

SECTION **PCS**

POWER CONTROL SYSTEM

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PRECAUTION

PRECAUTIONS

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

INFOID:000000011935810

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

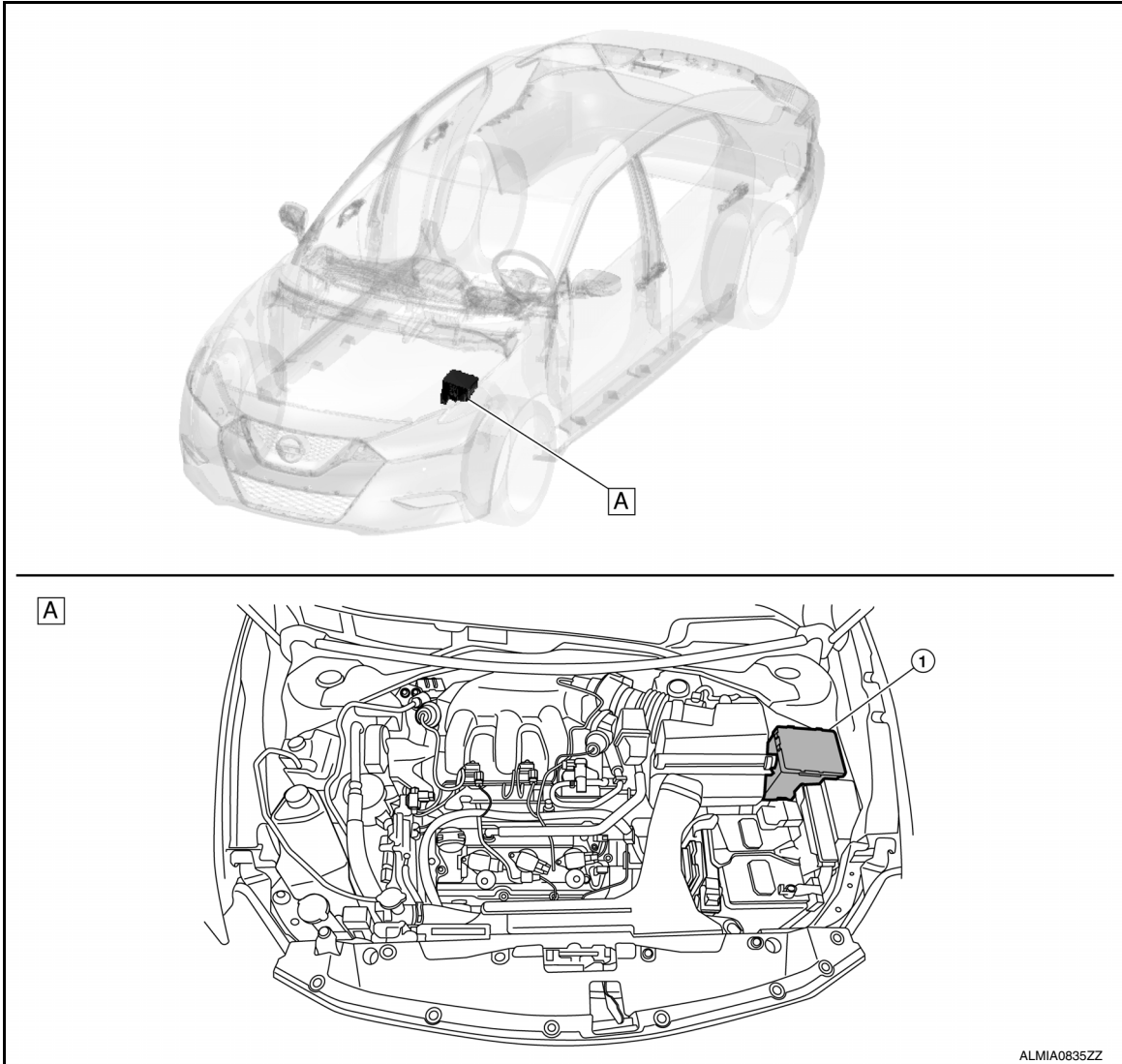
- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious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

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000012176588



A Engine room left side

1. IPDM E/R

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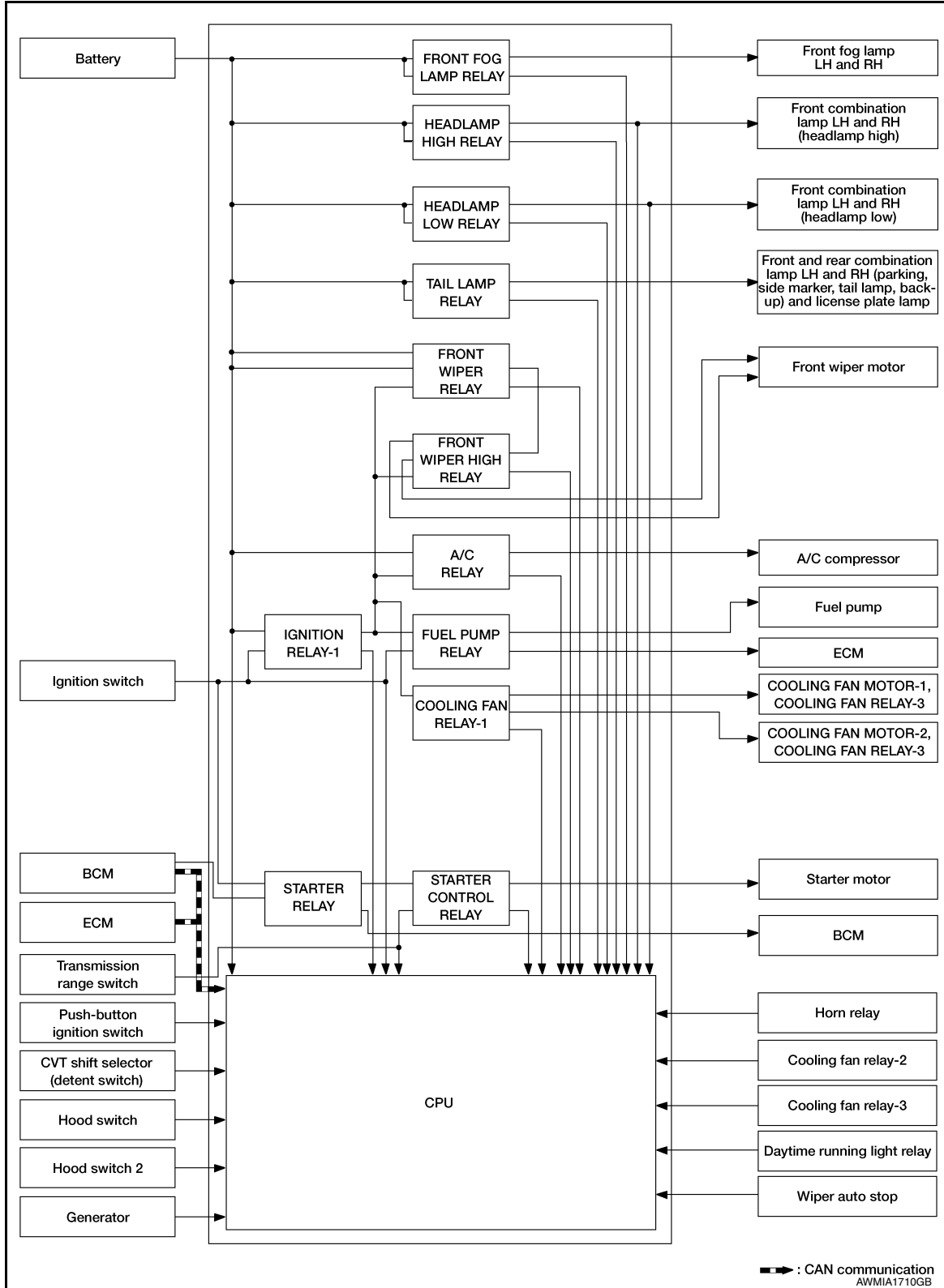
[IPDM E/R]

SYSTEM

RELAY CONTROL SYSTEM

RELAY CONTROL SYSTEM : System Diagram

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SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R]

RELAY CONTROL SYSTEM : System Description

INFOID:000000012176590

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:

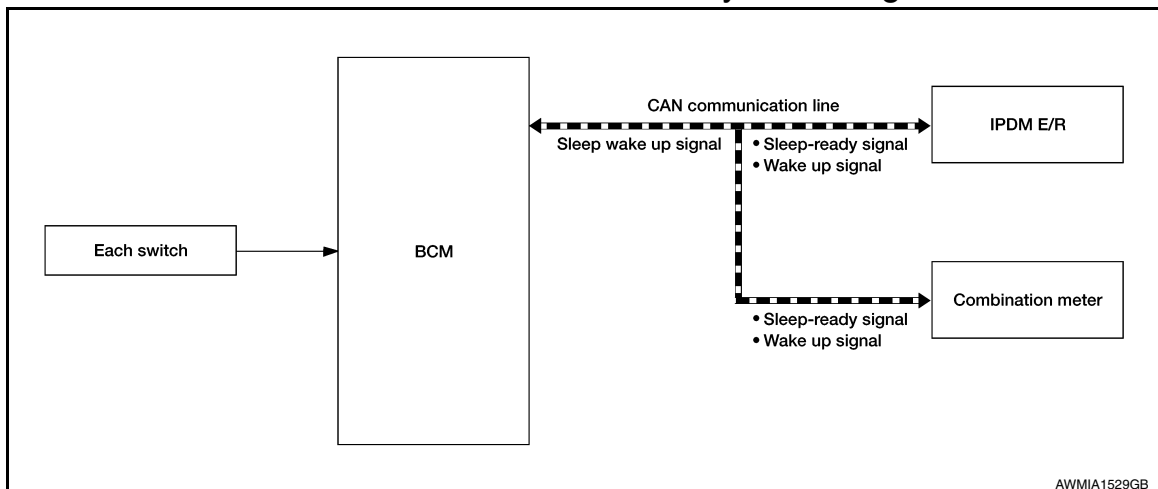
IPDM E/R integrated relays cannot be removed.

Control relay	Input/output	Transmit unit	Control part	Reference page
Front fog lamp relay	Front fog lamp request signal	BCM (CAN)	Front fog lamp	EXL-16 (LED headlamp) EXL-139 (Halogen headlamp)
Headlamp low relay	Low beam request signal	BCM (CAN)	Headlamp low	EXL-11 (LED headlamp) EXL-134 (Halogen headlamp)
Headlamp high relay	High beam request signal	BCM (CAN)	<ul style="list-style-type: none"> Headlamp low Headlamp high 	EXL-11 (LED headlamp) EXL-134 (Halogen headlamp)
Tail lamp relay	Position light request signal	BCM (CAN)	<ul style="list-style-type: none"> Parking lamp Side marker lamp License plate lamp Tail lamp 	EXL-15 (LED headlamp) EXL-137 (Halogen headlamp)
<ul style="list-style-type: none"> Front wiper relay Front wiper high relay 	Front wiper request signal Front wiper auto stop signal	BCM (CAN) Front wiper motor	Front wiper	WW-9
Ignition relay-1	Ignition switch ON signal	BCM (CAN)	Ignition relay-1	PCS-62
	Vehicle speed signal	Combination meter (CAN)		
	Push-button ignition switch	Push-button ignition switch		
Fuel pump relay	Fuel pump request signal	ECM	Fuel pump	EC-553
Cooling fan relay-1	Cooling fan request signal	ECM	Cooling fan motor	EC-541
A/C relay	A/C compressor request signal	ECM (CAN)	A/C compressor	HAC-15
Starter relay	Starter relay control signal	BCM	Starter motor	STR-5
Starter control relay				

POWER CONSUMPTION CONTROL SYSTEM

POWER CONSUMPTION CONTROL SYSTEM : System Diagram

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AWMIA1529GB

POWER CONSUMPTION CONTROL SYSTEM : System Description

INFOID:000000012176592

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.
 - Front wiper fail-safe operation
 - Outputting signals to actuators
 - Switches or relays operating
 - Auto active test is starting
 - Emergency OFF
 - 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
 - An output request is received from a control unit via CAN communication.

IGNITION BATTERY SAVER LOGIC

If the ignition is ON for 30 minutes with the engine OFF, the IPDM E/R and BCM turn OFF to save the battery.

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:000000011935796

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)
- Front fog lamps
- Parking lamps
- Side marker lamps
- Tail lamps
- License plate lamps
- Daytime running lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fans (LO, HI)

Operation Procedure

CAUTION:

Do not start the engine.

NOTE:

When auto active test is performed with hood opened, sprinkle water on windshield beforehand.

NOTE:

- If auto active test mode cannot be actuated, check door switch system. Refer to [DLK-98, "Component Function Check"](#).
 - When auto active test mode has to be canceled halfway through test, turn ignition switch OFF.
1. Close the hood and lift the wiper arms from the windshield (to prevent windshield damage due to wiper operation).
 2. Turn ignition switch OFF.
 3. Turn the ignition switch ON, and within 20 seconds, press the front door switch LH 10 times. Then turn the ignition switch OFF.
 4. Turn the ignition switch ON within 10 seconds. After that, the horn sounds once and the auto active test starts.
 5. After a series of the following operations is repeated 3 times, auto active test is completed.

Inspection in Auto Active Test Mode

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

Operation sequence	Inspection Location	Operation
1	Front wiper	LO for 3 seconds → HI for 3 seconds
2	<ul style="list-style-type: none"> • Front fog lamps • Parking lamps • Side marker lamps • Tail lamps • License plate lamps 	10 seconds
3	Daytime running lamps	10 seconds
4	Headlamps	LO ⇔ HI 5 times
5	A/C compressor	ON ⇔ OFF 5 times
6*	Cooling fans	LO for 5 seconds → HI for 5 seconds

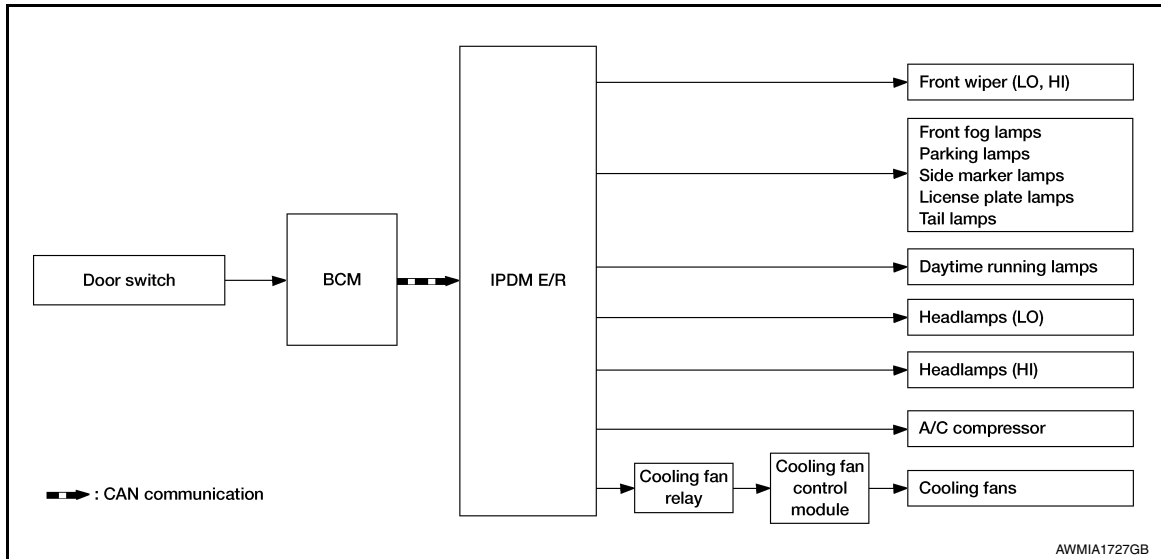
*: Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

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"> • Front fog lamps • Parking lamps • Side marker lamps • License plate lamps • Tail lamps • Daytime running lamps • Headlamp (HI, LO) • Front wiper 	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> • Lamp or motor • Lamp or motor ground circuit • Harness or connector between IPDM E/R and applicable system • IPDM E/R
A/C compressor does not operate.	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> • Combination meter signal input circuit • CAN communication signal between combination meter and ECM • CAN communication signal between ECM and IPDM E/R
		NO <ul style="list-style-type: none"> • Magnet clutch • Harness or connectors between IPDM E/R and magnet clutch • IPDM E/R

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R]

Symptom	Inspection contents		Possible cause
Cooling fans do not operate.	Perform auto active test. Do the cooling fans operate?	YES	<ul style="list-style-type: none"> • ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO	<ul style="list-style-type: none"> • Cooling fans • Harness or connectors between cooling fans and cooling fan control module • Cooling fan control module • Harness or connectors between cooling fan relay and cooling fan control module • Cooling fan relay • Harness or connectors between IPDM E/R and cooling fan relay • IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:0000000011935797

APPLICATION ITEM

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

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

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to [PCS-21, "DTC Index"](#).

