

SECTION PCS

POWER CONTROL SYSTEM

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RELAY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

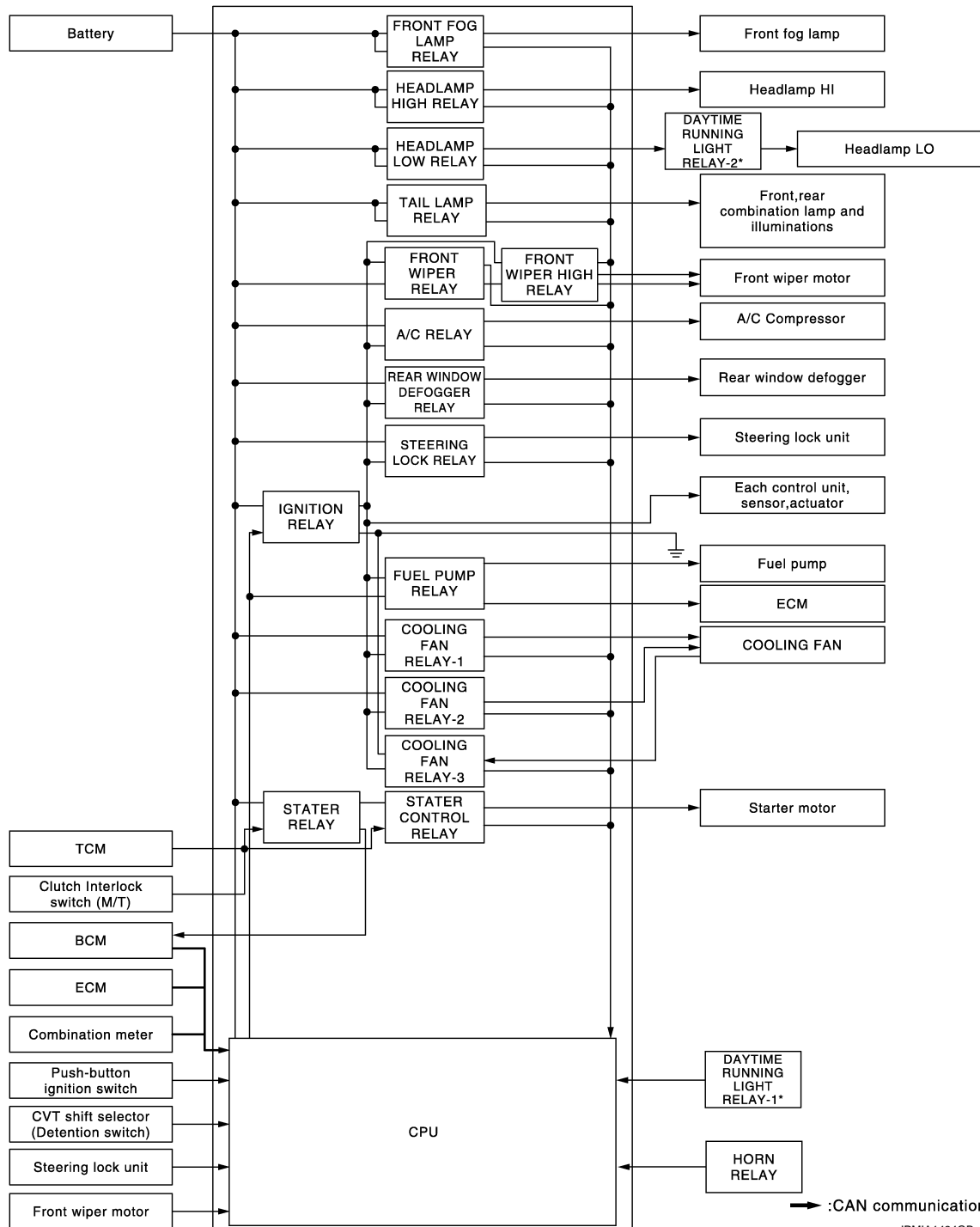
[IPDM E/R (WITH I-KEY)]

SYSTEM DESCRIPTION

RELAY CONTROL SYSTEM

System Diagram

INFOID:000000005000771



*: With daytime running light system

System Description

INFOID:000000005000772

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

CAUTION:

IPDM E/R integrated relays cannot be removed.

RELAY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R (WITH I-KEY)]

Control relay	Input/output	Transmit unit	Control part	Reference page
<ul style="list-style-type: none"> Headlamp low relay Headlamp high relay 	<ul style="list-style-type: none"> Low beam request signal High beam request signal 	BCM (CAN)	<ul style="list-style-type: none"> Headlamp low Headlamp high 	EXL-7
Front fog lamp relay	Front fog light request signal	BCM (CAN)	Front fog lamp	EXL-14
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-18
			Illuminations	INL-10
<ul style="list-style-type: none"> Front wiper relay Front wiper high relay 	Front wiper request signal	BCM (CAN)	Front wiper	WW-6
	Front wiper stop position signal	Front wiper motor		
Rear window defogger	Rear window defogger switch signal	BCM (CAN)	Rear window defogger	DEF-5
Horn relay	<ul style="list-style-type: none"> Theft warning horn request signal Horn reminder signal 	BCM (CAN)	Horn	SEC-20
<ul style="list-style-type: none"> Starter relay^{NOTE} Starter control relay 	Starter control relay signal	BCM (CAN)	Starter motor	SEC-103 , SEC-101
	Steering lock unit condition signal	Steering lock unit		
	Starter relay control signal	TCM		
		Clutch interlock switch (M/T)		
Steering lock relay	Steering lock relay signal	BCM (CAN)	Steering lock unit	SEC-96
	Steering lock unit condition signal	Steering lock unit		
	CVT shift selector (Detention switch) signal	CVT shift selector (Detention switch)		
<ul style="list-style-type: none"> Cooling fan relay-1 Cooling fan relay-2 Cooling fan relay-3 	Cooling fan speed request signal	ECM (CAN)	Cooling fan	EC-60
A/C relay	A/C compressor request signal	ECM (CAN)	A/C compressor (Magnet clutch)	HAC-62
Ignition relay	Ignition switch ON signal	BCM (CAN)	Ignition relay	PCS-17
	Vehicle speed signal	Combination meter (CAN)		
	Push-button ignition switch signal	Push-button ignition switch		
<ul style="list-style-type: none"> Daytime running light relay-1 Daytime running light relay-2 NOTE: With daytime running light system	Daytime running light request signal	BCM (CAN)	Headlamp high (High beam at approximately half illumination)	EXL-9

NOTE:

BCM controls the starter relay.

