check continuity between the IPDM E/R harness connectors and the ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E5	12		Existed
E6	41		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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## **ECU DIAGNOSIS INFORMATION**

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)


# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

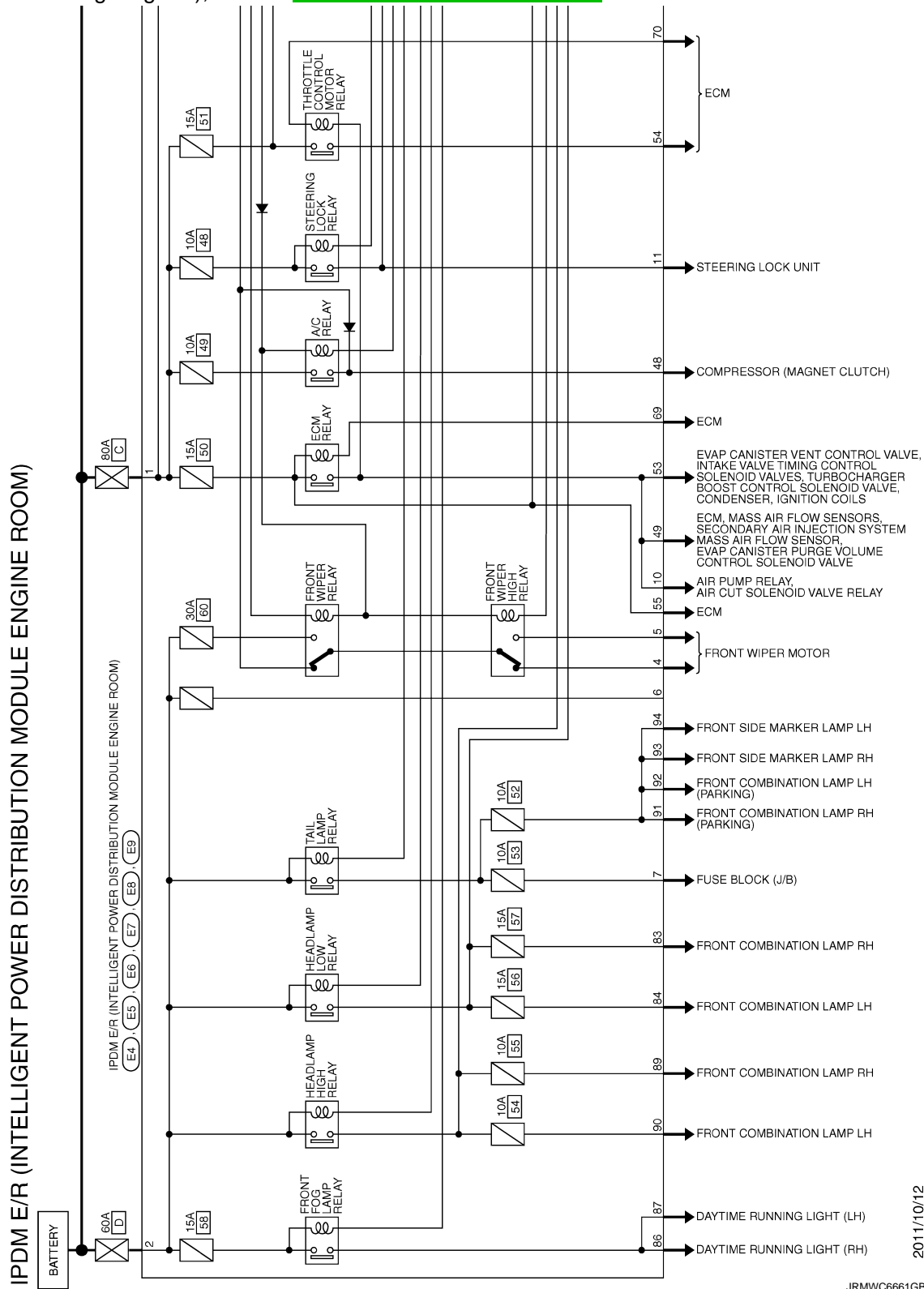
< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