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [1/2/3/4]	×	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

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R]

Monitor Item [Unit]	Main Signals	Description
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-1
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)
DTRL REQ [Off]		Indicates daytime running light request signal received from BCM on CAN communication line
HOOD SWITCH		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 SWITCH 2		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].

CAN DIAG SUPPORT MNTR

Refer to [LAN-14, "CAN Diagnostic Support Monitor"](#).

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

ECU DIAGNOSIS INFORMATION

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

Reference Value

INFOID:0000000011935806

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
AC COMP REQ	Engine running	A/C switch OFF	Off
		A/C switch ON (Compressor is operating)	On
DETENT SW	Ignition switch ON	<ul style="list-style-type: none"> Press the selector button with CVT selector lever in P position CVT selector lever in any position other than P 	Off
	Release the CVT selector button with CVT selector lever in P position		On
DTRL -REQ	DTRL ON		On
	DTRL OFF		Off
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	Off
		<ul style="list-style-type: none"> Front fog lamp switch ON Daytime running light activated 	On
FR WIP REQ	Ignition switch ON	Front wiper switch OFF	STOP
		Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
HL LO REQ	Lighting switch OFF		Off
	Lighting switch 2ND HI or AUTO (Light is illuminated)		On
HL HI REQ	Lighting switch OFF		Off
	Lighting switch HI		On
HOOD SWITCH	Hood switch closed		Off
	Hood switch open		On
HOOD SWITCH 2	Hood switch closed		Off
	Hood switch open		On
HORN CHIRP	Not operated		Off
	Door locking with Intelligent Key (horn chirp mode)		On
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
IHBT RLY -REQ	Ignition switch ON		Off
	At engine cranking		On
INTER/NP SW	Ignition switch ON	CVT selector lever in any position other than P or N	Off
	Ignition switch ON	CVT selector lever in P or N position	On

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

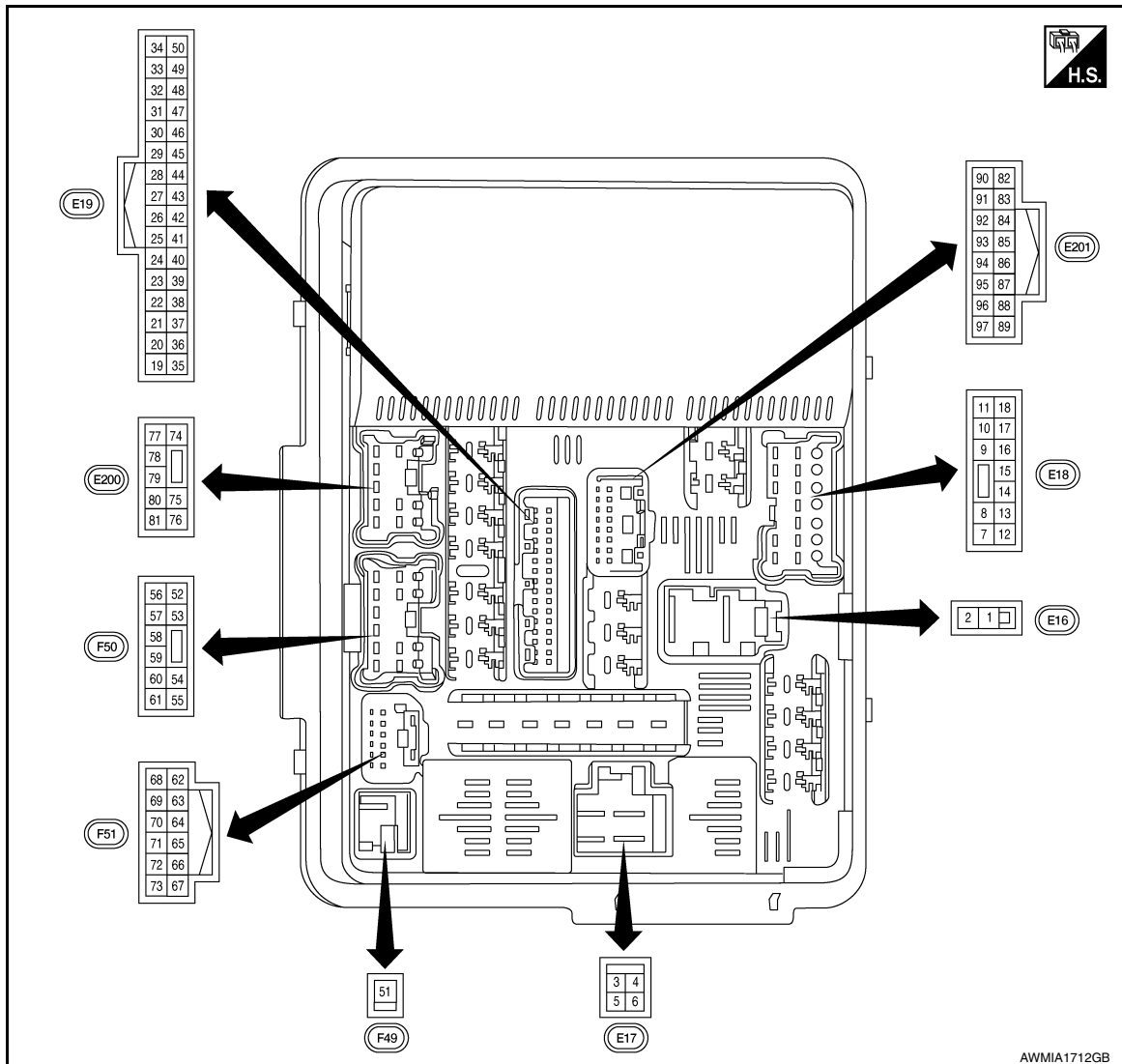
Monitor Item	Condition		Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1,2,3,4
PUSH SW	Release the push-button ignition switch		Off
	Press the push-button ignition switch		On
ST/INHI RLY	Ignition switch ON		Off
	At engine cranking		ST →INHI
	The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF		UNKWN
ST RLY CONT	Ignition switch ON		Off
	At engine cranking		On
TAIL&CLR REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		On
THFT HRN REQ	Not operated		Off
	<ul style="list-style-type: none"> • Panic alarm is activated • Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 		On
WIP AUTO STOP	Ignition switch ON	Front wiper stop position	STOP P
		Any position other than front wiper stop position	ACT P
WIP PROT	Ignition switch ON	Front wiper operates normally	Off
		Front wiper stops at fail-safe operation	BLOCK

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
1 (R)	Ground	Fusible link main	Input	Ignition switch OFF	Battery voltage
2 (L)	Ground	Fusible link IPDM E/R	Input	Ignition switch OFF	Battery voltage
3 (G)	Ground	Fusible link ignition switch	Input	Ignition switch ON	Battery voltage
4 (W)	Ground	Motor fan 1	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
6 (R)	Ground	Fusible link motor fan	Input	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
7 (B)	Ground	Ground (Power)	—	Ignition switch ON	0 V
9 (SB)	Ground	Tail RH	Output	Ignition switch OFF	0 V
				Ignition switch ON	Lighting switch 1ST

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
10 (V)	Ground	Tail LH	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
11 (G)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch LO	Battery voltage
13 (L)	Ground	ECM battery	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
14 (Y)	Ground	Daytime running lamps	Output	Ignition switch OFF		Battery voltage
15 (R)	Ground	Fuel pump	Output	Approximately 1 second or more after turning the ignition switch ON		0 V
				<ul style="list-style-type: none"> • Approximately 1 second after turning the ignition switch ON • Engine running 		Battery voltage
18 (P)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch HI	Battery voltage
19 (BR)	Ground	Power steering control unit	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
21 (L)	Ground	BCM ignition switch	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
22 (W)	Ground	Horn relay	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
23 (SB)	Ground	Horn switch	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
27 (BG)	Ground	Fan motor relay mid	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7V
28 (P)	—	CAN-low	Input/ Output	—		—
29 (L)	—	CAN-high	Input/ Output	—		—
31 (V)	Ground	Detent switch	Input	Ignition switch ON	Press the CVT selector button (CVT selector lever P)	Battery voltage
					<ul style="list-style-type: none"> • CVT selector lever in any position other than P • Release the CVT selector button (CVT selector lever P) 	
33 (R)	Ground	Starter control	Input	Ignition switch ON	CVT selector lever in any position other than P or N	0 V
					CVT selector lever P or N	Battery voltage
34 (SB)	Ground	Wiper autostop	Input	Ignition switch ON	Front wiper stop position	0 V
					Any position other than front wiper stop position	Battery voltage
35 (LG)	Ground	ABS actuator and electric unit (control unit)	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
36 (W)	Ground	Cooling fan relay -2, 3	Output	Ignition switch OFF	0 V	A
				Ignition switch ON	Battery voltage	B
37 (Y)	Ground	Transmission range switch signal	Input	Ignition switch ON	CVT selector lever in any position other than P or N position	0 V
					CVT selector lever in P or N position	Battery voltage
38 (R)	Ground	Push start switch	Input	Press the push-button ignition switch	0 V	D
				Release the push-button ignition switch	Battery voltage	
39 (G)	Ground	Motor fan relay HI	Output	Ignition switch OFF or ACC	0 V	E
				Ignition switch ON	Battery voltage	
41 (B)	Ground	Ground (signal)	—	Ignition switch ON	0 V	F
43 (LG)	Ground	Ignition signal*	Input	Ignition switch OFF or ACC	Battery voltage	
				Ignition switch ON	0 V	G
45 (P)	Ground	Power distribution sensor signal-E/R	—	<ul style="list-style-type: none"> • Ignition switch ON (READY) • Both A/C switch and blower motor switch ON (A/C compressor operates) 	1.0 - 4.0 V	H
47 (BG)	Ground	Power distribution sensor power-E/R	—	Ignition switch ON	5 V	
48 (SB)	Ground	Power distribution sensor ground-E/R	—	Ignition switch ON	0 V	I
49 (P)	Ground	Ambient sensor signal-E/R	—	Ignition switch ON	5 V	J
50 (G)	Ground	Ambient sensor ground-E/R	—	Ignition switch ON	0 V	
51 (R)	Ground	Starter motor	Output	At engine cranking	5 V	K
52 (W)	Ground	O2 sensor #2	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Battery voltage	L
53 (G)	Ground	O2 sensor #1	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Battery voltage	PCS
54 (LG)	Ground	Injector #1	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Battery voltage	
55 (W)	Ground	Ignition coil	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)	0 V	N
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF) 	Battery voltage	O
56 (BG)	Ground	A/C compressor	Output	Engine running	A/C compressor OFF	0 V
					A/C compressor ON (A/C compressor is operating)	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

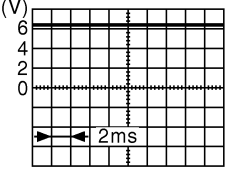
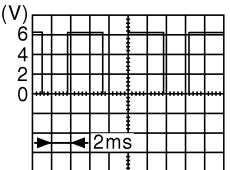
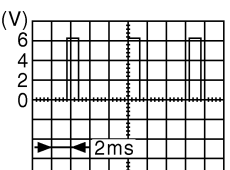
[IPDM E/R]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
57 (R)	Ground	Electronic throttle control	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)	0 V
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF) 	Battery voltage
58 (SB)	Ground	ECM battery	Output	Ignition switch OFF	Battery voltage
59 (L)	Ground	Engine solenoid	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)	0 V
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF) 	Battery voltage
60 (V)	Ground	Injector #2	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
61 (Y)	Ground	Transmission control module	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
65 (BR)	Ground	Throttle control motor relay	Output	Ignition switch ON → OFF	0 - 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON	0 - 1.0 V
66 (LG)	Ground	N/P switch	Input	CVT selector lever in P or N position	Battery voltage
				CVT selector lever in any position other than P or N position	0 V
69 (V)	Ground	Fuel pump relay	Output	<ul style="list-style-type: none"> • Approximately 1 second after turning the ignition switch ON • Engine running 	0 - 1.0 V
				Approximately 1 second or more after turning the ignition switch ON	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
71 (SB)	Ground	Alternator C	Output	Ignition switch ON		 6.3V
				40% is set on "Active test", "ALTERNATOR DUTY" of "ENGINE"		 3.8V
				80% is set on "Active test", "ALTERNATOR DUTY" of "ENGINE"		 1.4V
72 (G)	Ground	ECM relay (Self shut-off)	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		Battery voltage
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF) 		0 - 1.5 V
74 (V)	Ground	Washer motor	Output	Ignition switch ON		Battery voltage
75 (R)	Ground	Headlamp LO RH	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
76 (P)	Ground	Headlamp LO LH	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
78 (BG)	Ground	Front fog lamp RH	Output	Ignition switch ON	Fog lamp switch OFF	0 V
					Fog lamp switch ON	Battery voltage
79 (G)	Ground	Front fog lamp LH	Output	Ignition switch ON	Fog lamp switch OFF	0 V
					Fog lamp switch ON	Battery voltage
80 (L)	Ground	Headlamp HI RH	Output	Ignition switch ON	<ul style="list-style-type: none"> • Lighting switch HI • Lighting switch PASS 	Battery voltage
					Lighting switch OFF	0 V
81 (SB)	Ground	Headlamp HI LH	Output	Ignition switch ON	<ul style="list-style-type: none"> • Lighting switch HI • Lighting switch PASS 	Battery voltage
					Lighting switch OFF	0 V

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PCS

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
82 (W)	Ground	Power distribution sensor signal-fem	—	<ul style="list-style-type: none"> Ignition switch ON (READY) Both A/C switch and blower motor switch ON (electric compressor operates) 		1.0 - 4.0 V
83 (G)	Ground	Power distribution sensor power-fem	—	Ignition switch ON		5 V
85 (V)	Ground	Daytime running lamps relay	Output	Ignition switch ON	Daytime running light system active	Battery voltage
				Ignition switch ON	Daytime running light system inactive	0 V
86 (R)	Ground	Power distribution sensor ground-fem	—	Ignition switch ON		0 V
87 (BG)	Ground	Ambient sensor signal-fem	—	Ignition switch ON		5 V
90 (Y)	Ground	Clearance lamps	Output	Ignition switch ON	Lighting switch 1ST	Battery voltage
					Lighting switch OFF	0 V
94 (BR)	Ground	Hood switch 2	Input	Ignition switch ON	Hood closed	0 V
					Hood open	Battery voltage
95 (P)	Ground	Ambient sensor ground-fem	—	Ignition switch ON		0 V
96 (L)	Ground	Hood switch	Input	Ignition switch ON	Hood closed	0 V
					Hood open	Battery voltage

*: Ignition battery saver logic turns OFF the IPDM E/R and BCM if the ignition is ON for 30 minutes with the engine OFF.

Fail Safe

INFOID:0000000011935807

CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe in operation
Cooling fan	<ul style="list-style-type: none"> Signals cooling fans ON when the ignition switch is turned ON Signals cooling fans OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	<ul style="list-style-type: none"> Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF
<ul style="list-style-type: none"> Parking lamps Side marker lamps License plate lamps Illumination Tail lamps 	<ul style="list-style-type: none"> Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

Control part	Fail-safe in operation
Front wiper	<ul style="list-style-type: none"> The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Front fog lamps	Front fog lamp relay OFF
Horn	Horn OFF
Ignition relay-1	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay-1 inside it.
- IPDM E/R judges the ignition relay-1 error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay-1 cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay-1 malfunction when the ignition switch is turned OFF.