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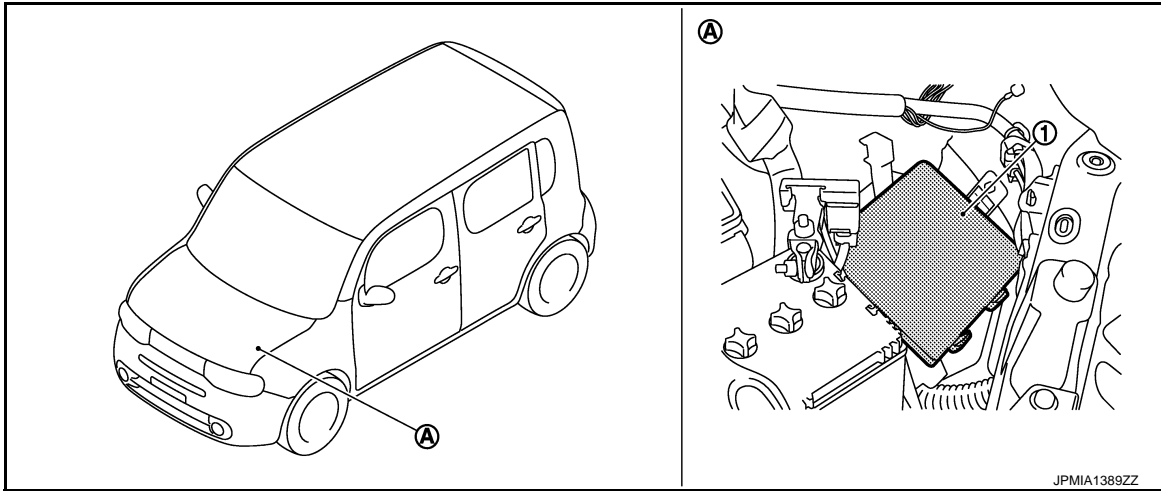
RELAY CONTROL SYSTEM

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[IPDM E/R (WITH I-KEY)]

Component Parts Location

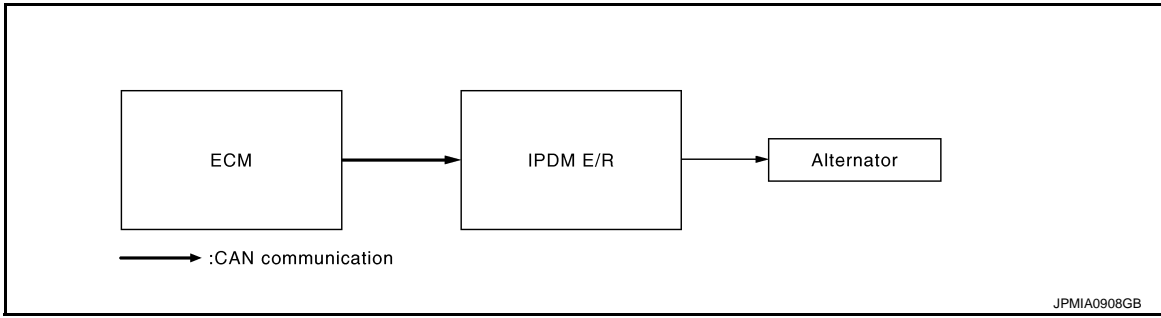
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- 1. IPDM E/R
- A. Engine room (LH)

POWER CONTROL SYSTEM

System Diagram



System Description

INFOID:000000005000775

ALTERNATOR CONTROL

IPDM E/R outputs power generation command signal (PWM signal) to the alternator according to the status of the power generation command value signal received from ECM via CAN communication. Refer to [CHG-7, "System Diagram"](#).

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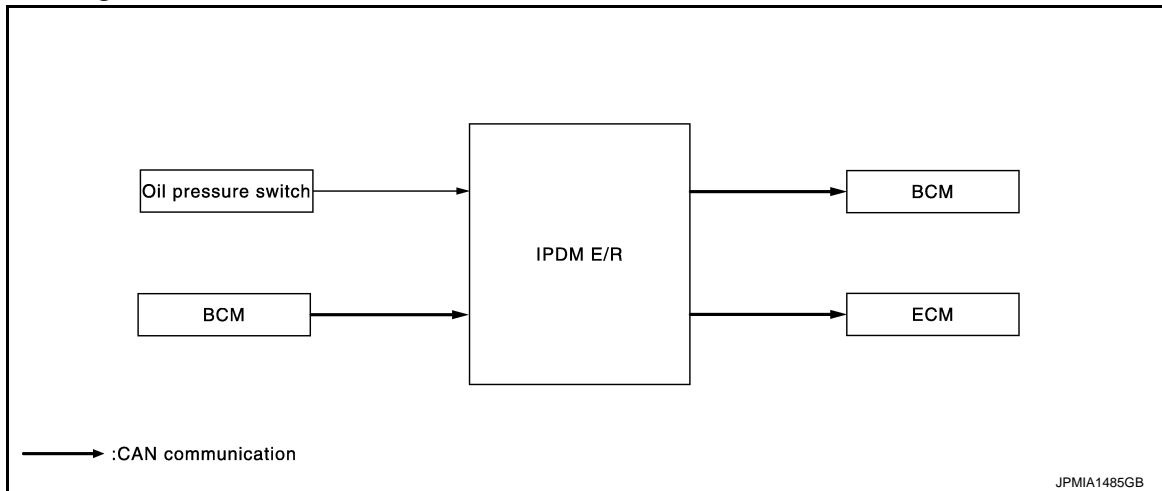
SIGNAL BUFFER SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R (WITH I-KEY)]

SIGNAL BUFFER SYSTEM

System Diagram



System Description

INFOID:000000005000777

- IPDM E/R reads the status of the oil pressure switch and transmits the oil pressure switch signal to BCM via CAN communication. Refer to [MWI-18, "WARNING LAMPS/INDICATOR LAMPS : System Diagram"](#).
- IPDM E/R receives the rear window defogger switch signal from BCM via CAN communication and transmits it to ECM via CAN communication. Refer to [DEF-5, "System Diagram"](#).

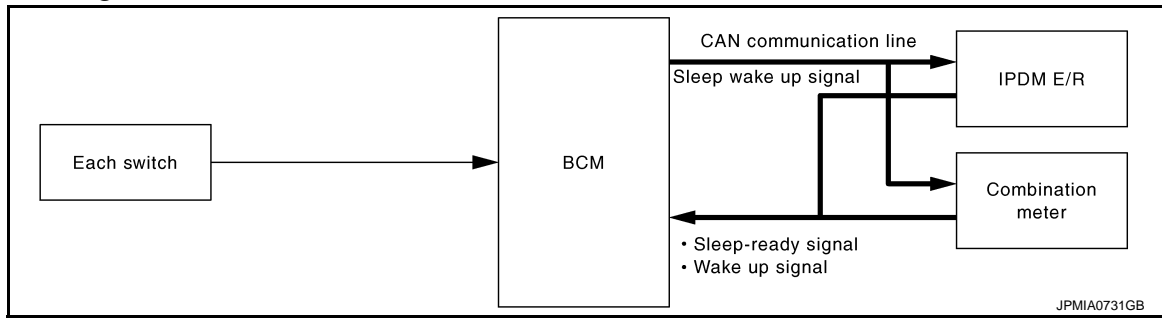
POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R (WITH I-KEY)]

POWER CONSUMPTION CONTROL SYSTEM

System Diagram



System Description

INFOID:000000005000779

OUTLINE

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

Normal mode (wake-up)

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

Low power consumption mode (sleep)

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

SLEEP MODE ACTIVATION

- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
 - Outputting signals to actuators
 - Switches or relays operating
 - 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.