## Wiring Diagram - IPDM E/R -

INFOID:00000009163864

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



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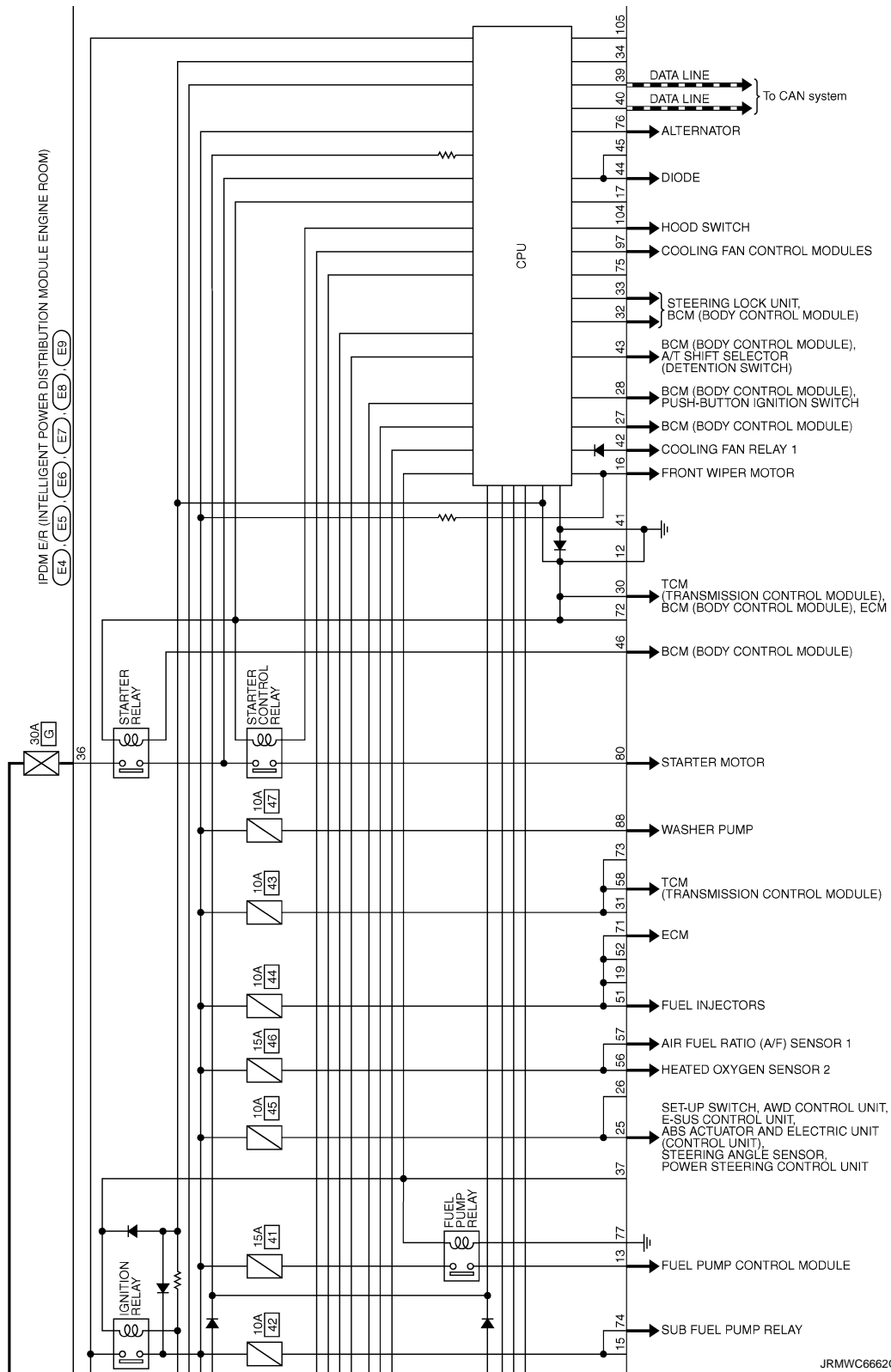
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