DTC	Ignition switch	Ignition relay-1	Tail lamp relay
—	ON	ON	—
—	OFF	OFF	—
B2098: IGN RELAY ON	OFF	ON	ON (10 minutes)
B2099: IGN RELAY OFF	ON	OFF	—

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10-seconds activation and 20-seconds stop five times.

Ignition switch	Front wiper switch	Auto stop signal
ON	OFF	Front wiper stop position signal cannot be inputted for 10 seconds.
	ON	The signal does not change for 10 seconds.

NOTE:

This operation status can be confirmed on the IPDM E/R “Data Monitor” that displays “BLOCK” for the item “WIP PROT” while the wiper is stopped.

STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index

INFOID:0000000011935808

CONSULT display	Fail-safe	TIME		Refer to
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-28
U1010: CONTROL UNIT	—	CRNT	1 – 39	PCS-30
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-31
B2099: IGN RELAY OFF	—	CRNT	1 – 39	PCS-33
B210B: START CONT RLY ON	—	CRNT	1 – 39	SEC-112
B210C: START CONT RLY OFF	—	CRNT	1 – 39	SEC-113

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R]

CONSULT display	Fail-safe	TIME		Refer to
B210D: STARTER RELAY ON	—	CRNT	1 – 39	SEC-114
B210E: STARTER RELAY OFF	—	CRNT	1 – 39	SEC-116
B210F: INTRLCK/PNP SW ON	—	CRNT	1 – 39	SEC-118
B2110: INTRLCK/PNP SW OFF	—	CRNT	1 – 39	SEC-121

NOTE:

The details of TIME display are as follows:

- CRNT: The malfunctions that are detected now.
- 1 - 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like 0 → 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

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

< WIRING DIAGRAM >

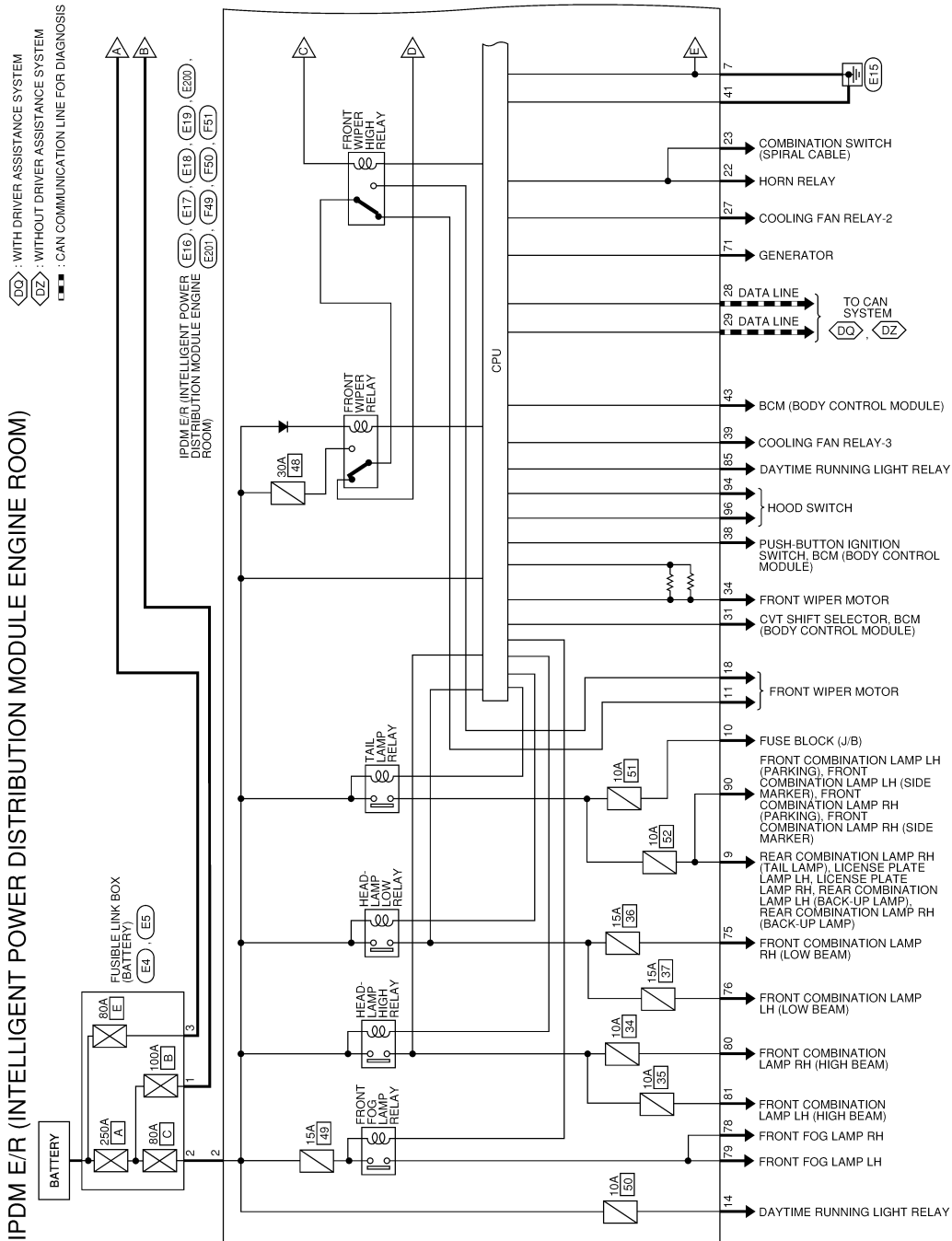
[IPDM E/R]

WIRING DIAGRAM

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

Wiring Diagram

INFOID:000000011935809



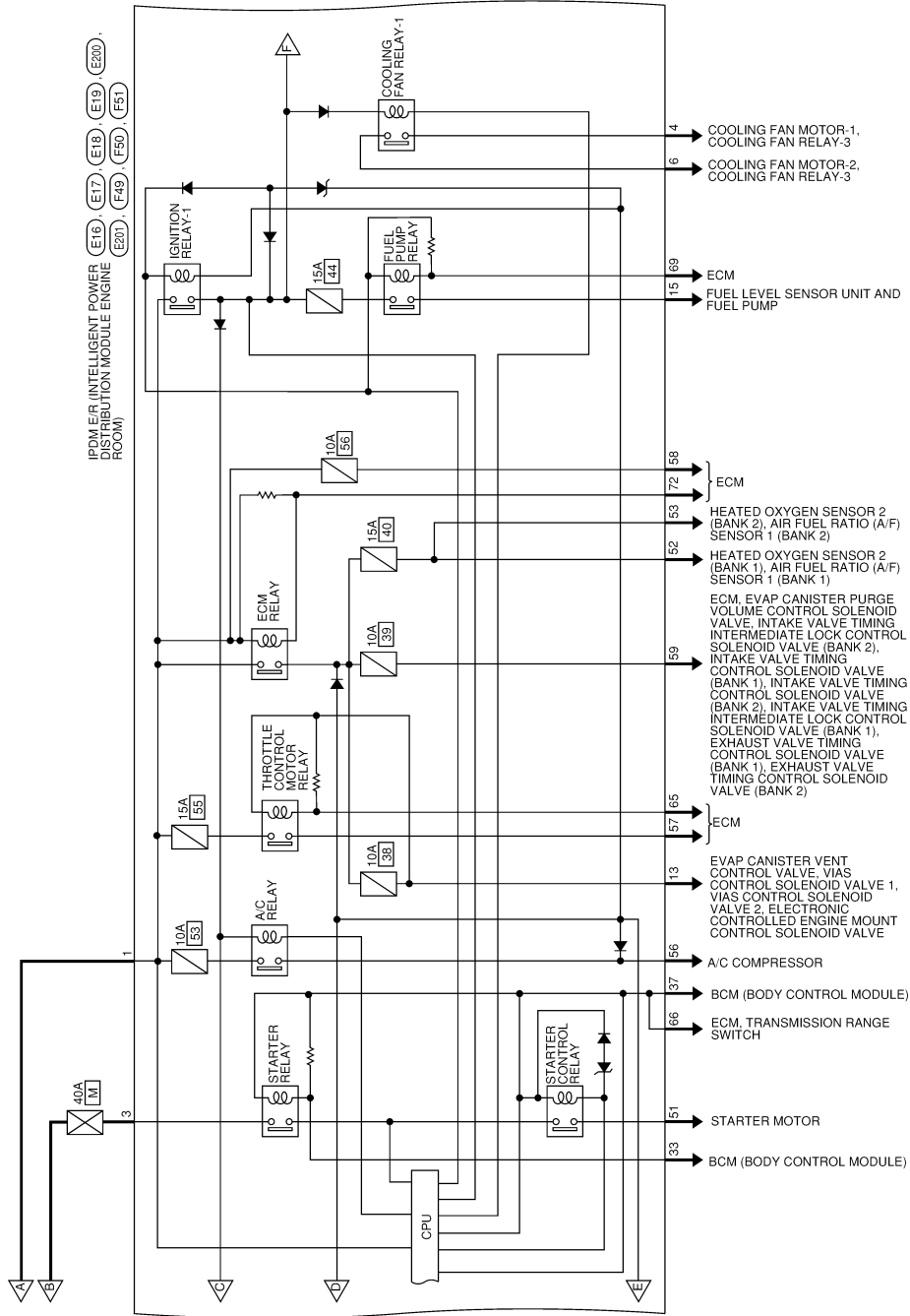
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< WIRING DIAGRAM >

[IPDM E/R]



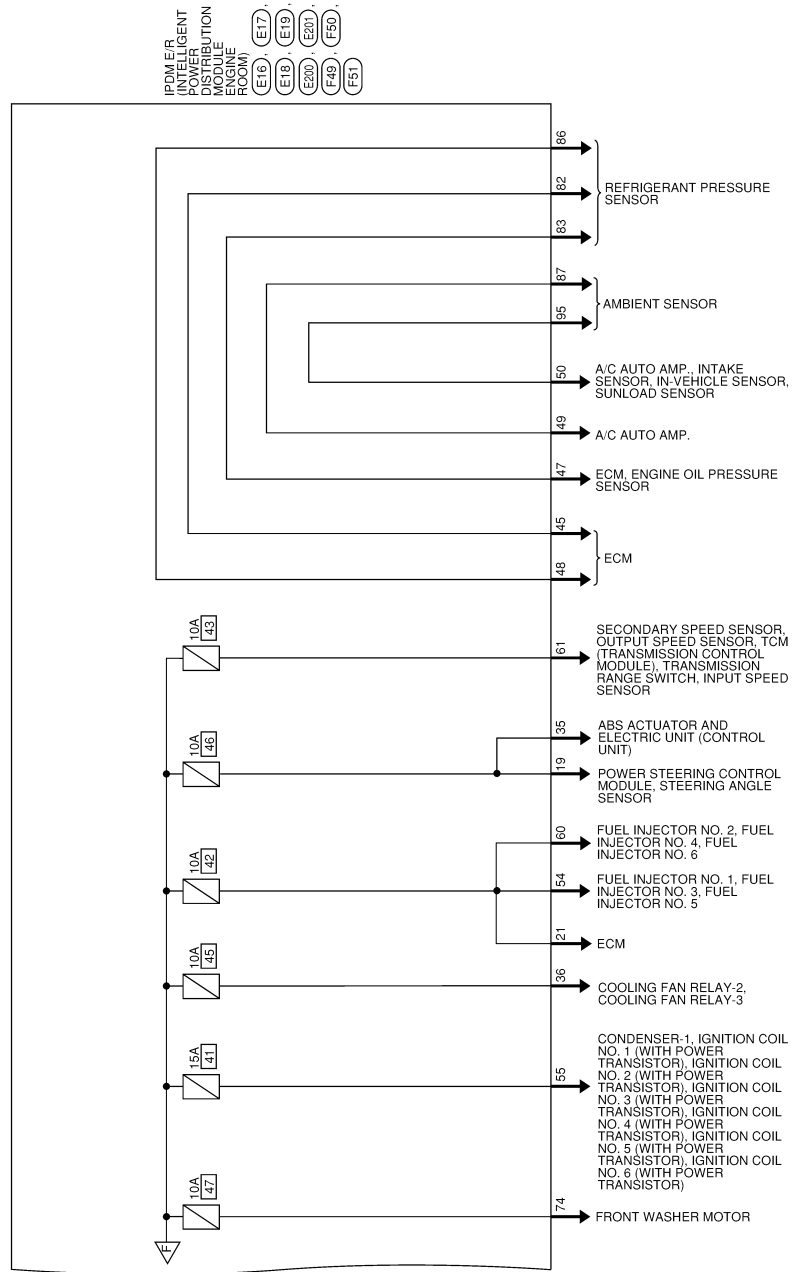
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< WIRING DIAGRAM >

[IPDM E/R]

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

< WIRING DIAGRAM >

[IPDM E/R]

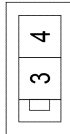
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) CONNECTORS

Connector No.	E4
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Type	L02FBR-MC-B
Connector Color	BROWN



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

Connector No.	E5
Connector Name	FUSIBLE LINK BOX (BATTERY)
Connector Type	L02FGY-MC
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
3	R	-

Connector No.	E16
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	L02FB-MC
Connector Color	BLACK

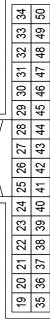


Terminal No.	Color of Wire	Signal Name
1	R	F/L MAIN

2	L	F/L USM
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Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	M04FW-LC
Connector Color	WHITE



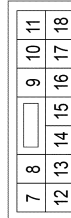
Connector No.	E19
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH32FW-NH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
19	BR	SUB ECU
20	-	-
21	L	BCM IGNSW
22	W	HORN RLY
23	SB	HORN SW
24	-	-
25	-	-
26	-	-
27	BG	MOTOR FAN RLY MID
28	P	CAN-L
29	L	CAN-H
30	-	-
31	V	DETENT SW
32	-	-
33	R	START CONT
34	SB	WIPER AUTOSTOP
35	LG	ABS ECU
36	W	START IG-E/R
37	Y	CLUTCH I/L SW
38	R	PUSH START SW
39	G	MOTOR FAN RLY HI
40	-	-
41	B	S-GND
42	-	-
43	LG	IGN SIGNAL
44	-	-
45	P	PD SENS SIG-E/R
46	-	-
47	BG	PD SENS PWR-E/R
48	SB	PD SENS GND-E/R
49	P	AMB SENS SIG-E/R
50	G	AMB SENS GND-E/R

Terminal No.	Color of Wire	Signal Name
3	G	F/L IGNSW
4	W	MOTOR FAN 1
5	-	-
6	R	F/L MOTOR FAN

Connector No.	E18
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS12FW-CS
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	B	P-GND
8	-	-
9	SB	TAIL RH
10	V	TAIL LH
11	G	FR WIPER LO
12	-	-
13	L	ECM VB
14	Y	DTR/L
15	R	FUEL PUMP
16	-	-
17	-	-
18	P	FR WIPER HI

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

< WIRING DIAGRAM >

[IPDM E/R]

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Connector No.	F51
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH12FW-NH
Connector Color	WHITE



62	63	64	65	66	67
68	69	70	71	72	73

Terminal No.	Color of Wire	Signal Name
62	-	-
63	-	-
64	-	-
65	BR	ETC RLY CONT
66	LG	NPSW
67	-	-
68	-	-
69	V	FPR
70	-	-
71	SB	ALT C
72	G	SSOFF
73	-	-

95	P	AMB SENS GND-FEM
96	L	HOODSW
97	-	-

Connector No.	F49
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	M01FB-LC
Connector Color	BLACK



51

Terminal No.	Color of Wire	Signal Name
51	R	STARTER MOTOR

Connector No.	F50
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS10FW-CS
Connector Color	WHITE



52	53	54	55
56	57	58	59
60	61	62	63

Terminal No.	Color of Wire	Signal Name
52	W	COSENS #2
53	G	COSENS #1
54	LG	INJECTOR #1
55	W	IGN COIL
56	BG	A/C COMP
57	R	ETC
58	SB	ECM BAT
59	L	ENG SOL
60	V	INJECTOR #2
61	Y	AT ECU

Connector No.	E200
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS08FW-CS
Connector Color	WHITE



74	75	76
77	78	79
80	81	82

Terminal No.	Color of Wire	Signal Name
74	V	WASH MTR
75	R	HEADLAMP LO RH
76	P	HEADLAMP LO LH
77	-	-
78	BG	FR FOG LAMP RH
79	G	FR FOG LAMP LH
80	L	HEADLAMP HI RH
81	SB	HEADLAMP HI LH

Connector No.	E201
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH16FW-NH
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
82	W	PD SENS SIG-FEM
83	G	PD SENS PWR-FEM
84	-	-
85	V	D/RL RLY
86	R	PD SENS GND-FEM
87	BG	AMB SENS SIG-FEM
88	-	-
89	-	-
90	Y	PARKING
91	-	-
92	-	-
93	-	-
94	BR	HOODSW 2

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PCS

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:000000012183399

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. A modern vehicle is equipped with many electronic control units, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN high line, CAN low line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

For CAN Communication Signal Chart, refer to [LAN-32, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- CAN communication system

FAIL-SAFE

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe operation
Cooling fan	<ul style="list-style-type: none"> • Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON. • Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF.
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%.