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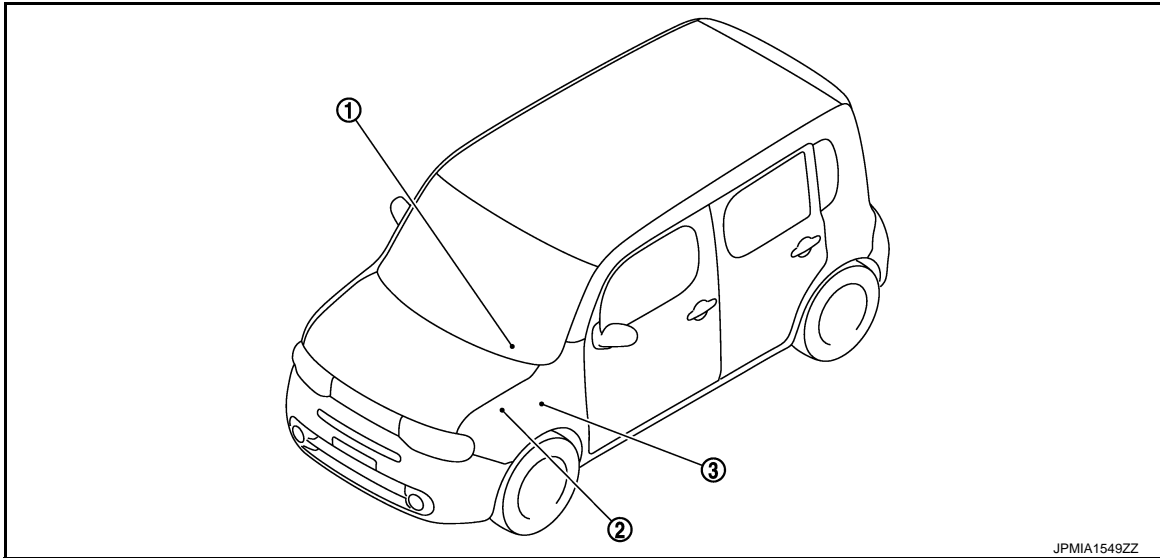
POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R (WITH I-KEY)]

Component Parts Location

INFOID:000000005172825



JPMIA1549ZZ

1. Combination meter

2. IPDM E/R
Refer to [PCS-6. "Component Parts Location"](#).

3. BCM
Refer to [BCS-9. "Component Parts Location"](#).

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:000000005000781

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.

- Oil pressure warning lamp
- Rear window defogger
- Front wiper (LO, HI)
- Parking lamps
- Side marker lamp
- License plate lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)

NOTE:

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

2. Turn the ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.

CAUTION:

Close passenger door.

4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. The oil pressure warning lamp starts blinking when the auto active test starts.
6. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

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

CAUTION:

- **If auto active test mode cannot be actuated, check door switch system. Refer to [DLK-55](#), "[Component Function Check](#)".**
- **Do not start the engine.**

Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 6 steps are repeated 3 times.

Operation sequence	Inspection location	Operation
A	Oil pressure warning lamp	Blinks continuously during operation of auto active test
1	Rear window defogger	10 seconds
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	<ul style="list-style-type: none"> • Parking lamps • Side marker lamps • License plate lamps • Tail lamps • Front fog lamps 	10 seconds
4	Headlamps	LO for 10 seconds → HI ON ↔ OFF 5 times
5	A/C compressor (magnet clutch)	ON ↔ OFF 5 times
6	Cooling fan	LO for 5 seconds → HI for 5 seconds



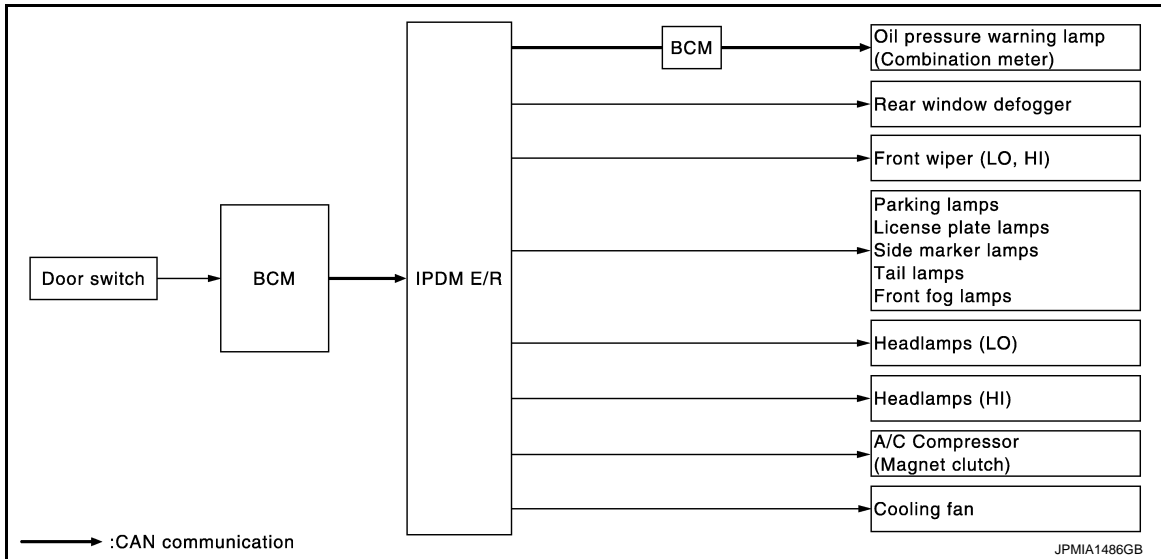
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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R (WITH I-KEY)]

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
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> • Rear window defogger • Rear window defogger ground circuit • Harness or connector between IPDM E/R and rear window defogger • IPDM E/R
Any of the following components do not operate <ul style="list-style-type: none"> • Parking lamps • Side marker lamps • License plate lamps • Tail lamps • Front fog lamps • Headlamps (HI, LO) • Front wiper (HI, LO) 	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> • Lamp or motor • Lamp or motor ground circuit • Harness or connector between IPDM E/R and applicable system • IPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> • A/C amp. signal input circuit • CAN communication signal between A/C amp. and ECM • CAN communication signal between ECM and IPDM E/R
		NO <ul style="list-style-type: none"> • Magnet clutch • Harness or connector between IPDM E/R and magnet clutch • IPDM E/R