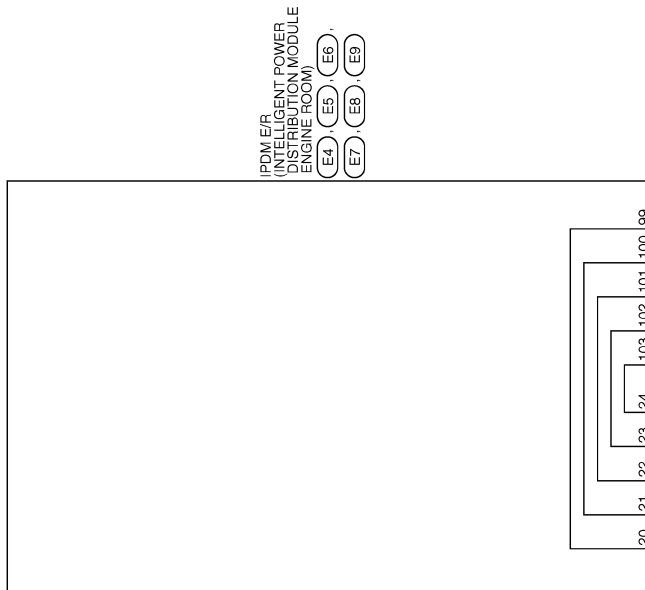
< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]



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## PRECAUTION

### PRECAUTIONS

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

INFOID:000000009163867

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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never 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:**

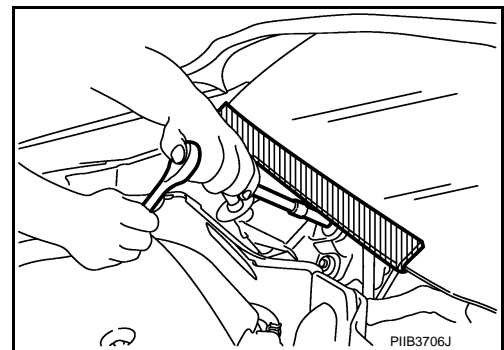
Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

#### Precaution for Procedure without Cowl Top Cover

INFOID:000000009163868

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



#### Precaution for Battery Service

INFOID:000000009163869

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

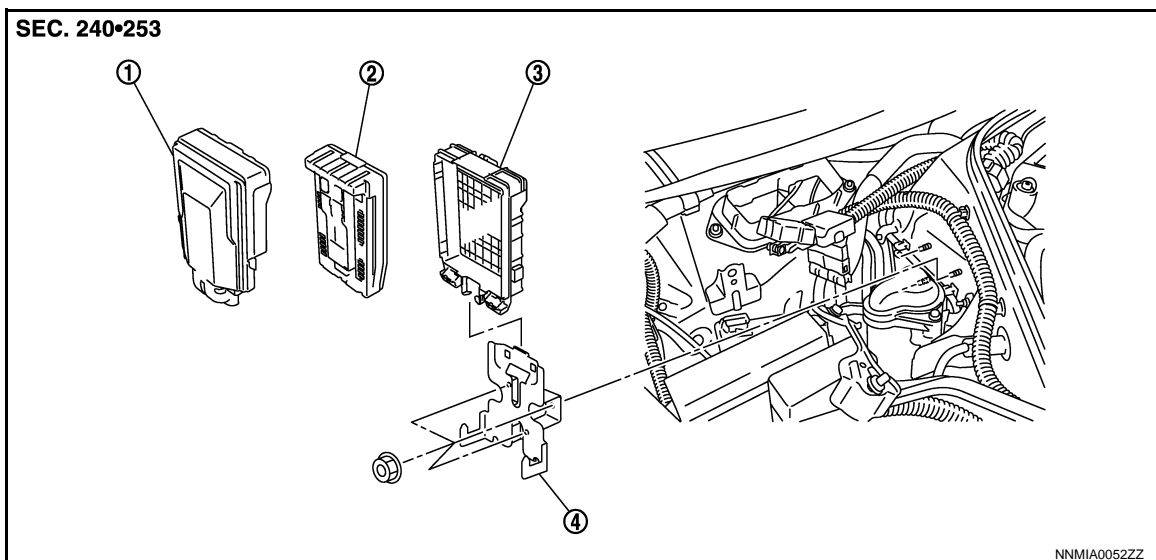


## REMOVAL AND INSTALLATION

### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

#### Exploded View

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1. IPDM E/R cover A

2. IPDM E/R

3. IPDM E/R cover B

4. Bracket

#### Removal and Installation

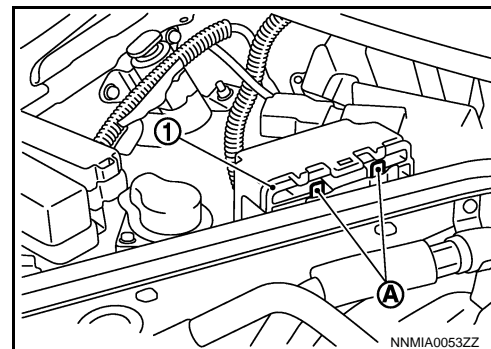
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#### **CAUTION:**