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul style="list-style-type: none"> • Turns ON the headlamp low relay when the ignition switch is turned ON. • Turns OFF the headlamp low relay when the ignition switch is turned OFF. • Headlamp high relay OFF
<ul style="list-style-type: none"> • Parking lamp • License plate lamp • Illumination • Tail lamp • Side marker lamp 	<ul style="list-style-type: none"> • Turns ON the tail lamp relay when the ignition switch is turned ON. • Turns OFF the tail lamp relay when the ignition switch is turned OFF.
Front wiper motor	<ul style="list-style-type: none"> • The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. • The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating. • Automatically returns wiper to stop position when ignition switch is turned ON if fail-safe control is activated while front wiper motor is operated and wiper is stopped in a position other than stop position. • The status is held at service position if the fail-safe control is activated while the service position function is operating.

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

Control part	Fail-safe operation
Front fog lamp	Front fog lamp relay OFF
Horn	Horn relay OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF

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DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" mode of "IPDM E/R".
3. Check DTC.

Is DTC "U1000" displayed?

- YES >> Refer to [PCS-29, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-41, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

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Diagnosis Procedure

INFOID:000000012183400

1. PERFORM SELF DIAGNOSTIC RESULT

CONSULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" mode of "IPDM E/R".
3. Check DTC.

Is DTC "U1000" displayed?

- YES >> Refer to [LAN-17, "Trouble Diagnosis Flow Chart"](#).
- NO >> Refer to [GI-41, "Intermittent Incident"](#).

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U1010 CONTROL UNIT (CAN)

[IPDM E/R]

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Description

INFOID:000000012183401

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	When ignition switch is ON.
U1010	CONTROL UNIT (Control unit)	Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

④CONSULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" mode of "IPDM E/R".
3. Check DTC.

Is DTC "U1010" displayed?

- YES >> Refer to [PCS-30, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-41, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000012183402

1.REPLACE IPDM E/R

Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#).

>> Inspection End.

B2098 IGNITION RELAY ON STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

B2098 IGNITION RELAY ON STUCK

DTC Description

INFOID:000000012183403

- IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN communication.
- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the combination meter (Emergency OFF)
 - Press and hold the push-button ignition switch for 2 seconds or more.
 - Press the push-button ignition switch 3 times within 1.5 seconds.

NOTE:

The ignition relay does not turn ON for 3 seconds after emergency OFF even if the push-button ignition switch is pressed.

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	When ignition switch is OFF.
B2098	IGN RELAY ON CIRC (Ignition relay ON circuit)	Signal (terminal)	–
		Threshold	–
		Diagnosis delay time	1 second or more

Possible Cause

- IPDM E/R.
- Harness or connectors (ignition relay circuit short).

FAIL-SAFE

Turns ON the tail lamp relay for 10 minutes.

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Turn ignition switch OFF and wait 1 second or more.
3. Check DTC in “Self Diagnostic Result” mode of “IPDM E/R”.

Is DTC detected?

- YES >> Refer to [PCS-31, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-41, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000012183404

1. SELF DIAGNOSTIC RESULT

CONSULT

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

What is the display history of DTC “B2098”?

- “CRNT”>> GO TO 2.
- “PAST”>> GO TO 5.

2. CHECK IGNITION RELAY CONTROL CIRCUIT VOLTAGE 1

1. Turn ignition switch ON.
2. Check voltage between IPDM E/R harness connector E19 and ground.

B2098 IGNITION RELAY ON STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

(+)		(-)	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E19	43	Ground	0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3. CHECK IGNITION RELAY CONTROL CIRCUIT VOLTAGE 2

1. Disconnect IPDM E/R connector.
2. Turn ignition switch ON.
3. Check voltage between IPDM E/R harness connector E19 and ground.

(+)		(-)	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E19	43	Ground	0 V

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#).

NO >> Repair or replace harness.

4. CHECK IGNITION RELAY CONTROL CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector E19 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E19	43		

Is the inspection result normal?

YES >> Perform the diagnosis procedure for DTC B26F2. Refer to [PCS-31, "DTC Description"](#).

NO >> Repair or replace harness.

5. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

B2099 IGNITION RELAY OFF STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

B2099 IGNITION RELAY OFF STUCK

DTC Description

INFOID:000000012183405

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	When ignition switch is ON.
B2099	IGN RELAY OFF CIRC (Ignition relay OFF circuit)	Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	1 second or more

NOTE:

When IPDM E/R power supply voltage is low (Approx. 7 - 8 V for about 1 second), the "DTC: B2099" may be detected.

POSSIBLE CAUSE

- IPDM E/R
- Fuse
- Battery

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON.
2. Select "Self Diagnostic Result" mode of "IPDM E/R".
3. Check DTC.

Is DTC detected?

YES >> Refer to [PCS-33, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-41, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000012183406

1. CHECK FUSE

Check that all of the fuses installed on the downstream of the contact point side circuit of the ignition relay in IPDM E/R are not blown.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after replacing the affected circuit.

2. CHECK IGNITION RELAY CONTROL CIRCUIT VOLTAGE

1. Turn ignition switch ON
2. Check voltage between IPDM E/R harness connector E19 and ground.

(+)		(-)	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E19	43	Ground	0V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#).

B2099 IGNITION RELAY OFF STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

3.CHECK BATTERY VOLTAGE

Check battery voltage.

Which is the measurement result?

More than 12.4 V>>GO TO 4.

Less than 12.4 V>>Perform battery inspection. Refer to [PG-92. "How to Handle Battery"](#).

4.CHECK INTERMITTENT INCIDENT

Refer to [GI-41. "Intermittent Incident"](#).

>> Inspection End.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000011935805

Regarding Wiring Diagram information, refer to [PCS-23, "Wiring Diagram"](#).

1. CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Battery power supply	E (80A)
	B (100A)
	A (250A), C (80A)

Is the fusible link blown?

- YES >> Replace the blown fusible link after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connectors E16 and E17.
3. Check voltage between IPDM E/R harness connector and ground.

Terminals		Voltage (V) (Approx.)
(+)	(-)	
IPDM E/R		Battery voltage
Connector	Terminal	
E16	1	
	2	
E17	3	

Is the inspection result normal?

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

3. CHECK GROUND CIRCUIT

1. Disconnect connectors.
2. Check continuity between IPDM E/R harness connectors and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E18	7	Ground	Yes
E19	41		

Is the inspection result normal?

- YES >> Inspection End.
NO >> Repair or replace harness or connector.

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REMOVAL AND INSTALLATION

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

Removal and Installation


INFOID:000000011935811

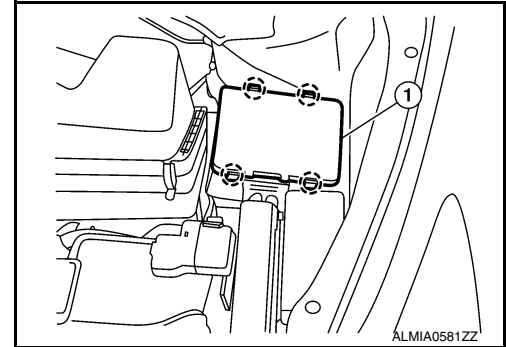
CAUTION:

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

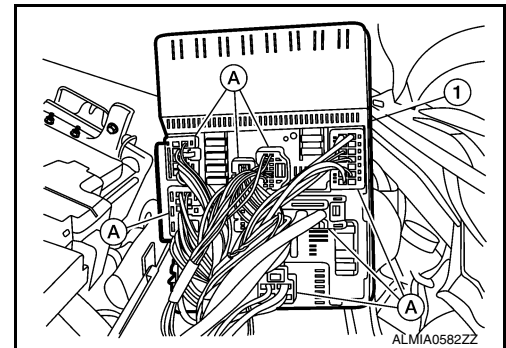
REMOVAL

1. Disconnect the negative battery terminal. Refer to [PG-101. "Exploded View"](#).
2. Release the pawls and separate the IPDM E/R (1) from the case.

 :Pawl



3. Disconnect all harness connectors (A) from the IPDM E/R (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:000000011935866

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

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

Precaution for Work

INFOID:000000011935867

- 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.

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PREPARATION

< PREPARATION >

[POWER DISTRIBUTION SYSTEM]

PREPARATION

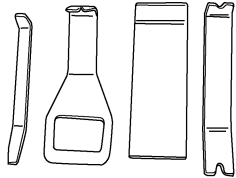
PREPARATION

Special Service Tools

INFOID:000000011935868

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

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



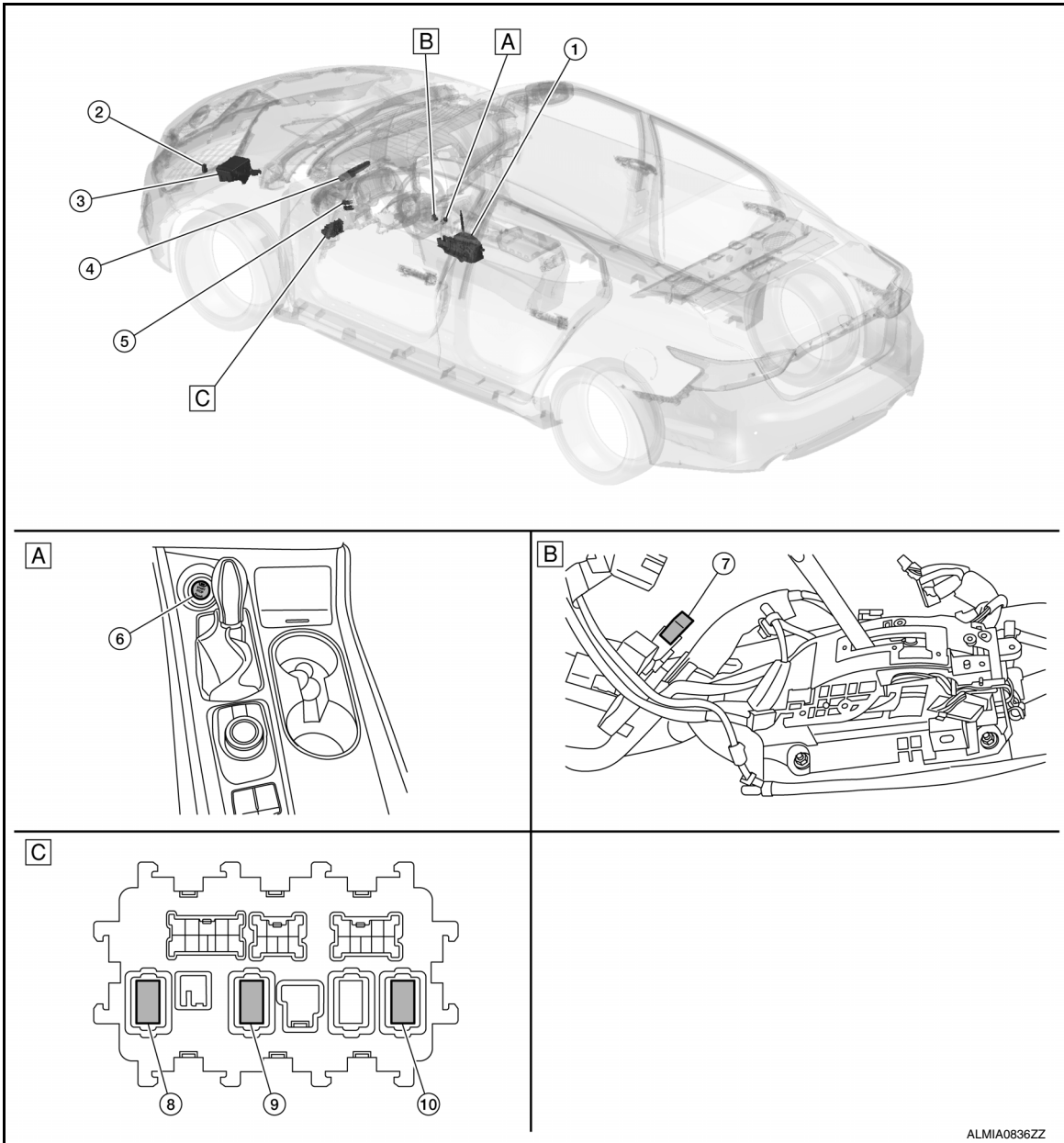
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012183411



A. Front of center console

B. Behind front of center console (view with center console finisher removed)

C. Instrument lower panel LH

No.	Component	Function
1.	CVT shift selector	CVT shift selector detects shift lever status, transmits detention switch signal to BCM. Refer to TM-19, "SHIFT LOCK SYSTEM : Component Parts Location" for detailed installation location.
2.	Stop lamp relay	Refer to BRC-10, "Component Parts Location" .

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COMPONENT PARTS

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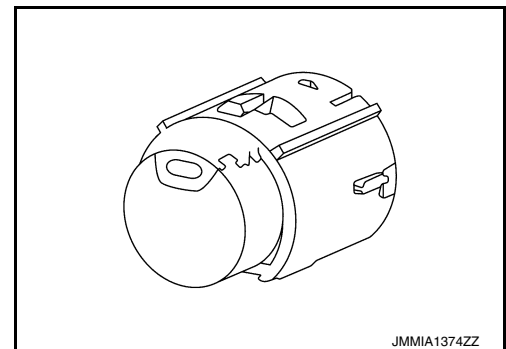
[POWER DISTRIBUTION SYSTEM]

No.	Component	Function
3.	IPDM E/R	<ul style="list-style-type: none"> IPDM E/R detects push-button ignition switch (push switch) status, and transmits push-button ignition switch status signal (CAN) to BCM. IPDM E/R receives ignition relay (IPDM E/R) control signal and ignition switch ON signal (CAN) from BCM, and controls ignition relay (built in IPDM E/R) Refer to PCS-5. "Component Parts Location" for detailed installation location.
4.	BCM	<ul style="list-style-type: none"> BCM controls power distribution system. BCM judges ignition switch position by push-button ignition switch (push switch) and vehicle condition. BCM checks the ignition switch position internally. Refer to BCS-5. "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
5.	Stop lamp switch	Stop lamp switch detects that brake pedal is depressed, and transmits the signal to BCM. Refer to BRC-12. "Stop Lamp Switch" .
6.	Push-button ignition switch	Refer to PCS-40. "Push-button Ignition Switch" .
7.	Accessory relay-2	<ul style="list-style-type: none"> Accessory relay-2 is controlled by BCM. Accessory relay-2 supplies accessory power supply or ignition ON signal to each ECU when ignition is turned ON. BCM compares status of accessory relay-2 control signal, and ignition position judged by BCM.
8.	Ignition relay-2 (in fuse block)	<ul style="list-style-type: none"> Ignition relay-2 is controlled by BCM. Ignition relay-2 supplies ignition ON power supply or ignition ON signal to each ECU and system when ignition is turned ON. BCM compares status of ignition relay-2 control signal and ignition position judged by BCM. BCM monitors ignition relay-2 operating status by ignition relay-2 feedback signal.
9.	Front blower motor relay (in fuse block)	<ul style="list-style-type: none"> Front blower motor relay is controlled by BCM. Front blower motor supplies ignition ON power supply or ignition ON signal to air conditioning system when ignition is turned ON. BCM compares status of front blower motor relay control signal and ignition position judged by BCM.
10.	Accessory relay-1 (in fuse block)	<ul style="list-style-type: none"> Accessory relay-1 is controlled by BCM. Accessory relay-1 supplies accessory power supply or ignition ON signal to each ECU when ignition is turned ON. BCM compares status of accessory relay-1 control signal, and ignition position judged by BCM.