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R (WITH I-KEY)]

Symptom	Inspection contents		Possible cause
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES	<ul style="list-style-type: none"> • Harness or connector between IPDM E/R and oil pressure switch • Oil pressure switch • IPDM E/R
		NO	<ul style="list-style-type: none"> • CAN communication signal between IPDM E/R and BCM • CAN communication signal between BCM and combination meter • Combination meter
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES	<ul style="list-style-type: none"> • ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO	<ul style="list-style-type: none"> • Cooling fan motor • Harness or connector between IPDM E/R and cooling fan motor • IPDM E/R

CONSULT-III Function (IPDM E/R)

INFOID:000000005000782

APPLICATION ITEM

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

Diagnosis mode	Description
Ecu Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to [PCS-33, "DTC Index"](#).

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIGNALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R (WITH I-KEY)]

Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the clutch interlock switch (M/T models) or shift position (CVT models) judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the CVT shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay signal received from BCM via CAN communication.
S/L STATE [LOCK/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. NOTE: This item is monitored only the vehicle with daytime running light system.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.

ACTIVE TEST

Test item

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
	Off	OFF
FRONT WIPER	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
MOTOR FAN	1	OFF
	2	Operates the cooling fan relay (LO operation).
	3	Operates the cooling fan relay (HI operation).
	4	

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R (WITH I-KEY)]

Test item	Operation	Description
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

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DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:000000005000783

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 unit, 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-H line, CAN-L 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-23, "CAN Communication Signal Chart"](#).

DTC Logic

INFOID:000000005000784

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more	CAN communication system

Diagnosis Procedure

INFOID:000000005000785

1. PERFORM SELF DIAGNOSTIC

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

Is DTC "U1000" displayed?

- YES >> Refer to [LAN-14, "Trouble Diagnosis Flow Chart"](#).
 NO >> Refer to [GI-34, "Intermittent Incident"](#).

B2098 IGNITION RELAY ON STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITH I-KEY)]

B2098 IGNITION RELAY ON STUCK

Description

INFOID:000000005000786

- 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 Logic

INFOID:000000005000787

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible causes
B2098	IGN RELAY ON	The ignition relay ON is detected for 1 second at ignition switch OFF (CPU monitors the status at the contact and excitation coil circuits of the ignition relay inside it)	Ignition relay malfunction

Diagnosis Procedure

INFOID:000000005000788

1. PERFORM SELF DIAGNOSIS

1. Turn the ignition switch ON.
2. Erase "Self Diagnostic Result" of IPDM E/R.
3. Turn the ignition switch OFF, and wait for 1 second or more.
4. Turn the ignition switch ON. Check "Self Diagnostic Result" again.

Is DTC "B2098" displayed?

- YES >> Replace IPDM E/R.
- NO >> Refer to [GI-34, "Intermittent Incident"](#).

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B2099 IGNITION RELAY OFF STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITH I-KEY)]

B2099 IGNITION RELAY OFF STUCK

Description

INFOID:000000005008692

- 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 Logic

INFOID:000000005000790

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible causes
B2099	IGN RELAY OFF	The ignition relay OFF is detected for 1 second at ignition switch ON (CPU monitors the status at the contact and excitation coil circuits of the ignition relay inside it)	Ignition relay malfunction

NOTE:

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

Diagnosis Procedure

INFOID:000000005000791

1. PERFORM SELF DIAGNOSIS

1. Turn the ignition switch ON.
2. Erase "Self Diagnostic Result".
3. Turn the ignition switch OFF.
4. Turn the ignition switch ON. Check "Self Diagnostic Result" again.

Is DTC "B2099" displayed?

- YES >> Replace IPDM E/R.
NO >> Refer to [GI-34, "Intermittent Incident"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITH I-KEY)]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000005000792

1. CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Battery power supply	C
	D
	J

Is the fuse fusing?

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

2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		Voltage (Approx.)
(+)	(-)	
IPDM E/R		Battery voltage
Connector	Terminal	
E9	1	
	2	
E10	8	

Is the measurement value normal?

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

3. CHECK GROUND CIRCUIT

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E11	9		Existed
E12	19		

Does continuity exist?

- YES >> INSPECTION END
NO >> Repair the harness or connector.

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

ECU DIAGNOSIS INFORMATION

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

Reference Value

INFOID:000000005000793

VALUES ON THE DIAGNOSIS TOOL

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
AC COMP REQ	Engine running	A/C switch OFF	Off
		A/C switch ON (Compressor is operating)	On
TAIL&CLR REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		On
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
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	Off
		Front fog lamp switch ON	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
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
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
PUSH SW	Release the push-button ignition switch		Off
	Press the push-button ignition switch		On
INTER/NP SW	Ignition switch ON	<ul style="list-style-type: none"> Selector lever in any position other than P or N (CVT models) Release clutch pedal (M/T models) 	Off
		<ul style="list-style-type: none"> Selector lever in P or N position (CVT models) Depress clutch pedal (M/T models) 	On
ST RLY CONT	Ignition switch ON		Off
	At engine cranking		On

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

Monitor Item	Condition	Value/Status
IHBT RLY -REQ	Ignition switch ON	Off
	At engine cranking	On
ST/INHI RLY	Ignition switch ON	Off
	At engine cranking	INHI ON → ST ON
	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
DETENT SW	Ignition switch ON <ul style="list-style-type: none"> • Pull the selector lever with selector lever in P position • Selector lever in any position other than P 	Off
	Release the selector lever with selector lever in P position NOTE: Fixed On for M/T models	On
S/L RLY -REQ	None of the conditions below are present	Off
	<ul style="list-style-type: none"> • Open the driver door after the ignition switch is turned OFF (for a few seconds) • Press the push-button ignition switch when the steering lock is activated 	On
S/L STATE	Steering lock is activated	LOCK
	Steering lock is deactivated	UNLOCK
	[DTC: B210A] is detected	UNKWN
DTRL REQ NOTE: This item is monitored only on the vehicle with the daytime running light system.	Not operation	Off
	Daytime running light system is operated.	On
OIL P SW	Ignition switch OFF, ACC or engine running	Open
	Ignition switch ON	Close
HOOD SW	NOTE: The item is indicated, but not monitored.	Off
THFT HRN REQ	Not operation	Off
	<ul style="list-style-type: none"> • Panic alarm is activated • Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 	On
HORN CHIRP	Not operating	Off
	Door locking with Intelligent Key (horn chirp mode)	On