**IPDM E/R integrated relays are not serviceable parts, and must not be removed from the unit.**

#### REMOVAL

1. Remove the battery. Refer to [PG-99, "Exploded View"](#).
2. Remove the cowl top cover (RH). Refer to [EXT-26, "Exploded View"](#).
3. Pull up the IPDM E/R assembly while pressing the pawls (A) on the back of the IPDM E/R cover B (1).



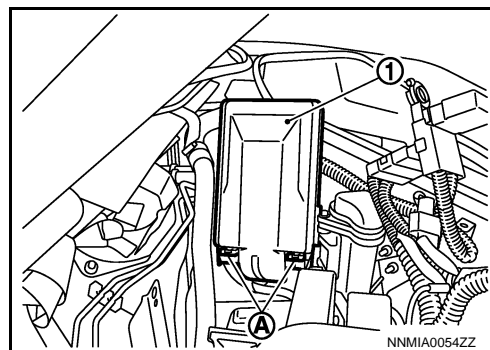
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

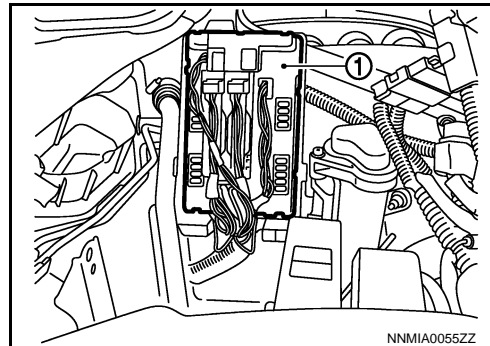
[IPDM E/R]

## < REMOVAL AND INSTALLATION >

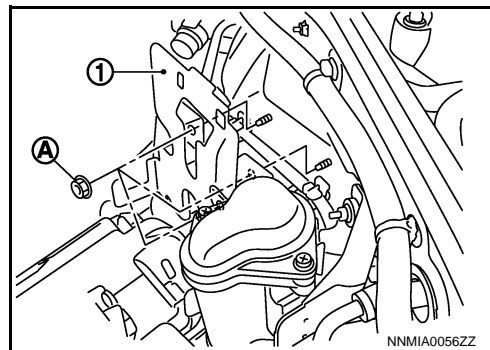
4. Remove the IPDM E/R cover A (1) while pressing the pawls (A) at the lower end of the IPDM E/R cover A.



5. Disconnect the harness connector. And then remove the IPDM E/R (1).



6. Remove the nuts (A). And then remove the bracket (1) from the vehicle.



## INSTALLATION

Install in the reverse order of removal.

## SYSTEM DESCRIPTION

### POWER DISTRIBUTION SYSTEM

#### System Description

INFOID:000000009163873

- PDS (POWER DISTRIBUTION SYSTEM) is the system that BCM controls with the operation of the push-button ignition switch and performs the power distribution to each power circuit. This system is used instead of the mechanical power supply changing mechanism with the operation of the conventional key cylinder.
  - The push-button ignition switch can be operated when Intelligent Key is in the following condition. Refer to Engine Start Function for details.
    - Intelligent Key is in the detection area of the inside key antenna
    - Insert Intelligent Key into the key slot
    - Insert key fob into the key slot
  - The push-button ignition switch operation is input to BCM as a signal. BCM changes the power supply position according to the status and operates the following relays to supply power to each power circuit.
    - Ignition relay (built into IPDM E/R)
    - Ignition relay (inserted into fuse block)
    - ACC relay
    - Blower relay
- NOTE:**  
The engine switch operation changes due to the conditions of brake pedal, shift lever position and vehicle speed.
- The power supply position can be confirmed with the illuminating of the indicators around the push-button ignition switch.