Push-button Ignition Switch

INFOID:000000012183412

Push-button ignition switch is pressed, and transmits the status signal to BCM and IPDM E/R.



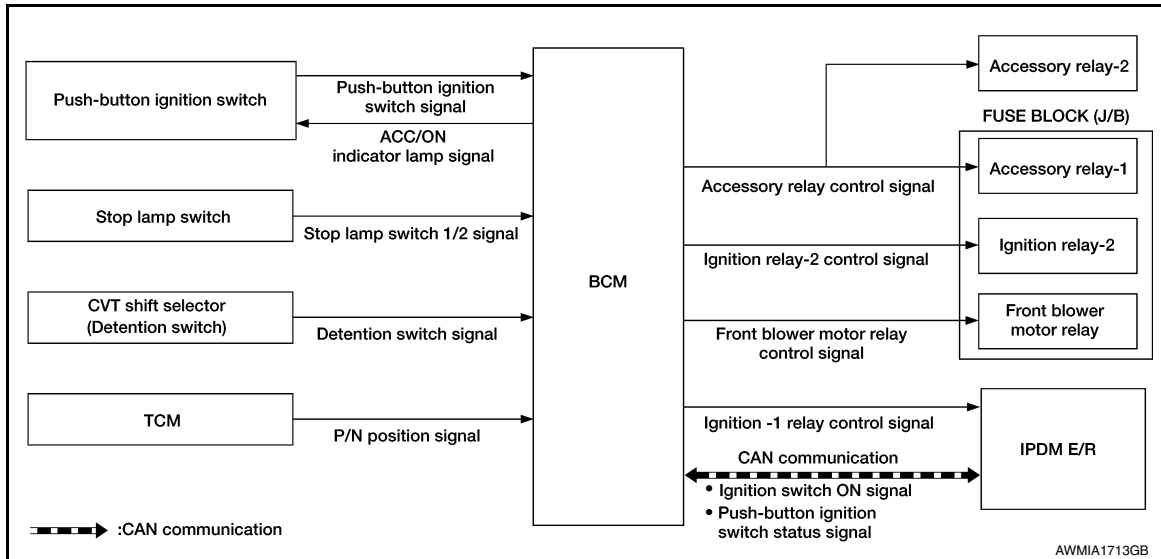
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SYSTEM

POWER DISTRIBUTION SYSTEM

POWER DISTRIBUTION SYSTEM : System Diagram

INFOID:0000000012183413



POWER DISTRIBUTION SYSTEM : System Description

INFOID:0000000012183414

SYSTEM DESCRIPTION

- 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:
 - Intelligent Key is in the detection area of the inside key antenna.
 - Intelligent Key backside is contacted to push-button ignition switch.
- 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-1
 - Ignition relay-2
 - Accessory relay-1
 - Accessory relay-2
 - Front blower motor relay

NOTE:

- The engine switch operation changes due to the conditions of brake pedal, selector lever and vehicle speed.
- The power supply position can be confirmed with the lighting of the indicators in the push-button ignition switch.

IGNITION BATTERY SAVER SYSTEM

When all the following conditions are met for a period of time, the battery saver system will turn off the power supply (ignition switch position ON/ACC → OFF) to prevent battery discharge.

- Ignition switch is in the ACC or ON position
- Turn signal lamp is not in operation
- Selector lever is in the P (park) position

Reset Condition of Ignition Battery Saver System

If any of the following conditions are met the battery saver system is released.

- Ignition switch is not in the ACC or ON position.
- Turn signal lamp is operation.
- Selector lever is not in the P (park) position.

NOTE:

The ignition battery saver system can be temporarily disabled, without using CONSULT, to prevent it from functioning when performing trouble diagnosis. Refer to [PCS-58, "Work Procedure"](#).

SYSTEM

[POWER DISTRIBUTION SYSTEM]

< SYSTEM DESCRIPTION >

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 position	Brake pedal operation condition	
OFF → ACC	—	Not depressed	1
OFF → ACC → ON	—	Not depressed	2
OFF → ACC → ON → OFF	—	Not depressed	3
OFF → 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 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.

DIAGNOSIS SYSTEM (BCM)

[POWER DISTRIBUTION SYSTEM]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000012237303

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
ECU Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	<ul style="list-style-type: none"> The vehicle specification can be read and saved. The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions:

System	Sub System	Direct Diagnostic Mode						
		ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	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			×	×			
Trunk	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×			

FREEZE FRAME DATA (FFD)

DIAGNOSIS SYSTEM (BCM)

[POWER DISTRIBUTION SYSTEM]

< SYSTEM DESCRIPTION >

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 <ul style="list-style-type: none"> • 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:0000000012237304

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

Monitor Item [Unit]	Main	Description
REQ SW -DR [On/Off]	×	Indicates condition of door request switch LH
REQ SW -AS [On/Off]	×	Indicates condition of door request switch RH
REQ SW -BD/TR [On/Off]	×	Indicates condition of trunk opener request switch
PUSH SW [On/Off]		Indicates condition of push button ignition switch
SHFTLCK SLNID PWR SPLY [On/Off]		Indicates condition of shiftlock solenoid power supply
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 position
SFT PN/N SW [On/Off]	×	Indicates condition of P or N position
UNLK SEN -DR [On/Off]	×	Indicates condition of door unlock sensor
PUSH SW -IPDM [On/Off]		Indicates condition of push button ignition switch received from IPDM E/R on CAN communication line
IGN RLY1 -F/B [On/Off]		Indicates condition of ignition relay 1 received from IPDM E/R on CAN communication line
DETE SW -IPDM [On/Off]		Indicates condition of detent switch received from TCM on CAN communication line
SFT PN -IPDM [On/Off]		Indicates condition of P or N position from TCM on CAN communication line
SFT P -MET [On/Off]		Indicates condition of P position from TCM on CAN communication line
SFT N -MET [On/Off]		Indicates condition of N 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.
ID OK FLAG [Set/Reset]		Indicates condition of intelligent key ID
PRMT ENG START [Set/Reset]		Indicates condition of engine start possibility from intelligent key
I-KEY OK FLAG [Set/Reset]		Indicates condition of Intelligent Key ID.
ID AUTHENT 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.
SHORT CRANK		Indicates condition of condition of short crank 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.
DETE SW PWR [On/Off]		Indicates condition of park position switch voltage.
IGN RLY 3 -REQ		Indicates condition of ignition 3 relay.
ACC RLY -REQ		Indicates condition of ACC relay.
PRBT ENG STRT [Set/Reset]		Indicates condition of engine start possibility.
PRMT RKE STRT [Set/Reset]		Indicates condition of engine start possibility from Intelligent Key.

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

Monitor Item [Unit]	Main	Description
TRNK/HAT MNTR [On/Off]		Indicates condition of trunk lid.
RKE-LOCK [On/Off]		Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]		Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]		Indicates condition of trunk open signal from Intelligent Key.
RKE-PANIC [On/Off]		Indicates condition of panic signal from Intelligent Key.
RKE-MODE CHG [On/Off]		Indicates condition of mode change signal from Intelligent Key.
RKE PBD		Indicates condition of trunk signal from Intelligent Key.
RKE OPE COUN1 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.
RKE OPE COUN2 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.

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 trunk 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].
DR SEAT LAMP TEST	This test is able to check driver seat lamp operation [On/Off].
AS SEAT LAMP TEST	This test is able to check passenger seat lamp operation [On/Off].
SHIFT SPOT LAMP TEST	This test is able to check shift spot lamp 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].

WORK SUPPORT

Support Item	Setting	Description
IGN/ACC BATTERY SAVER	On*	Battery saver function ON.
	Off	Battery saver function OFF.

DIAGNOSIS SYSTEM (BCM)

[POWER DISTRIBUTION SYSTEM]

< SYSTEM DESCRIPTION >

Support Item	Setting	Description
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 trunk request switch ON.
	Off	Buzzer reminder function by trunk request switch OFF.
CONFIRM KEY FOB ID	—	Intelligent Key ID code can be checked.
SHORT CRANKING OUTPUT	Start	70 msec
		100 msec
		200 msec
End	—	
INSIDE ANT DIAGNOSIS	—	This function allows inside key antenna self-diagnosis.
AUTO LOCK SET	MODE7	5 min
	MODE6	4 min
	MODE5	3 min
	MODE4	2 min
	MODE3*	1 min
	MODE2	30 sec
	MODE1	Off
		Auto door lock time can be set in this mode.

*: Initial Setting

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ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

INFOID:0000000012183416

ECU	Reference
BCM	BCS-31. "Reference Value"
	BCS-51. "Fail Safe"
	BCS-52. "DTC Inspection Priority Chart"
	BCS-53. "DTC Index"
IPDM E/R	PCS-13. "Reference Value"
	PCS-20. "Fail Safe"
	PCS-21. "DTC Index"

POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

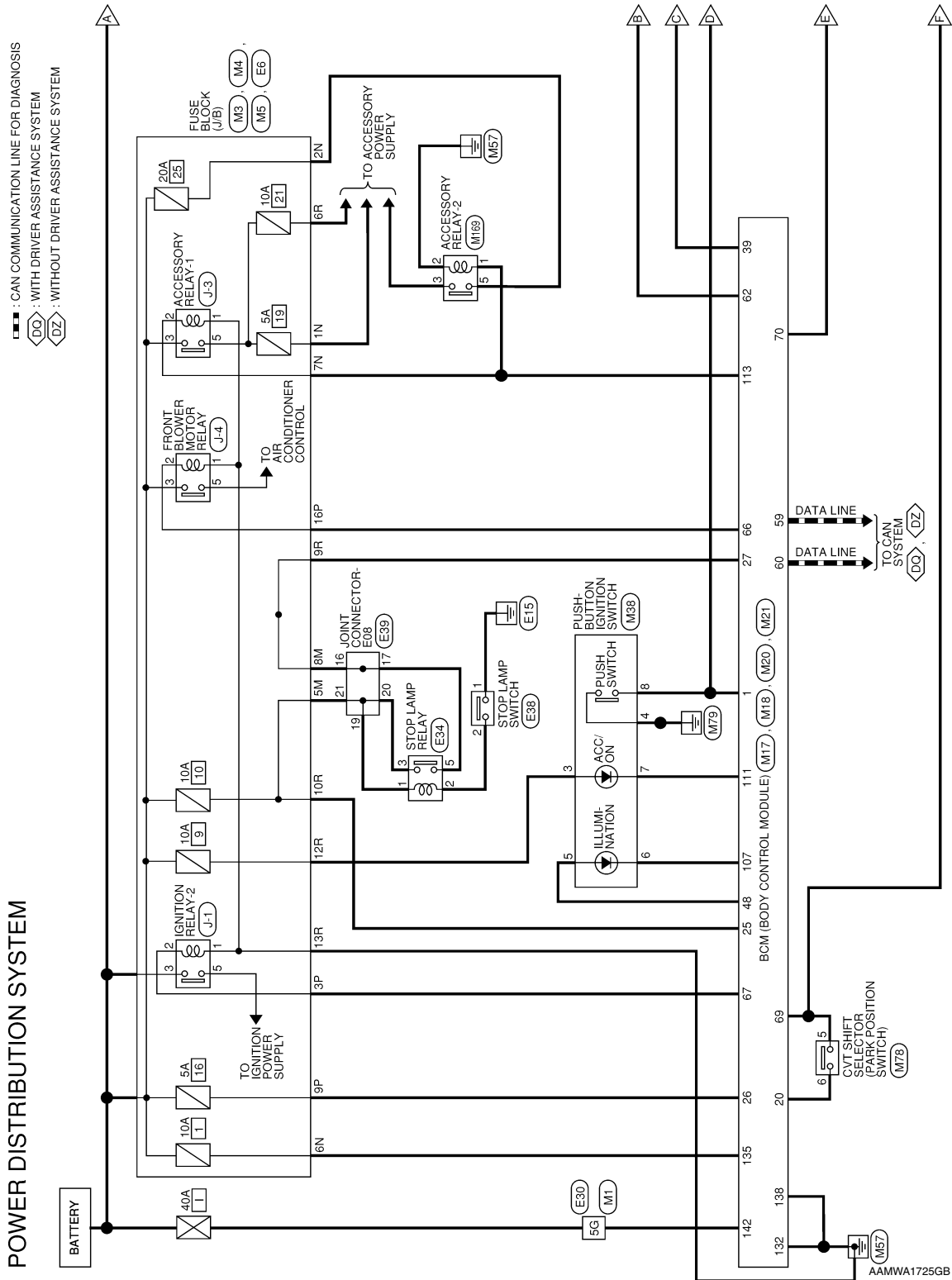
[POWER DISTRIBUTION SYSTEM]

WIRING DIAGRAM

POWER DISTRIBUTION SYSTEM

Wiring Diagram

INFOID:000000011935864



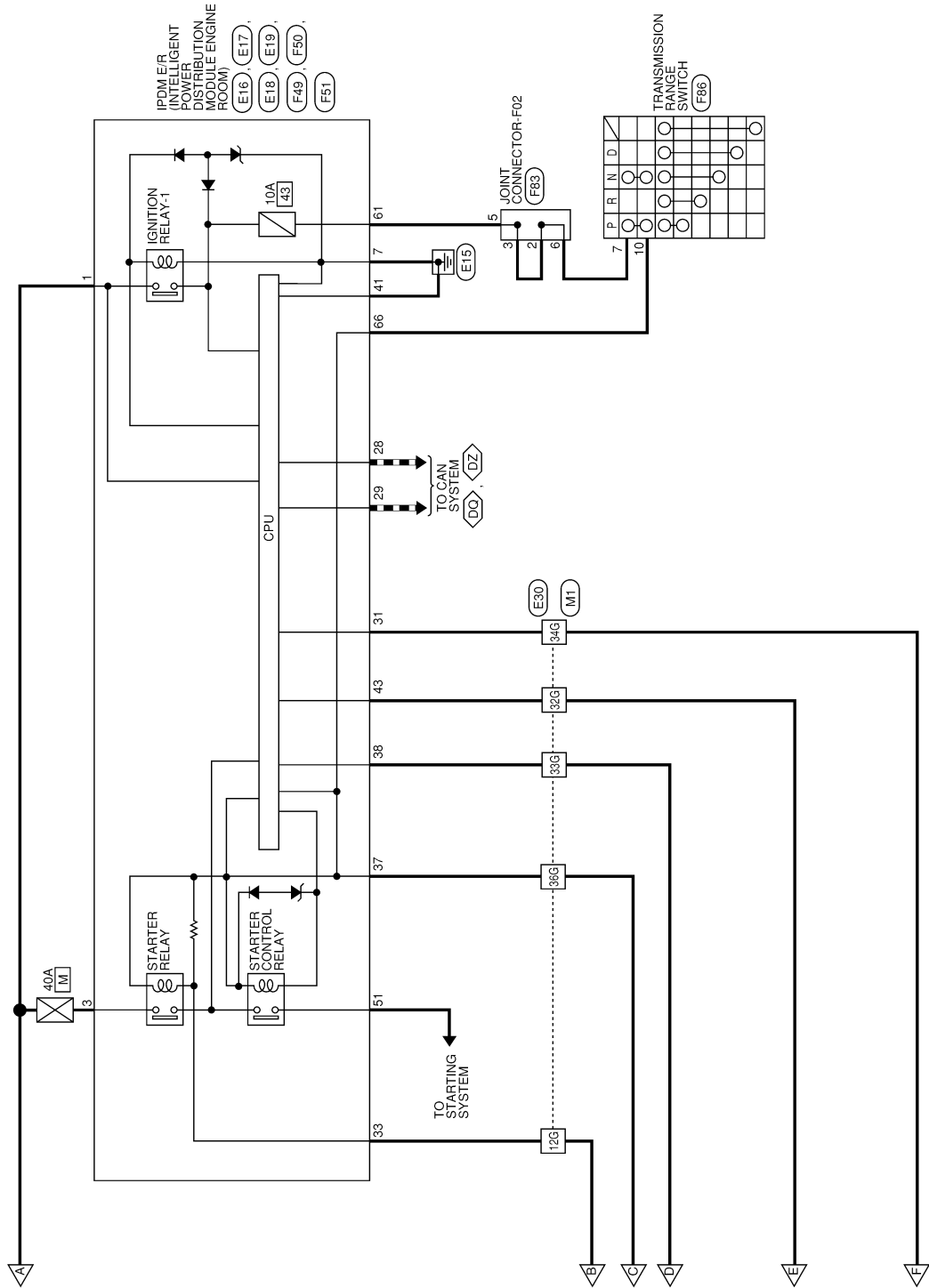
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POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]