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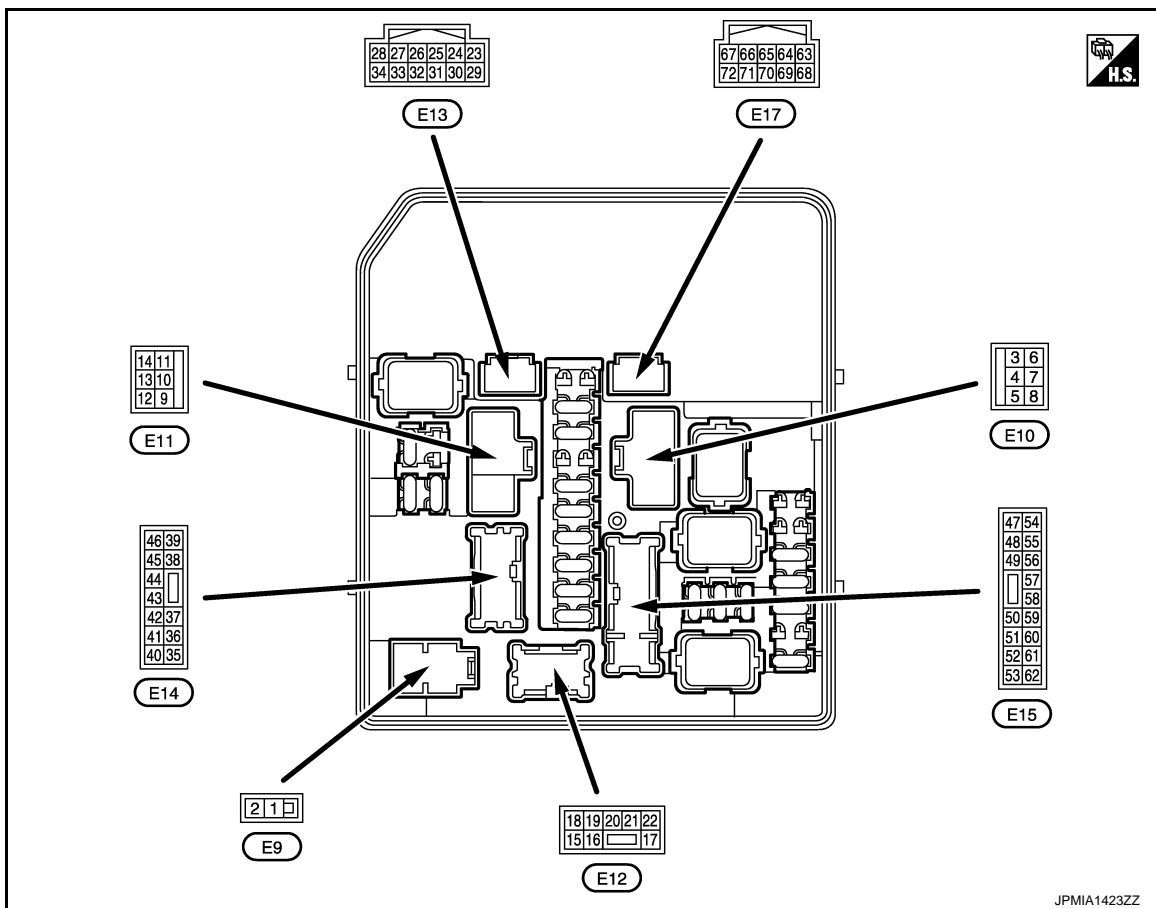
PCS

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
3 (BR)	Ground	Starter motor	Output	Ignition switch ON	0 V
				At engine cranking	Battery voltage
4 (P)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
5 (LG)	Ground	Cooling fan relay-1 power supply	Output	Cooling fan OFF	0 V
				Cooling fan operated	Battery voltage
7 (Y)	Ground	Cooling fan relay-2 power supply	Output	Cooling fan OFF	0 V
				Cooling fan LO operated	9.0 V
				Cooling fan HI operated	Battery voltage
8 (V)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
9 (B/W)	Ground	Ground	—	Ignition switch ON	0 V
10 (L)	Ground	Cooling fan motor ground	Output	Cooling fan OFF	0 V
				Cooling fan LO operated	5.0 V
				Cooling fan HI operated	0 V

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)	
		Signal name	Input/ Output				
+	-						
13 (W)	Ground	Rear window defogger	Output	Ignition switch OFF	0 V	B	
				Ignition switch ON	Battery voltage		
19 (B/W)	Ground	Ground	—	Ignition switch ON	0 V	C	
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND OFF	0 V	D	
				Lighting switch 2ND ON	Battery voltage		
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND OFF	0 V	E	
				Lighting switch 2ND ON	Battery voltage		
24 (G)	Ground	Oil pressure switch	Input	Ignition switch ON Engine stopped	0 V	F	
				Ignition switch ON Engine running	Battery voltage		
25 (Y)	Ground	Front wiper auto stop	Input	Ignition switch ON Front wiper stop position	0 V	G	
				Ignition switch ON Any position other than front wiper stop position	Battery voltage		
26 (P)	Ground	CAN-L	Input/ Output	—	—	H	
27 (L)	Ground	CAN-H	Input/ Output	—	—	I	
28*1 (P)	Ground	Daytime running light relay-1 control	Output	Daytime running light deactivated	0 V	J	
				Daytime running light activated	Battery voltage		
30 (SB)	Ground	Starter relay control	Output	At engine cranking	0 V	K	
				Ignition switch ON	Battery voltage		
31 (W)	Ground	Fuel pump relay control	Output	<ul style="list-style-type: none"> Approximately 1 second after turning the ignition switch ON Engine running 	0 - 1.5 V	L	
				Approximately 1 second or more after turning the ignition switch ON	Battery voltage		
33 (O)	Ground	Power generation command signal	Output	Ignition switch ON	Battery voltage	PCS	
				40 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"	<p style="text-align: right; font-size: small;">JPMIA0002GB</p>		3.8 V
				80 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"	<p style="text-align: right; font-size: small;">JPMIA0003GB</p>		1.4 V