#### BATTERY SAVER SYSTEM

When all of the following conditions are met for 60 minutes, the battery saver system will cut off the power supply to prevent battery discharge.

- The ignition switch is in the ACC position
- All doors are closed
- Shift lever is in the P position

#### Reset Condition of Battery Saver System

In order to prevent the battery from discharging, the battery saver system will cut off the power supply when all doors are closed, the shift lever is in the P position and the ignition switch is left in the ACC position for 60 minutes. If any of the following conditions are met the battery saver system is released and the steering will change automatically to the LOCK position from the OFF position.

- Opening any door
- Operating with door key cylinder on door lock
- Operating with request switch on door lock
- Operating with Intelligent Key on door lock

Press push-button ignition switch and ignition switch will change to the ACC position from the OFF position.

#### STEERING LOCK OPERATION

Steering is locked by steering lock unit when ignition switch is in the OFF position, shift lever shift is in the P position and any of the following conditions are met.

- Opening door
- Closing door
- Door is locked with request switch
- Door is locked with Intelligent Key

#### 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 it is inserted to the key slot, it is equivalent to the operations below.
- When starting the engine, the BCM monitors under the engine start conditions,
  - Brake pedal operating condition
  - Shift lever position
  - Vehicle speed

# POWER DISTRIBUTION SYSTEM

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

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

Power supply position	Engine start/stop condition		Push-button ignition switch operation frequency
	Shift lever position	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
	Shift lever position	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.