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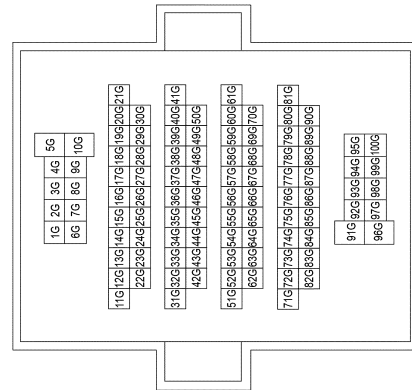
POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]

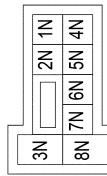
POWER DISTRIBUTION SYSTEM CONNECTORS

Connector No.	M1
Connector Name	WIRES TO WIRE
Connector Type	TH80FW-CST6-TM4
Connector Color	WHITE



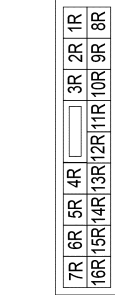
Terminal No.	Color of Wire	Signal Name
5G	W	-
12G	V	-
32G	G	-
33G	R	-
34G	W	-
36G	L	-

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



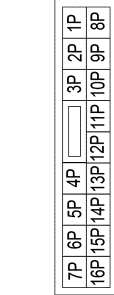
Terminal No.	Color of Wire	Signal Name
1N	BG	-
2N	L	-
6N	LG	-

7N	BR	-
Connector No.	M4	
Connector Name	FUSE BLOCK (J/B)	
Connector Type	NS16FBR-CS	
Connector Color	BROWN	



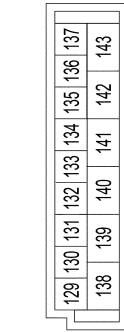
Terminal No.	Color of Wire	Signal Name
6R	P	-
9R	G	-
10R	BG	-
12R	W	-
13R	B	-

Connector No.	M5
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS
Connector Color	WHITE



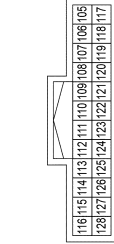
Terminal No.	Color of Wire	Signal Name
3P	W	-
9P	Y	-
16P	R	-

Connector No.	M17
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA09FW-FHA6-SA
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
132	B	GND2
135	LG	BAT BCM FUSE
138	B	GND1
142	W	BAT-POWER F/L

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH24FB-NH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
107	W	LOW SIDE START SW LED
111	Y	ACC LED
113	BR	ACC RELAY OUT

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POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

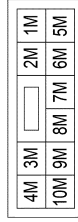
[POWER DISTRIBUTION SYSTEM]

Connector No.	M169
Connector Name	ACCESSORY RELAY-2
Connector Type	MS02FL-M2-LC
Connector Color	BLUE



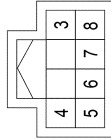
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	B	-
3	LG	-
5	L	-

Connector No.	E6
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS
Connector Color	WHITE



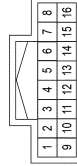
Terminal No.	Color of Wire	Signal Name
5M	P	-
8M	W	-

Connector No.	M38
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Type	TH08FW-NH
Connector Color	WHITE



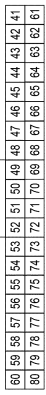
Terminal No.	Color of Wire	Signal Name
3	W	-
4	B	-
5	SB	-
6	W	-
7	Y	-
8	R	-

Connector No.	M78
Connector Name	CVT SHIFT SELECTOR
Connector Type	TH16FW-NH
Connector Color	WHITE



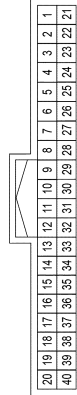
Terminal No.	Color of Wire	Signal Name
5	L	-
6	W	-

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
48	SB	HIGH SIDE START SW LED
59	P	CAN-L
60	L	CAN-H
62	V	STARTER RELAY OUT
66	R	BLOWER FAN RELAY OUT
67	W	IGN ELEC RELAY OUT 2
69	L	AT DEVICE OUT
70	G	IGN USM OUT 1

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
1	R	ENG START SW NO ESCL
20	W	SHIFT P
25	BG	BRAKE SW FUSE
26	Y	SHORTING INPUT
27	G	BRAKE SW LAMP
39	L	SHIFT N/P

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POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

[POWER DISTRIBUTION SYSTEM]

12G	R	-
32G	LG	-
33G	R	-
34G	V	-
36G	Y	-

Connector No.	E34
Connector Name	STOP LAMP RELAY
Connector Type	MS02FL-M2-LC
Connector Color	BLUE



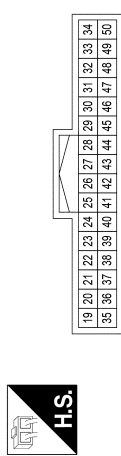
Terminal No.	Color of Wire	Signal Name
1	P	-
2	R	-
3	P	-
5	W	-

Connector No.	E38
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC
Connector Color	WHITE



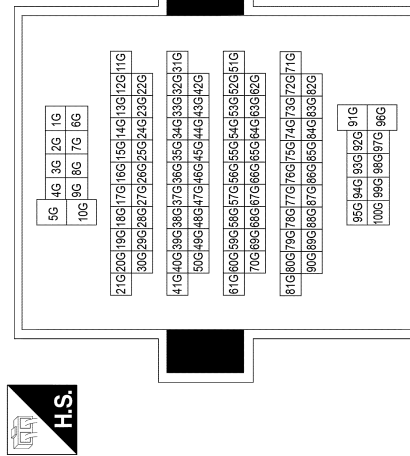
Terminal No.	Color of Wire	Signal Name
1	B	-
2	R	-

Connector No.	E19
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH32FW-NH
Connector Color	WHITE



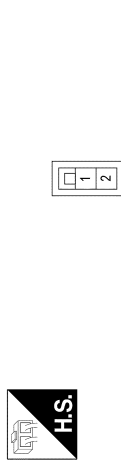
Terminal No.	Color of Wire	Signal Name
28	P	CAN-L
29	L	CAN-H
31	V	DETENT SW
33	R	START CONT
37	Y	CLUTCH I/L SW
38	R	PUSH START SW
41	B	S-GND
43	LG	IGN SIGNAL

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4
Connector Color	WHITE



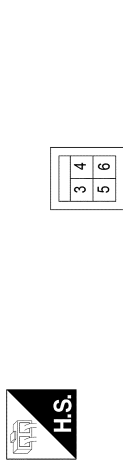
Terminal No.	Color of Wire	Signal Name
5G	P	-

Connector No.	E16
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	L02FB-MC
Connector Color	BLACK



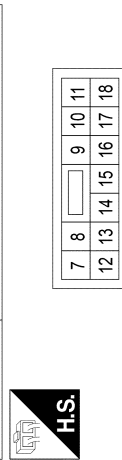
Terminal No.	Color of Wire	Signal Name
1	R	F/L MAIN

Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	M04FW-LC
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	G	F/L GNSW

Connector No.	E18
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS12FW-CS
Connector Color	WHITE



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

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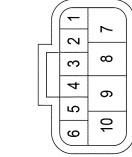
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POWER DISTRIBUTION SYSTEM

< WIRING DIAGRAM >

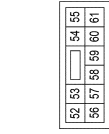
[POWER DISTRIBUTION SYSTEM]

6	Y	-
Connector No.	F86	
Connector Name	TRANSMISSION RANGE SWITCH	
Connector Type	YDX06FB-HS4	
Connector Color	BLACK	



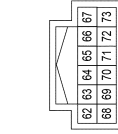
Terminal No.	Color of Wire	Signal Name
7	Y	-
10	LG	-

Connector No.	F50
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS10FW-CS
Connector Color	WHITE



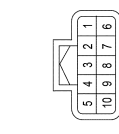
Terminal No.	Color of Wire	Signal Name
61	Y	AT ECU

Connector No.	F51
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH12FW-NH
Connector Color	WHITE



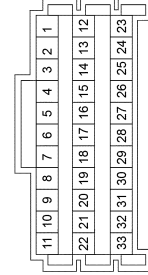
Terminal No.	Color of Wire	Signal Name
66	LG	NPSW

Connector No.	F83
Connector Name	JOINT CONNECTOR-F02
Connector Type	RH10FB
Connector Color	BLACK



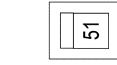
Terminal No.	Color of Wire	Signal Name
2	Y	-
3	Y	-
5	Y	-

Connector No.	E39
Connector Name	JOINT CONNECTOR-E08
Connector Type	BJ30FW
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
16	W	-
17	W	-
19	P	-
20	P	-
21	P	-

Connector No.	F49
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	M01FB-LC
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
51	R	STARTER MOTOR

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

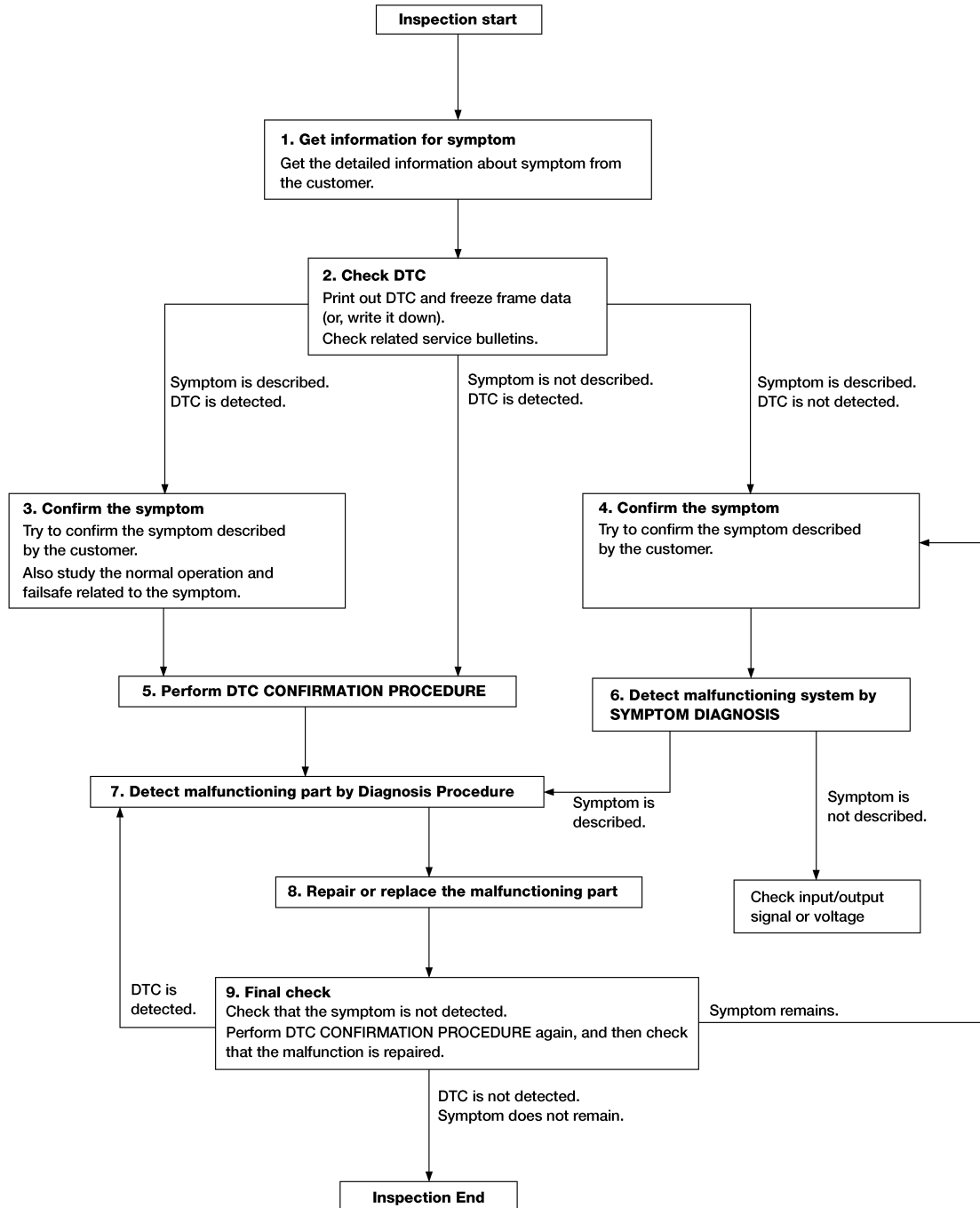
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000012183417

OVERALL SEQUENCE



DETAILED FLOW

Revision: October 2015

PCS-55

2016 Maxima NAM

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

1. GET INFORMATION FOR SYMPTOM

1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
2. Check operation condition of the component or system 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.

NOTE:

Freeze frame data is useful if the DTC is not 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-52, "DTC Inspection Priority Chart"](#), and determine trouble diagnosis order.

Is DTC detected?

YES >> GO TO 7.

NO >> Refer to [GI-41, "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 >> Refer to [GI-41, "Intermittent Incident"](#).

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

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 >> Inspection End.

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PCS

PROCEDURE FOR TEMPORARILY DISABLING THE IGNITION BATTERY SAVER SYSTEM

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

PROCEDURE FOR TEMPORARILY DISABLING THE IGNITION BATTERY SAVER SYSTEM

Description

INFOID:000000012978181

The ignition battery saver system can be temporarily disabled, without using CONSULT, to prevent it from functioning when performing trouble diagnosis. Refer to [PCS-58. "Work Procedure"](#).

Work Procedure

INFOID:000000012978182

1. Enter the vehicle carrying a registered Intelligent Key.
2. Place the ignition switch in the OFF position.
3. Without depressing the brake pedal, press and hold the push-button ignition switch continuously for ten seconds.
4. Check that the buzzer in the combination meter sounds for 2 seconds.
5. Operation is completed.

NOTE:

When the ignition switch is placed in any position other than ON, the ignition battery saver system is activated again.

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

DTC Description

INFOID:0000000012183419

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN high line, CAN low line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to [LAN-32, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	Signal (terminal)
U1000	CAN COMM CIRCUIT (CAN communication circuit)	When ignition switch is ON.	—
		—	—
		—	—
		2 seconds or more	—

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe operation
Cooling fan	<ul style="list-style-type: none"> • Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON. • Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF.
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%.