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
34 (R)	Ground	Horn relay control	Output	The horn is deactivated		Battery voltage
				The horn is activated		0 V
36 (O)	Ground	Parking lamp (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
37 (V)	Ground	Parking lamp (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
38 (G)	Ground	Tail lamp (RH) & illuminations	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
39 (V)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch HI	Battery voltage
40 (R)	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		0 - 1.5 V
41 (SB)	Ground	Tail lamp (LH) & license plate lamps	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
42 (W)	Ground	Steering lock unit power supply	Output	Ignition switch ACC or ON		0 V
				Ignition switch ON	A few seconds after opening the driver door	Battery voltage
				Ignition switch LOCK	Press the push-button ignition switch	Battery voltage
43 (G)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		Battery voltage
44 (P)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		Battery voltage
45 (Y)	Ground	TCM power supply	Output	Ignition switch OFF		Battery voltage
46 (O)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch LO	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
47 (BR)	Ground	Transmission range switch* ²	Input	Select lever in any position other than P or N (Ignition switch ON)		0 V
				Select lever P or N (Ignition switch ON)		Battery voltage
		Clutch interlockk switch* ³		Release the clutch pedal		0 V
				Depress the clutch pedal		Battery voltage
49 (W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					<ul style="list-style-type: none"> • Lighting switch HI • Lighting switch PASS 	
				Daytime running light activated* ¹		7.0 V
50 (GR)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					<ul style="list-style-type: none"> • Lighting switch HI • Lighting switch PASS 	
				Daytime running light activated* ¹		7.0 V
51 (R)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	
52 (P)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
		Daytime running light relay-2* ¹			Lighting switch 2ND	
54 (GR)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (For a few seconds after turning ig- nition switch OFF) 		Battery voltage
55 (P)	Ground	Fuel pump power sup- ply	Output	Approximately 1 second or more than after turning the ignition switch ON		0 V
				<ul style="list-style-type: none"> • Approximately 1 second after turn- ing the ignition switch ON • Engine running 		Battery voltage
56 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 V
					A/C switch ON (A/C compressor is oper- ating)	
57 (G)	Ground	Throttle control motor relay control	Output	Ignition switch ON → OFF		0 - 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON		0 - 1.0 V
58 (R) ² (Y) ³	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
59 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
60 (V)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
61 (W)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
62 (L)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
64*2 (R)	Ground	CVT shift selector (Detention switch)	Input	Ignition switch ON	Select lever P 0 V
				Select lever in any position other than P	Battery voltage
65 (Y)	Ground	Steering lock unit condition-1	Input	Steering lock is activated	0 V
				Steering lock is deactivated	Battery voltage
66 (L)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch	0 V
				Release the push-button ignition switch	Battery voltage
68 (W)	Ground	Steering lock unit condition-2	Input	Steering lock is activated	Battery voltage
				Steering lock is deactivated	0 V
69 (O)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC	Battery voltage
				Ignition switch ON	0 V

*1: With daytime running light system

*2: CVT models

*3: M/T models

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

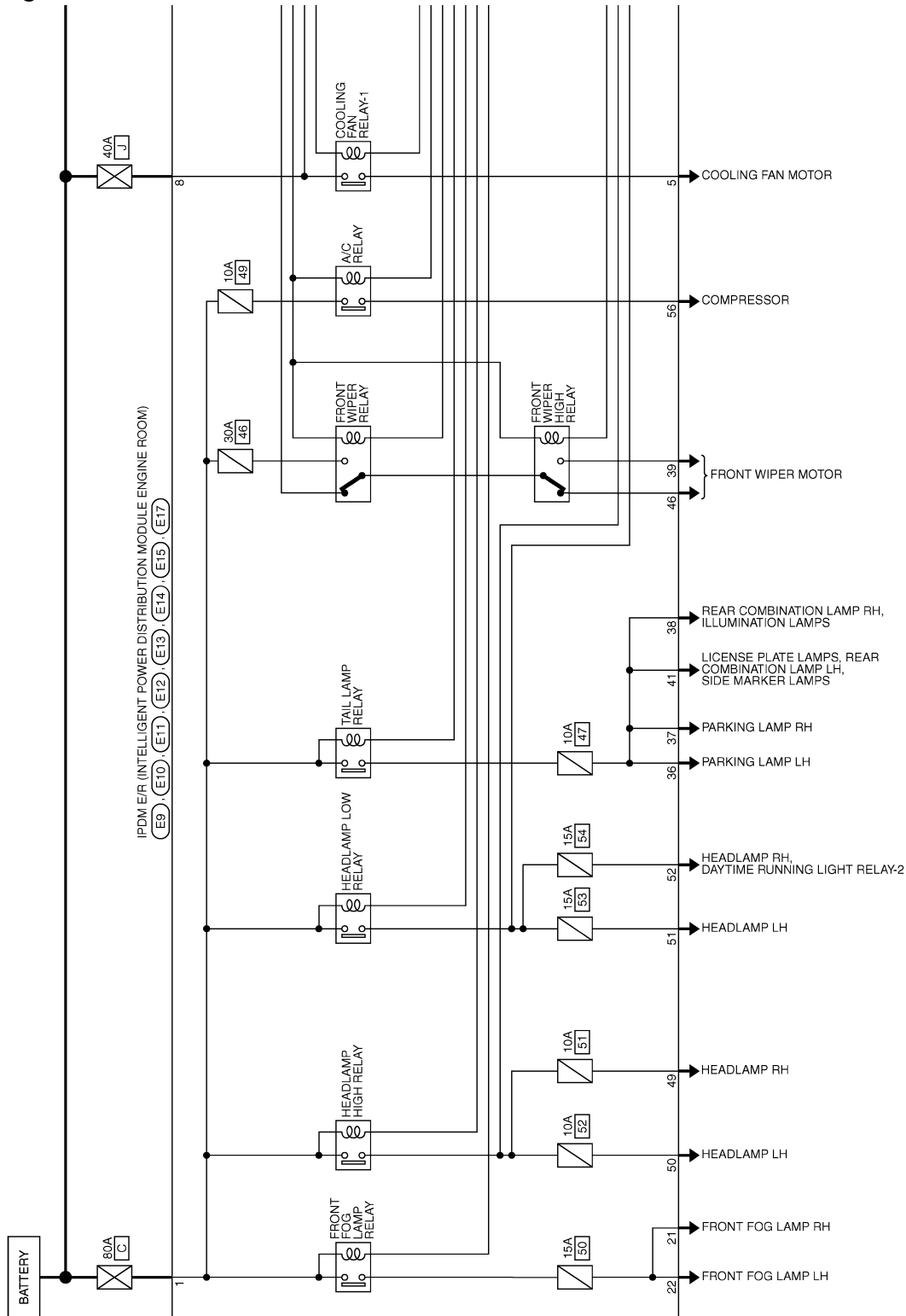
< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