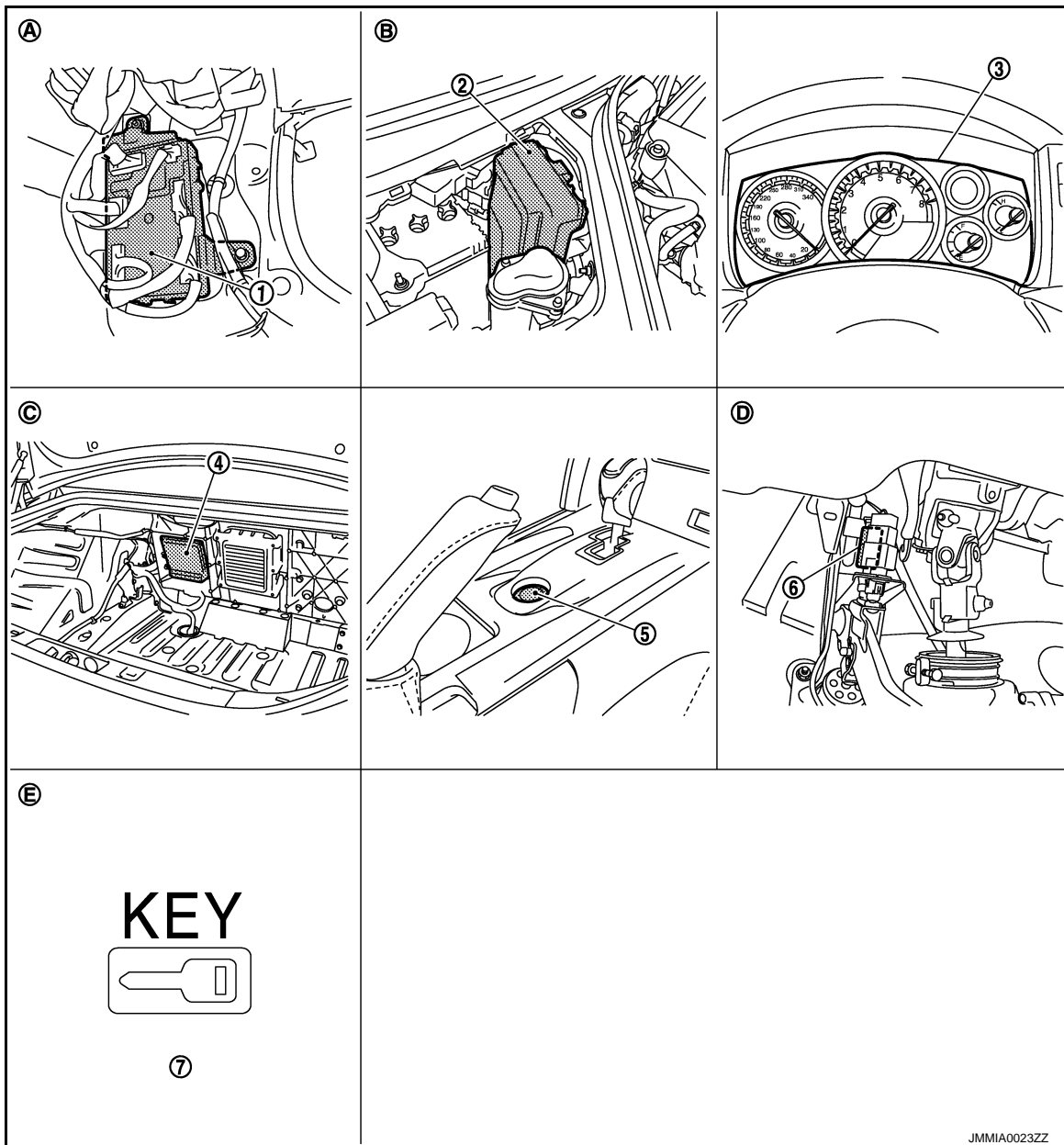
# POWER DISTRIBUTION SYSTEM

< SYSTEM DESCRIPTION >

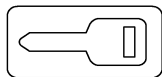
[POWER DISTRIBUTION SYSTEM]

## Component Parts Location

INFOID:000000009163874



**KEY**



⑦

JMMIA0023ZZ

- |  |                                     |   |
|--|-------------------------------------|---|
| 1. BCM M118, M119, M121, M122, M123                  | 2. IPDM E/R E5, E6, F7              | 3. Combination meter M53                  |
| 4. TCM B45   | 5. Push button ignition switch M131 | 6. Stop lamp switch E110                  |
| 7. Combination meter (Key warning lamp) M53          |                                     |   |
| A. Behind the instrument lower panel (RH)            | B. Engine room dash panel (RH)      | C. View with trunk front finisher removed |
| D. View with instrument lower panel (driver) removed | E. Located on the combination meter |   |

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PCS

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT

#### BCM

#### BCM : Diagnosis Procedure

INFOID:000000009163902

#### 1. CHECK FUSE AND FUSIBLE LINK

Check that the following fuse and fusible link are not blown.

Signal name	Fuse and fusible link No.
Battery power supply	I
	10

#### Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

#### 2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		Voltage (Approx.)
(+)	(-)	
BCM		Ground Battery voltage
Connector	Terminal	
M118	1	
M119	11	

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

#### 3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M119	13		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

# PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PUSH-BUTTON IGNITION SWITCH

### Description

INFOID:000000009163903

BCM transmits the change in the power supply position with the push-button ignition switch to IPDM E/R via the CAN communication line. IPDM E/R transmits the power supply position status via CAN communication line to BCM.

### Diagnosis Procedure

INFOID:000000009163905

#### 1. CHECK PUSH-BUTTON IGNITION SWITCH OPERATION

Press push-button ignition switch and check if it turns ON.

Does ignition switch turn ON?

YES >> GO TO 2.

NO >> GO TO 4.

#### 2. CHECK IGNITION SWITCH OUTPUT SIGNAL (IPDM E/R)

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

(+)		(-)	Voltage (V) (Approx.)
BCM			
Connector	Terminal		
M122	89	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

#### 3. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (IPDM E/R)

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

IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E5	28	M122	89	Existed

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E5	28		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-17. "Removal and Installation"](#).

NO >> Repair or replace harness.

#### 4. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (BCM)

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

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M122	89	M131	4	Existed

2. Check continuity between BCM harness connector and ground.

# PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

BCM		Ground	Continuity
Connector	Terminal		
M122	89		Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## 5.CHECK PUSH-BUTTON IGNITION GROUND CIRCUIT

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M131	1		Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

## 6.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch. Refer to [PCS-24, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace push button ignition switch. Refer to [PCS-31, "Removal and Installation"](#).

## 7.CHECK INTERMITTENT INCIDENT

Refer to [GI-38, "Intermittent Incident"](#).

>> INSPECTION END

## Component Inspection

INFOID:000000009163906

## 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		Push-button ignition switch	Continuity	
Terminal			Condition	
1	4		Pressed	Existed
		Not pressed	Not existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace push-button ignition switch. Refer to [PCS-31, "Removal and Installation"](#).



# PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

## PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

### Description

INFOID:000000009163907

The switch that changes the power supply position.  
BCM maintains the power supply position status.  
BCM changes the power supply position with the operation of the push-button ignition switch.

### Diagnosis Procedure

INFOID:000000009163909

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

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

(+)		(-)	Voltage (V) (Approx.)
Push-button ignition switch			
Connector	Terminal	Ground	Battery voltage
M131	8		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check 10 A fuse [No.11, located in fuse block (J/B)] and harness for open or short between push-button ignition switch and fuse.

#### 2. CHECK BCM INPUT

1. Connect push-button ignition switch connector.
2. Disconnect BCM connector.
3. Check voltage between BCM connector and ground.

(+)		(-)	Voltage (V) (Approx.)
BCM			
Connector	Terminal	Ground	Battery voltage
M119	15		
M122	93		
M123	134		

Is the inspection normal?

YES >> Replace BCM. Refer to [BCS-20, "Removal and Installation"](#).

NO >> GO TO 3.

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

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

Indicator	BCM		Push-button ignition switch		Continuity
	Connector	Terminal	Connector	Terminal	
LOCK	M123	134	M131	5	Existed
ACC	M119	15		6	
ON	M122	93		7	

3. Check continuity between BCM harness connector and ground.

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PCS

# PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Indicator	BCM		Ground	Continuity
	Connector	Terminal		
LOCK	M123	134		Not existed
ACC	M119	15		
ON	M122	93		

Is the inspection result normal?

YES >> Replace push-button ignition switch. Refer to [PCS-31, "Removal and Installation"](#).

NO >> Repair or replace harness.

# POWER DISTRIBUTION SYSTEM


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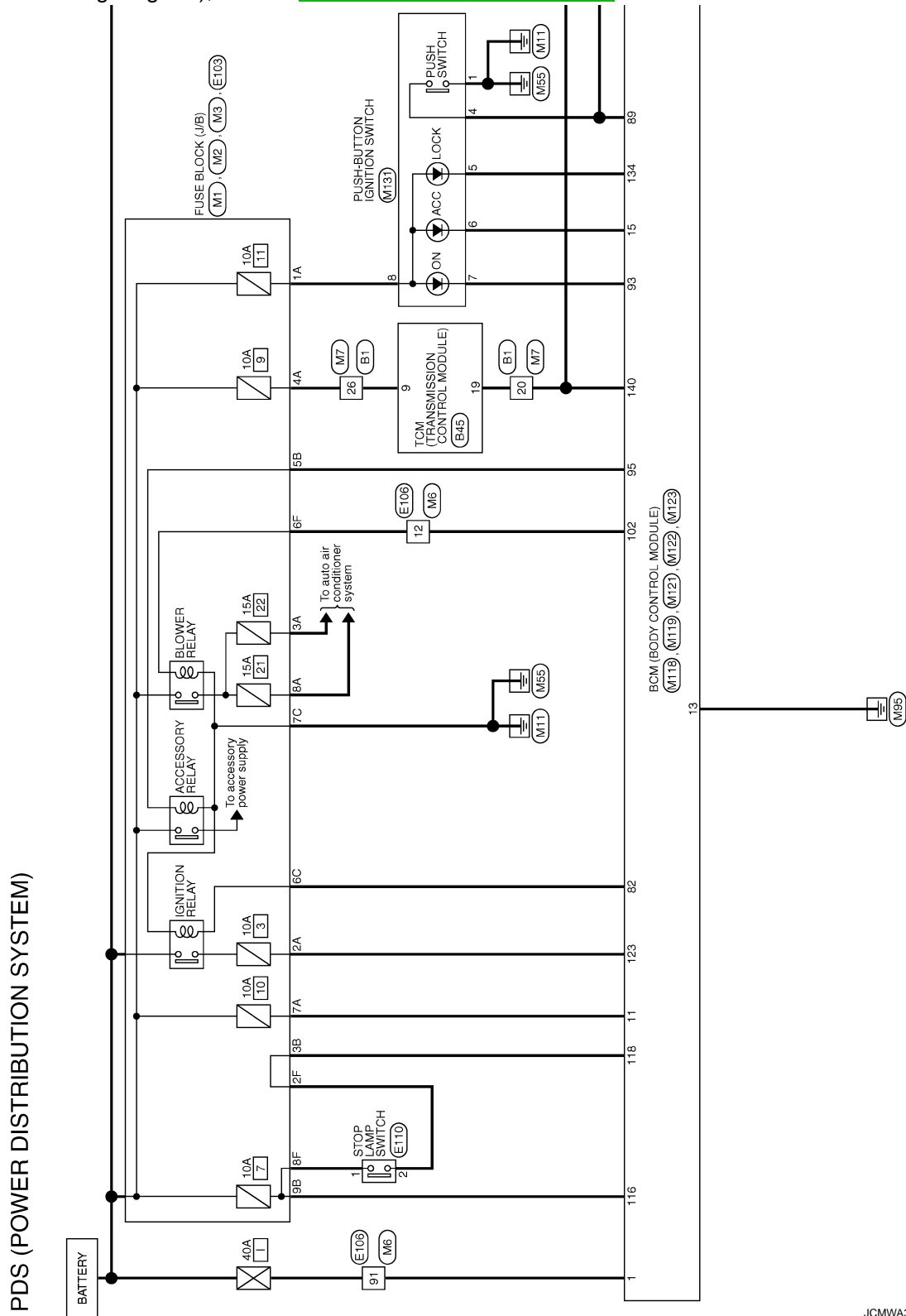
[POWER DISTRIBUTION SYSTEM]