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul style="list-style-type: none"> • Turns ON the headlamp low relay when the ignition switch is turned ON. • Turns OFF the headlamp low relay when the ignition switch is turned OFF. • Headlamp high relay OFF
<ul style="list-style-type: none"> • Parking lamp • License plate lamp • Illumination • Tail lamp • Side marker lamp 	<ul style="list-style-type: none"> • Turns ON the tail lamp relay when the ignition switch is turned ON. • Turns OFF the tail lamp relay when the ignition switch is turned OFF.
Front wiper motor	<ul style="list-style-type: none"> • The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. • The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating. • Returns automatically wiper to stop position when ignition switch is turned ON if fail-safe control is activated while front wiper motor is operated and wiper stop in the other position than stop position. • The status is held at service position if the fail-safe control is activated while the service position function is operating.
Front fog lamp	Front fog lamp relay OFF

U1000 CAN COMM CIRCUIT

[POWER DISTRIBUTION SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Control part	Fail-safe operation
Horn	Horn relay OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" mode of "IPDM E/R".
3. Check DTC.

Is DTC "U1000" displayed?

YES >> Refer to [PCS-60, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-41, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000012183420

1. SELF DIAGNOSTIC RESULT

CONSULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" mode of "IPDM E/R".
3. Check DTC.

Is DTC "U1000" displayed?

YES >> Refer to [LAN-17, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-41, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

U1010 CONTROL UNIT (CAN)

DTC Description

INFOID:000000012183421

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	When ignition switch is ON.
U1010	CONTROL UNIT (Control unit)	Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn the ignition switch ON and wait for 2 seconds or more.
2. Check "Self Diagnostic Result" mode of "IPDM E/R".
3. Check DTC.

Is DTC "U1010" displayed?

- YES >> Refer to [PCS-61, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-41, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:000000012183422

1.REPLACE IPDM E/R

Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#)

>> Inspection End.

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PCS

B260A IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B260A IGNITION RELAY

DTC Description

INFOID:000000012183424

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	When ignition switch is ON.
B260A	IGNITION RELAY	Signal (terminal)	—
		Threshold	—
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- Harness or connectors
- BCM
- 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) or N (neutral) position.
 - Release the brake pedal.
2. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Is DTC B260A detected?

- YES >> Refer to [PCS-62, "Diagnosis Procedure"](#).
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012183425

Regarding Wiring Diagram information, refer to [PCS-49, "Wiring Diagram"](#).

1. SELF DIAGNOSTIC RESULT

CONSULT

Perform "Self Diagnostic Result" mode of "IPDM E/R".

Are any DTCs detected?

- YES >> Refer to [PCS-21, "DTC Index"](#).
- NO >> GO TO 2.

2. CHECK IGNITION RELAY-1 POWER SUPPLY (IPDM E/R)

Check voltage between IPDM E/R connector E19 terminal 43 and ground.

IPDM E/R		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E19	43	—	Ignition: OFF	0V
			Ignition: ON	Battery voltage

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#).
- NO >> GO TO 3.

B260A IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

3. CHECK IGNITION RELAY-1 POWER SUPPLY (BCM)

Check voltage between BCM connector M20 terminal 70 and ground.

BCM		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M20	70	—	Ignition: OFF	0V
			Ignition: ON	Battery voltage

Is the inspection result normal?

YES >> Refer to [GI-41, "Intermittent Incident"](#).

NO >> Replace BCM. Refer to [BCS-82, "Removal and Installation"](#).

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B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2614 ACC RELAY CIRCUIT

DTC Description

INFOID:0000000011935831

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	Signal (terminal)
B2614	ACC RELAY CIRCUIT	When ignition switch is ON.	—
		Threshold	Immediate operation of ACC relay-1 is requested by BCM, but there is no response for more than 1 second
		Diagnosis delay time	1 second or more

POSSIBLE CAUSE

- Harness or connectors (ACC relay-1 circuit open or shorted)
- ACC-1 relay

FAIL SAFE

—

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

ⓅCONSULT

1. Turn the power supply position to ACC under the following conditions, and wait for at least 1 second.
 - CVT selector lever is in the P or N position.
 - Release the brake pedal.
2. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Is DTC detected?

- YES >> Go to [PCS-64, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011935832

Regarding Wiring Diagram information, refer to [PCS-49, "Wiring Diagram"](#).

1. CHECK ACCESSORY RELAY-1 POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect accessory relay-1.
3. Check voltage between accessory relay-1 connector J-3 and ground under the following conditions.

Accessory relay-1		Ground	Condition		Voltage (V) (Approx.)
Connector	Terminal				
J-3	2	Ground	Ignition	OFF	0
				ACC	Battery voltage

Is the inspection result normal?

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

2. CHECK ACCESSORY RELAY-1 POWER SUPPLY CIRCUIT-1

1. Turn ignition switch OFF.
2. Disconnect BCM harness connector.
3. Check continuity between accessory relay-1 connector J-3 and BCM harness connector M18.

B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Accessory relay-1		BCM		Continuity
Connector	Terminal	Connector	Terminal	
J-3	2	M18	113	Yes

4. Check continuity between accessory relay-1 connector J-3 and ground.

Accessory relay-1		Ground	Continuity
Connector	Terminal		
J-3	2	Ground	No

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

3. CHECK ACCESSORY RELAY-1 GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between accessory relay-1 connector J-3 and ground.

Accessory relay-1		Ground	Continuity
Connector	Terminal		
J-3	1	Ground	Yes

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK ACCESSORY RELAY-1 POWER SUPPLY CIRCUIT-2

Check voltage between accessory relay-1 connector J-3 and ground.

Accessory relay-1		Ground	Voltage (V) (Approx.)
Connector	Terminal		
J-3	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK ACCESSORY RELAY-1

Refer to [PCS-65. "Component Inspection \(Accessory Relay-1\)".](#)

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace accessory relay-1.

6. CHECK INTERMITTENT INCIDENT

Refer to [GI-41. "Intermittent Incident".](#)

>> Inspection End.

Component Inspection (Accessory Relay-1)

INFOID:0000000011935833

1. CHECK ACCESSORY RELAY-1

1. Turn ignition switch OFF.
2. Remove accessory relay-1.

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B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

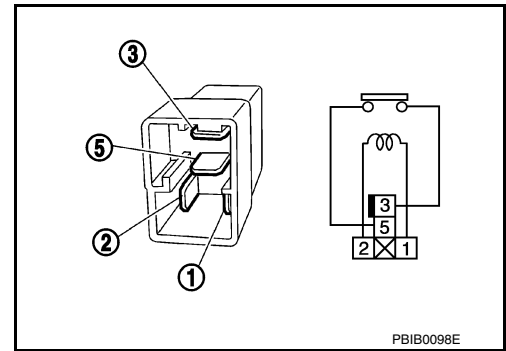
[POWER DISTRIBUTION SYSTEM]

3. Check the continuity between accessory relay-1 terminals under the following conditions.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No

Is the inspection result normal?

- YES >> Inspection End.
NO >> Replace accessory relay-1.



B2615 FRONT BLOWER MOTOR RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2615 FRONT BLOWER MOTOR RELAY CIRCUIT

DTC Description

INFOID:0000000011935835

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	When ignition switch is ON.
B2615	FRONT BLOWER MOTOR RELAY CIRCUIT	Signal (terminal)	—
		Threshold	BCM detects a difference of signal for 1 second or more between the following information: <ul style="list-style-type: none">• Front blower motor relay ON/OFF request• Front blower motor relay feedback
		Diagnosis delay time	1 second or more

POSSIBLE CAUSE

- Harness or connectors
(Front blower motor relay circuit is open or shorted)
- Front blower motor relay

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 or N position.
 - Release brake pedal.
2. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Is DTC detected?

YES >> Go to [PCS-67. "Diagnosis Procedure"](#).

NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011935836

Regarding Wiring Diagram information, refer to [PCS-49. "Wiring Diagram"](#).

1. CHECK FRONT BLOWER MOTOR RELAY POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect front blower motor relay.
3. Check voltage between front blower motor relay connector and ground under the following conditions.

Front blower motor relay		Ground	Condition	Voltage (V) (Approx.)
Connector	Terminal			
J-4	2	Ground	Ignition switch OFF or ACC	0
			Ignition switch ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK FRONT BLOWER MOTOR RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

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B2615 FRONT BLOWER MOTOR RELAY CIRCUIT

[POWER DISTRIBUTION SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect BCM harness connector M20.
3. Check continuity between front blower motor relay connector J-4 and BCM harness connector M20.

Front blower motor relay		BCM		Continuity
Connector	Terminal	Connector	Terminal	
J-4	2	M20	66	Yes

4. Check continuity between front blower motor relay connector J-4 and ground.

Front blower motor relay		Ground	Continuity
Connector	Terminal		
J-4	2	Ground	No

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

3. CHECK FRONT BLOWER MOTOR RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between front blower motor relay connector J-4 and ground.

Front blower motor relay		Ground	Continuity
Connector	Terminal		
J-4	1	Ground	Yes

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair front blower motor relay ground circuit.

4. CHECK FRONT BLOWER MOTOR RELAY POWER SUPPLY CIRCUIT-2

Check voltage between front blower motor relay connector and ground.

Front blower motor relay		Ground	Voltage (V) (Approx.)
Connector	Terminal		
J-4	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK FRONT BLOWER MOTOR RELAY

Refer to [PCS-68. "Component Inspection \(Front Blower Motor Relay\)".](#)

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace front blower motor relay.

6. CHECK INTERMITTENT INCIDENT

Refer to [GI-41. "Intermittent Incident".](#)

>> Inspection End.

Component Inspection (Front Blower Motor Relay)

INFOID:0000000011935837

1. CHECK FRONT BLOWER MOTOR RELAY

1. Turn ignition switch OFF.
2. Remove front blower motor relay.

B2615 FRONT BLOWER MOTOR RELAY CIRCUIT

[POWER DISTRIBUTION SYSTEM]

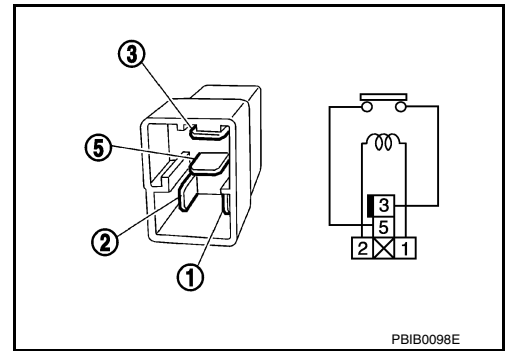
< DTC/CIRCUIT DIAGNOSIS >

3. Check the continuity between front blower motor relay terminals under the following conditions.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Replace front blower motor relay.



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B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2616 IGNITION RELAY CIRCUIT

DTC Description

INFOID:000000011935839

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	Signal (terminal)
B2616	IGNITION RELAY CIRCUIT	When ignition switch is ON.	—
		Threshold	An immediate operation of ignition relay-2 (fuse block (J/B)) is requested by BCM, but there is no response
		Diagnosis delay time	1 second or more

POSSIBLE CAUSE

- Harness or connectors
(Ignition relay-2 circuit is open or shorted)
- Ignition relay-2

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 or N position
 - Release brake pedal
2. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Is DTC detected?

- YES >> Go to [PCS-70. "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000011935840

Regarding Wiring Diagram information, refer to [PCS-49. "Wiring Diagram"](#).

1. CHECK IGNITION RELAY-2 POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect ignition relay-2.
3. Check voltage between ignition relay-2 connector J-1 and ground under the following conditions.

Ignition relay-2		Ground	Condition	Voltage (V) (Approx.)
Connector	Terminal			
J-1	2	Ground	Ignition switch OFF or ACC	0
			Ignition switch ON	Battery voltage

Is the inspection result normal?

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

2. CHECK IGNITION RELAY-2 POWER SUPPLY CIRCUIT-1

1. Turn ignition switch OFF.
2. Disconnect BCM harness connector M20.

B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

3. Check continuity between ignition relay-2 connector J-1 and BCM harness connector M20.

Ignition relay-2		BCM		Continuity
Connector	Terminal	Connector	Terminal	
J-1	2	M20	67	Yes

4. Check continuity between ignition relay-2 connector J-1 and ground.

Ignition relay-2		Ground	Continuity
Connector	Terminal		
J-1	2	Ground	No

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

3. CHECK IGNITION RELAY-2 GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between ignition relay-2 connector J-1 and ground.

Ignition relay-2		Ground	Continuity
Connector	Terminal		
J-1	2	Ground	Yes

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK IGNITION RELAY-2 POWER SUPPLY CIRCUIT-2

Check voltage between ignition relay-2 connector J-1 and ground.

Ignition relay-2		Ground	Voltage (V) (Approx.)
Connector	Terminal		
J-1	5	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK IGNITION RELAY-2

Refer to [PCS-71, "Component Inspection \(Ignition Relay-2\)"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace ignition relay-2.

6. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

Component Inspection (Ignition Relay-2)

INFOID:000000011935841

1. CHECK IGNITION RELAY-2

1. Turn ignition switch OFF.

2. Remove ignition relay-2.

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B2616 IGNITION RELAY CIRCUIT

[POWER DISTRIBUTION SYSTEM]

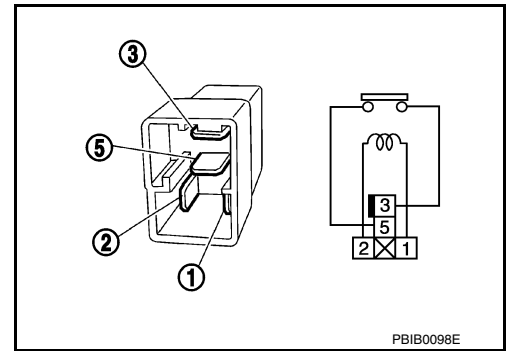
< DTC/CIRCUIT DIAGNOSIS >

3. Check the continuity between ignition relay-2 terminals under the following conditions.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Replace ignition relay-2.



B2618 BCM

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2618 BCM

DTC Description

INFOID:0000000011935843

DTC DETECTION LOGIC

NOTE:

- If DTC B2618 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-59, "DTC Description"](#).
- If DTC B2618 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [PCS-61, "DTC Description"](#).

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	Signal (terminal)
B2618	BCM	When ignition switch is ON.	—
		—	—
		An immediate operation of ignition relay-1 (IPDM E/R) is requested by BCM, but there is no response	—
		1 second or more	—

POSSIBLE CAUSE

- BCM

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 or N position
 - Release brake pedal
2. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Is DTC detected?

- YES >> Go to [PCS-73, "Diagnosis Procedure"](#).
- NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000011935844

1. INSPECTION START

1. Turn ignition switch ON.
2. Select "Self Diagnostic Result" mode of "IPDM E/R".
3. Touch "ERASE".
4. **Perform DTC Confirmation Procedure.**
See [PCS-73, "DTC Description"](#).

Is the 1st trip DTC B2618 displayed again?

- YES >> Replace BCM. Refer to [BCS-82, "Removal and Installation"](#).
- NO >> Inspection End.

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PCS

B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B261A PUSH-BUTTON IGNITION SWITCH

DTC Description

INFOID:000000012183426

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	Signal (terminal)
B261A	PUSH-BTN IGN SW (Push-button ignition switch)	When ignition switch is ON.	Push-button ignition switch (Terminals 4 and 8)
		Less than 8.8V or more than 16.5V	
		1 second or more	

POSSIBLE CAUSE

- Harness or connectors
[Push-button ignition switch circuit is open or shorted]
- BCM
- IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Press the push-button ignition switch under the following conditions, and wait for at least 1 second.
 - CVT selector lever is in the P (park) or N (neutral) position.
 - Release the brake pedal.
2. Perform "Self Diagnostic Result" mode.

Is DTC B261A detected?

- YES >> Refer to [PCS-74. "Diagnosis Procedure"](#).
 NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012183427

Regarding Wiring Diagram information, refer to [PCS-49. "Wiring Diagram"](#).

1. CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL (PUSH-BUTTON IGNITION SWITCH)

1. Disconnect push-button ignition switch connector.
2. Check voltage between push-button ignition switch connector M38 terminal 8 and ground.