Wiring Diagram — IPDM E/R —

INFOID:000000005000794

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



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JCMWM4080GB

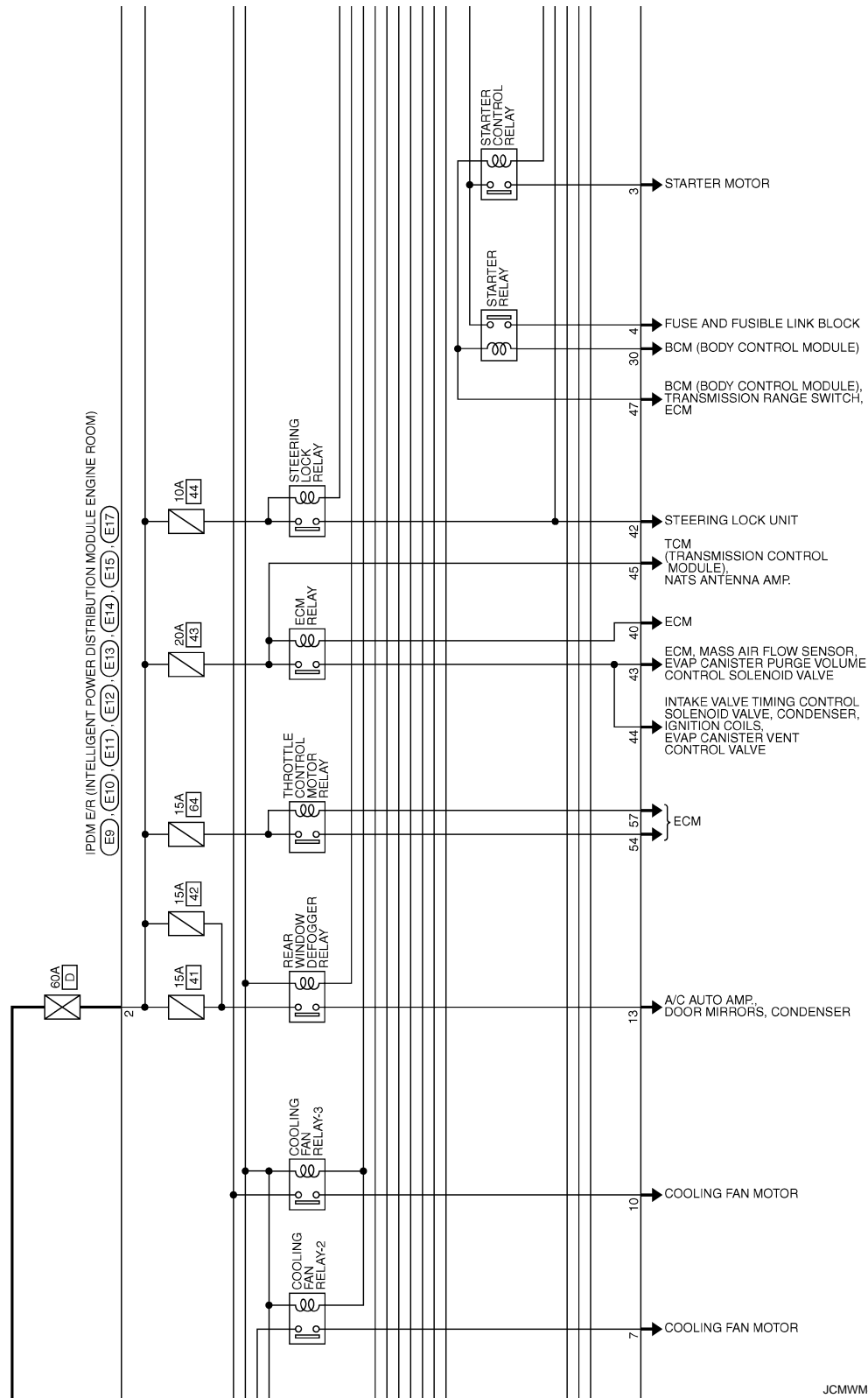
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

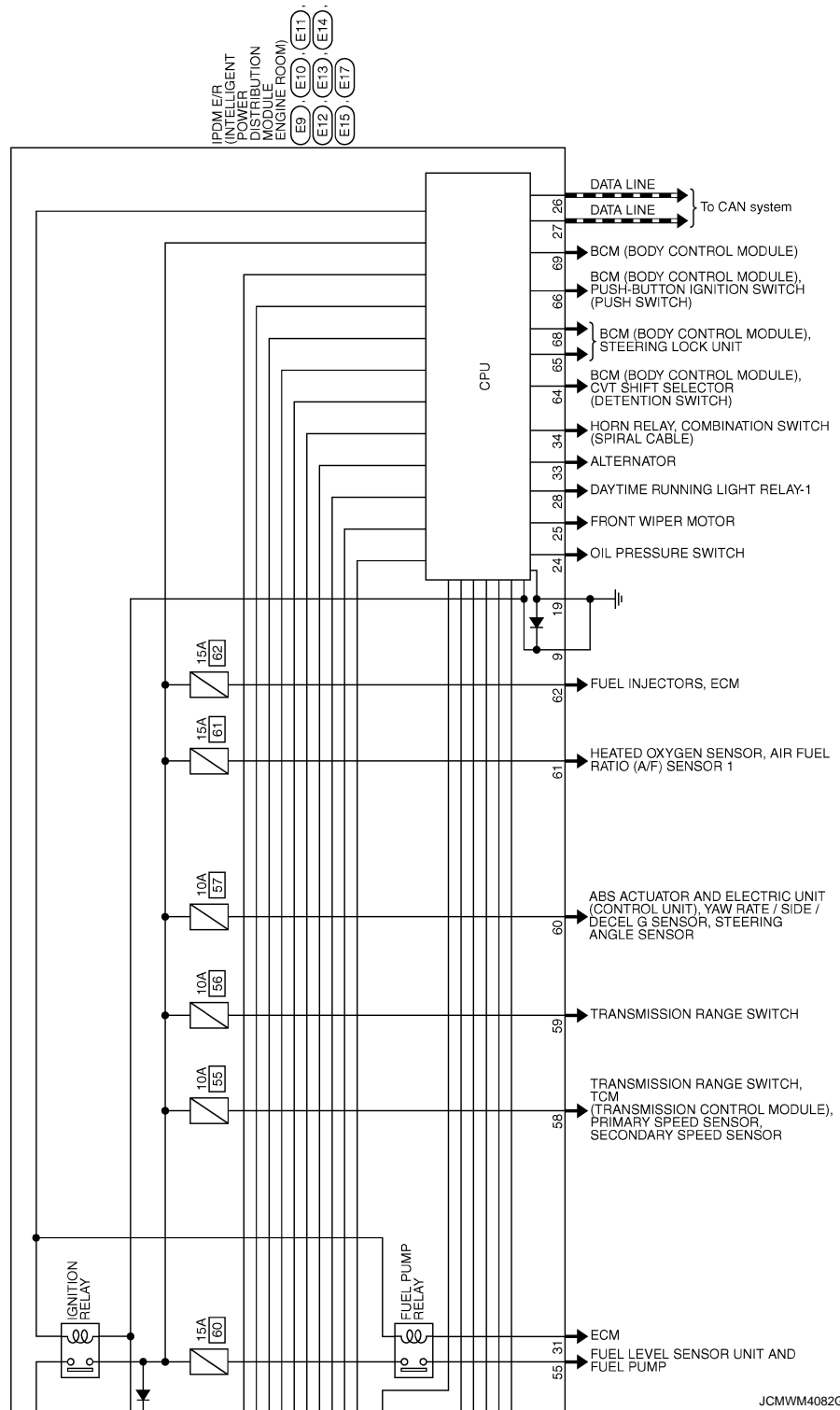
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[IPDM E/R (WITH I-KEY)]