## POWER DISTRIBUTION SYSTEM

### Wiring Diagram - PDS (POWER DISTRIBUTION SYSTEM) -

INFOID:000000009163910

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



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JCMWA3870GB

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< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000009163916

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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

**WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never 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:**

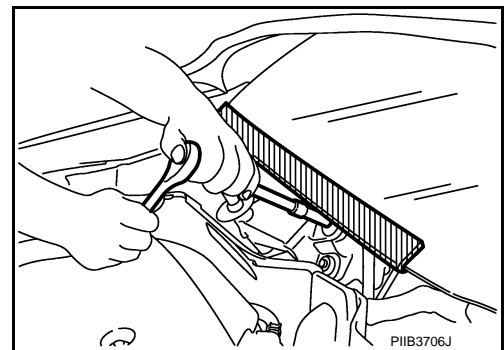
Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Procedure without Cowl Top Cover

INFOID:000000009163917

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



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Precautions Necessary for Steering Wheel Rotation After Battery Disconnection

INFOID:000000009163918

**CAUTION:**

Comply with the following cautions to prevent any error and malfunction.

- Before removing and installing any control units, first turn the ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

# PRECAUTIONS

< PRECAUTION >

[POWER DISTRIBUTION SYSTEM]

For vehicle with steering lock unit, if the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the operation procedure below before starting the repair operation.

## OPERATION PROCEDURE

1. Connect both battery cables.

**NOTE:**

Supply power using jumper cables if battery is discharged.

2. Turn the ignition switch to ACC position.  
(At this time, the steering lock will be released.)
3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
4. Perform the necessary repair operation.
5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT.

## Precaution for Battery Service

INFOID:000000009163919

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

# PUSH-BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

[POWER DISTRIBUTION SYSTEM]

## REMOVAL AND INSTALLATION

### PUSH-BUTTON IGNITION SWITCH

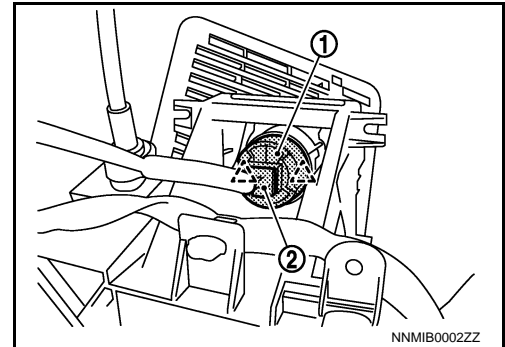
#### Removal and Installation

INFOID:000000009163923

#### REMOVAL

1. Remove control device. Refer to [TM-16. "Removal and Installation"](#).
2. Disconnect push-button ignition switch connector (2).
3. Remove the push-button ignition switch fixing pawl, and then remove push-button ignition switch (1).

 : Pawl



#### INSTALLATION

Install in the reverse order of removal.

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