Push-button ignition switch		Ground	Voltage (Approx.)
Connector	Terminal		
M38	8	—	Battery voltage

Is the inspection result normal?

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

2. CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL (IPDM E/R)

Check voltage between IPDM E/R connector E19 terminal 38 and ground.

B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

IPDM E/R		Ground	Voltage (Approx.)
Connector	Terminal		
E19	38	—	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#).

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

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector E19 and BCM connector M21.
3. Check continuity between IPDM E/R connector E19 terminal 38 and push-button ignition switch connector M38 terminal 8.

IPDM E/R		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
E19	38	M38	8	Yes

4. Check continuity between IPDM E/R connector E19 terminal 38 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E19	38	—	No

Is the inspection result normal?

YES >> Refer to [GI-41, "Intermittent Incident"](#).

NO >> Repair or replace harness or connectors.

4. CHECK PUSH BUTTON IGNITION SWITCH OUTPUT SIGNAL (BCM)

Check voltage between BCM connector M21 and ground.

BCM		Ground	Voltage (Approx.)
Connector	Terminal		
M21	1	—	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace BCM. Refer to [BCS-82, "Removal and Installation"](#).

5. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (BCM)

1. Turn ignition switch OFF.
2. Disconnect BCM connector M21 and IPDM E/R connector E19.
3. Check continuity between BCM connector M21 and push-button ignition switch connector M38.

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M21	1	M38	8	Yes

4. Check continuity between BCM connector M21 terminal 1 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M21	1	—	No

Is the inspection result normal?

YES >> Refer to [GI-41, "Intermittent Incident"](#).

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B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

NO >> Repair or replace harness or connectors.

B26F1 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B26F1 IGNITION RELAY

DTC Description

INFOID:000000012183428

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
		Diagnosis condition	When ignition switch is ON.
B26F1	IGN RELAY OFF (Ignition relay off)	Signal (terminal)	IPDM E/R (Terminals 43 and 7)
		Threshold	Less than 8.8V or more than 16.5V
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- Harness or connectors
(Ignition relay circuit is open)
- BCM
- IPDM E/R

FAIL-SAFE

Inhibit engine cranking.

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn ignition switch ON under the following conditions, and wait for 2 seconds or more:
 - CVT selector lever is in the P (park) or N (neutral) position.
 - Do not depress brake pedal.
2. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Is DTC B26F1 detected?

- YES >> Go to [PCS-77, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012183429

Regarding Wiring Diagram information, refer to [PCS-49, "Wiring Diagram"](#).

1. SELF DIAGNOSTIC RESULT

CONSULT

1. Perform "Self Diagnostic Result" mode of "IPDM E/R".
2. Erase DTCs.
3. Turn ignition switch OFF.
4. Turn ignition switch ON.
5. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Are any DTCs detected?

- YES >> Refer to [PCS-21, "DTC Index"](#).
NO >> GO TO 2.

2. CHECK IGNITION RELAY-1 CONTROL SIGNAL (IPDM E/R)

Check voltage between BCM connector M20 terminal 70 and ground.

BCM		Ground	Condition	Voltage (Approx.)
Connector	Terminal			

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B26F1 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

M20	70	—	Ignition: OFF	0V
			Ignition: ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to [BCS-82, "Removal and Installation"](#).

3. CHECK IGNITION RELAY-1 CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector E19 and BCM connector M20.
3. Check continuity between IPDM E/R connector E19 terminal 43 and BCM connector M20 terminal 70.

IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E19	43	M20	70	Yes

4. Check continuity between IPDM E/R connector E19 terminal 43 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E19	43	—	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

B26F2 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B26F2 IGNITION RELAY

DTC Description

INFOID:000000012183430

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B26F2	IGN RELAY ON (Ignition relay on)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	—
		Threshold	BCM transmits the ignition relay control signal, but does not receive ignition switch ON signal (CAN) from IPDM E/R
		Diagnosis delay time	2 seconds or more

POSSIBLE CAUSE

- Harness or connectors
(Ignition relay circuit is shorted)
- BCM
- IPDM E/R

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

ⓂCONSULT

1. Turn ignition switch ON under the following conditions, and wait for 2 seconds or more:
 - CVT selector lever is in the P (park) or N (neutral) position.
 - Do not depress brake pedal.
2. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Is DTC B26F2 detected?

- YES >> Go to [PCS-79, "Diagnosis Procedure"](#).
NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012183431

Regarding Wiring Diagram information, refer to [PCS-49, "Wiring Diagram"](#).

1. SELF DIAGNOSTIC RESULT

ⓂCONSULT

1. Perform "Self Diagnostic Result" mode of "IPDM E/R".
2. Erase DTCs.
3. Turn ignition switch OFF.
4. Turn ignition switch ON.
5. Perform "Self Diagnostic Result" mode of "IPDM E/R".

Are any DTCs detected?

- YES >> Refer to [PCS-21, "DTC Index"](#).
NO >> GO TO 2.

2. CHECK IGNITION RELAY-1 CONTROL SIGNAL (IPDM E/R)

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector E19.
3. Check voltage between IPDM E/R connector E19 terminal 43 and ground.

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B26F2 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

IPDM E/R		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E19	43	—	Ignition: OFF	0V

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-36. "Removal and Installation"](#).

NO >> GO TO 3.

3. CHECK IGNITION RELAY-1 CONTROL SIGNAL CIRCUIT

1. Disconnect BCM connector M20.
2. Check voltage between IPDM E/R connector E19 terminal 43 and ground.

IPDM E/R		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E19	43	—	Ignition: OFF	0V

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-82. "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

B26F6 BCM

DTC Description

INFOID:000000012183432

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC Detection Condition	
B26F6	BCM (Body control module)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	—
		Threshold	Ignition relay ON signal is not transmitted from IPDM E/R (CAN) when BCM turns ignition relay ON.
		Diagnosis delay time	.5 seconds or more

POSSIBLE CAUSE

- BCM
- IPDM E/R

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC B26F6 is displayed with DTC U1000 or U1010, first perform the trouble diagnosis for the DTC U1000 or U1010.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. U1000: Refer to [PCS-59, "DTC Description"](#). U1010: Refer to [PCS-61, "DTC Description"](#).
- NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

ⓂCONSULT

- Turn ignition switch ON under the following conditions, and wait for .5 seconds or more:
 - CVT selector lever is in the P (park) or N (neutral) position.
 - Do not depress brake pedal.
- Perform "Self Diagnostic Result" mode of "IPDM E/R".

Is DTC B26F6 detected?

- YES >> Go to [PCS-81, "Diagnosis Procedure"](#).
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000012183433

PCS

Regarding Wiring Diagram information, refer to [PCS-49, "Wiring Diagram"](#).

1. SELF DIAGNOSTIC RESULT

ⓂCONSULT

Perform "Self Diagnostic Result" mode of "IPDM E/R".

Are any DTCs detected?

- YES >> Refer to [PCS-21, "DTC Index"](#).
- NO >> GO TO 2.

2. CHECK IGNITION RELAY-1 POWER SUPPLY (IPDM E/R)

Check voltage between IPDM E/R connector E19 terminal 43 and ground.

B26F6 BCM

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

IPDM E/R		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E19	43	—	Ignition: OFF	0V
			Ignition: ON	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#).

NO >> GO TO 3.

3. CHECK IGNITION RELAY-1 POWER SUPPLY (BCM)

Check voltage between BCM connector M20 terminal 70 and ground.

BCM		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M20	70	—	Ignition: OFF	0V
			Ignition: ON	Battery voltage

Is the inspection result normal?

YES >> Refer to [GI-41, "Intermittent Incident"](#).

NO >> Replace BCM. Refer to [BCS-82, "Removal and Installation"](#).

PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

PUSH-BUTTON IGNITION SWITCH

Component Function Check

INFOID:000000012242449

1. CHECK FUNCTION

CONSULT

1. Select "PUSH SW" in "Data Monitor" mode of "BCM".
2. Check the push-button ignition switch signal under the following conditions.

Test item	Condition	Status
PUSH SW	Push-button ignition switch is pressed	On
	Push-button ignition switch is not pressed	Off

Is the indication normal?

YES >> Inspection End.

NO >> Go to [PCS-83, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000012242450

Regarding Wiring Diagram information, refer to [PCS-49, "Wiring Diagram"](#).

1. CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL (PUSH-BUTTON IGNITION SWITCH)

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector M38 and IPDM E/R connector E19.
3. Check voltage between push-button ignition switch connector M38 terminal 8 and ground.

Push-button ignition switch		Ground	Voltage (Approx.)
Connector	Terminal		
M38	8	—	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (BCM)

1. Disconnect BCM connector M21.
2. Check continuity between BCM connector M21 terminal 1 and push-button ignition switch connector M38 terminal 8.

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M21	1	M38	8	Yes

3. Check continuity between BCM connector M21 terminal 1 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M21	1	—	No

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-82, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

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

Check voltage between IPDM E/R connector E19 terminal 38 and ground.

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PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

IPDM E/R		Ground	Voltage (Approx.)
Connector	Terminal		
E19	38	—	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

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

1. Disconnect BCM connector M21.
2. Check continuity between IPDM E/R connector E19 terminal 38 and push-button ignition switch connector M38 terminal 8.

IPDM E/R		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
E19	38	M38	8	Yes

3. Check continuity between IPDM E/R connector E19 terminal 38 and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E19	38	—	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-36, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

5. CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

Check continuity between push-button ignition switch connector M38 terminal 4 and ground.

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M38	4	—	Yes

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connectors.

6. CHECK PUSH-BUTTON IGNITION SWITCH

Refer to [PCS-84, "Component Inspection"](#).

Is the inspection result normal?

YES >> Refer to [GI-41, "Intermittent Incident"](#).

NO >> Replace push-button ignition switch. Refer to [PCS-91, "Removal and Installation"](#).

Component Inspection

INFOID:000000012242451

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 terminals	Condition	Continuity
4 – 8	Pressed	Yes
	Not pressed	No

Is the inspection result normal?

PUSH-BUTTON IGNITION SWITCH

[POWER DISTRIBUTION SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

YES >> Inspection End.

NO >> Replace push-button ignition switch. Refer to [PCS-91, "Removal and Installation"](#).

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:000000012242395

Regarding Wiring Diagram information, refer to [BCS-56. "Wiring Diagram"](#).

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuses or fusible link are blown.

Signal name	Fuse and fusible link No.
Fusible link battery power	I (40A)
BCM battery fuse	1 (10A)

Is the fuse or fusible link blown?

- YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector M17.
3. Check voltage between BCM harness connector M17 and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
BCM		Ground
Connector	Terminal	
M17	135	
	142	Battery voltage

Is the measurement normal?

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector M17 and ground.

BCM		Ground	Continuity
Connector	Terminal		
M17	138		Yes
	132		

Is the inspection result normal?

- YES >> Inspection End.
NO >> Repair or replace harness.

BCM : Special Repair Requirement

INFOID:000000012242396

1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to [BCS-63. "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT \(BCM\) : Work Procedure"](#).

>> Work End.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

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

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

INFOID:000000012242397

Regarding Wiring Diagram information, refer to [PCS-23. "Wiring Diagram"](#).

1. CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Battery power supply	E (80A)
	B (100A)
	A (250A), C (80A)

Is the fusible link blown?

YES >> Replace the blown fusible link after repairing the affected circuit.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connectors E16 and E17.
3. Check voltage between IPDM E/R harness connector and ground.

Terminals		Voltage (V) (Approx.)
(+)	(-)	
IPDM E/R		Battery voltage
Connector	Terminal	
E16	1	
	2	
E17	3	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector.

3. CHECK GROUND CIRCUIT

1. Disconnect connectors.
2. Check continuity between IPDM E/R harness connectors and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E18	7		Yes
E19	41		

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connector.

PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

SYMPTOM DIAGNOSIS

PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

Description

INFOID:0000000012242452

Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

NOTE:

The engine start function, door lock function, power distribution system, and NATS-IVIS in the Intelligent Key system are closely related to each other regarding control. The vehicle security function can operate only when the door lock and power distribution system are operating normally.

Conditions of Vehicle (Operating Conditions)

- “ENGINE START BY I-KEY” in “Work support” is ON when setting on CONSULT.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:0000000012242453

1.PERFORM WORK SUPPORT

ⓂCONSULT

Perform “INSIDE ANT DIAGNOSIS” in “Work support” mode of “INTELLIGENT KEY”.

Refer to [PCS-44, "INTELLIGENT KEY : CONSULT Function \(BCM - INTELLIGENT KEY\)"](#).

>> GO TO 2.

2.SELF DIAGNOSTIC RESULT

ⓂCONSULT

Perform “Self Diagnostic Result” mode of “IPDM E/R”.

Are any DTCs detected?

YES >> Refer to [PCS-21, "DTC Index"](#).

NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Refer to [PCS-83, "Component Function Check"](#).

Is the operation normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

YES >> Check intermittent incident. Refer to [GI-41, "Intermittent Incident"](#).

NO >> GO TO 1.

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR DOES NOT ILLUMINATE

< SYMPTOM DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR DOES NOT ILLUMINATE

Diagnosis Procedure

INFOID:000000012242454

1. CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Refer to [PCS-83. "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. REPLACE BCM

Replace BCM. Refer to [BCS-82. "Removal and Installation"](#)

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-41. "Intermittent Incident"](#).

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BCM (BODY CONTROL MODULE)

< REMOVAL AND INSTALLATION >

[POWER DISTRIBUTION SYSTEM]

REMOVAL AND INSTALLATION

BCM (BODY CONTROL MODULE)

Removal and Installation

INFOID:0000000011935869

For removal and installation of the BCM (Body Control Module), refer to [BCS-82. "Removal and Installation"](#).

PUSH BUTTON IGNITION SWITCH

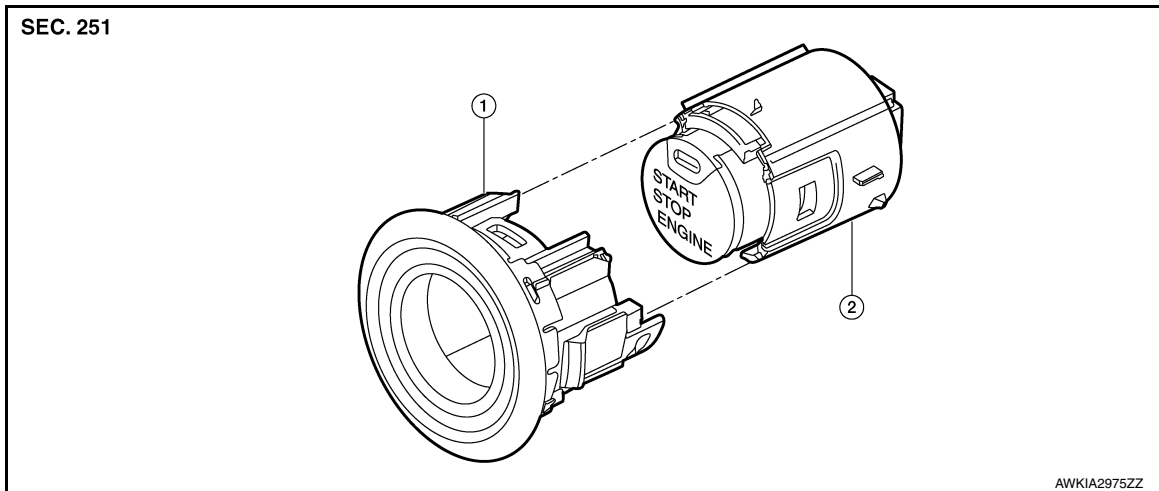
< REMOVAL AND INSTALLATION >

[POWER DISTRIBUTION SYSTEM]

PUSH BUTTON IGNITION SWITCH

Exploded View

INFOID:000000012196403



1. NATS antenna amp.

2. Push-button ignition switch

Removal and Installation

INFOID:000000011935870

The push-button ignition switch removal and installation procedure is the same as the NATS antenna amp. removal and installation procedure. Refer to [SEC-135, "Removal and Installation"](#).

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