JCMWM4081GB

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
< ECU DIAGNOSIS INFORMATION > **[IPDM E/R (WITH I-KEY)]**



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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

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

Connector No.	E9
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	LS2FB-MC



1	2
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Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	G	-

Connector No.	E10
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	MS2FBV-LC



5	4	3
8	7	6

Terminal No.	Color of Wire	Signal Name [Specification]
3	BR	-
4	P	-
5	LG	-
7	Y	-
8	V	-

Connector No.	E11
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	MS2FBV-LC



10	9
13	

Terminal No.	Color of Wire	Signal Name [Specification]
9	B/W	-
10	L	-
13	W	-

Connector No.	E12
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS308FBR-GS



22	21	19	18
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Terminal No.	Color of Wire	Signal Name [Specification]
19	B/W	-
21	W	-
22	V	-

Connector No.	E13
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH12FV-NH



28	27	26	25	24
34	33	31	30	

Terminal No.	Color of Wire	Signal Name [Specification]
24	G	-
25	Y	-
26	P	-
27	L	-
28	P	-
30	SB	-
31	W	-
33	O	-
34	R	-

Connector No.	E14
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS12FBR-GS



39	38	37	36
46	45	44	43
42	41	40	

Terminal No.	Color of Wire	Signal Name [Specification]
36	O	-
37	V	-
38	G	-
39	V	-
40	R	-
41	SB	-
42	W	-
43	G	-
44	P	-
45	Y	-
46	O	-

Connector No.	E15
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS18FW-GS



52	51	50	49	47
62	61	60	59	58
57	56	55	54	

Terminal No.	Color of Wire	Signal Name [Specification]
47	BR	-
49	W	-
50	GR	-
51	R	-
52	P	-
54	GR	-
55	P	-
56	SB	-
57	G	-
58	R	-
59	Y	-

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

Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH10FB-NH

Terminal No.	Color of Wire	Signal Name [Specification]
64	R	-
65	Y	-
66	L	-
68	W	-
68	O	-



PCS

JCMWM4084GB

INFOID:000000005000795

Fail-Safe

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

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

Control part	Fail-safe operation
Cooling fan	<ul style="list-style-type: none"> The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation) The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Alternator	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 Daytime running light relay OFF*
<ul style="list-style-type: none"> Parking lamps Side marker lamps License plate lamps Illuminations 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
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	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF
Steering lock unit	Steering lock relay OFF

*: With daytime running light system

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

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

Voltage judgment		IPDM E/R judgment	Operation
Ignition relay contact side	Ignition relay excitation coil side		
ON	ON	Ignition relay ON normal	—
OFF	OFF	Ignition relay OFF normal	—
ON	OFF	Ignition relay ON stuck	<ul style="list-style-type: none"> Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"

FRONT WIPER CONTROL

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

When a front wiper stop position 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.

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITH I-KEY)]

Ignition switch	Front wiper switch	Front wiper stop position signal
ON	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.
	ON	The front wiper stop position 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:000000005000796

NOTE:

- The details of time display are as follows.
 - CRNT: A malfunction is detected now.
 - PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
 - The number is 0 when is detected now.
 - The number increases like 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
 - The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—
U1000: CAN COMM CIRCUIT	×	PCS-16
B2098: IGN RELAY ON	×	PCS-17
B2099: IGN RELAY OFF	—	PCS-18
B2108: STRG LCK RELAY ON	—	SEC-96
B2109: STRG LCK RELAY OFF	—	SEC-97
B210A: STRG LCK STATE SW	—	SEC-98
B210B: START CONT RLY ON	—	SEC-101
B210C: START CONT RLY OFF	—	SEC-102
B210D: STARTER RELAY ON	—	SEC-103
B210E: STARTER RELAY OFF	—	SEC-104
B210F: INTRLCK/PNP SW ON	—	SEC-106
B2110: INTRLCK/PNP SW OFF	—	SEC-108

×: Applicable

PCS

PRECAUTION

PRECAUTIONS

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

INFOID:000000005172905

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

- 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

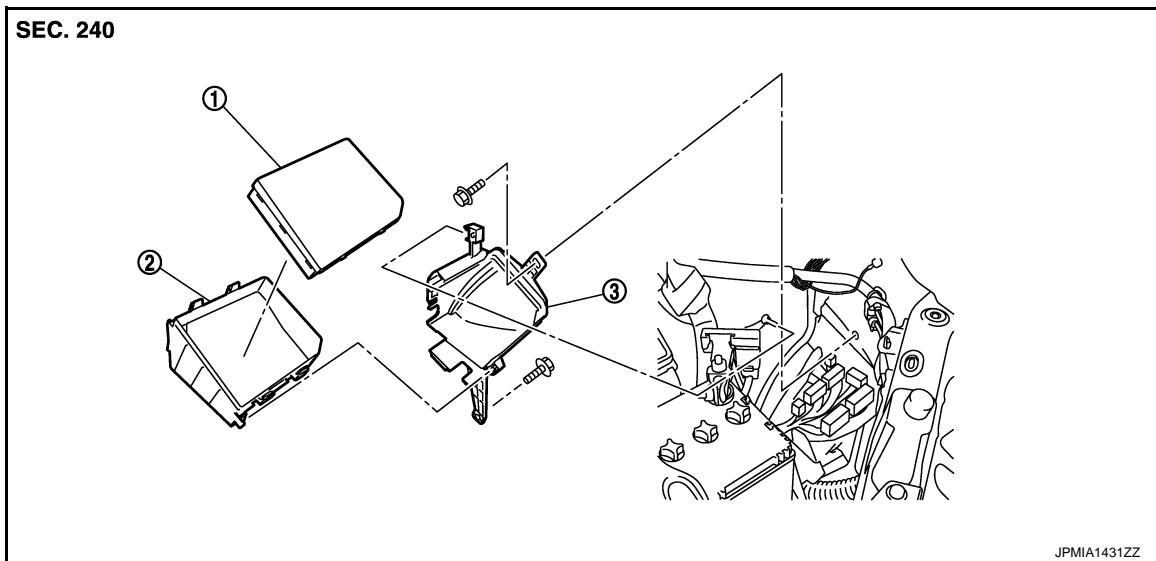
- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

REMOVAL AND INSTALLATION

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

Exploded View

INFOID:000000005000799



1. IPDM E/R cover A

2. IPDM E/R

3. IPDM E/R cover B

Removal and Installation

INFOID:000000005000800

CAUTION:

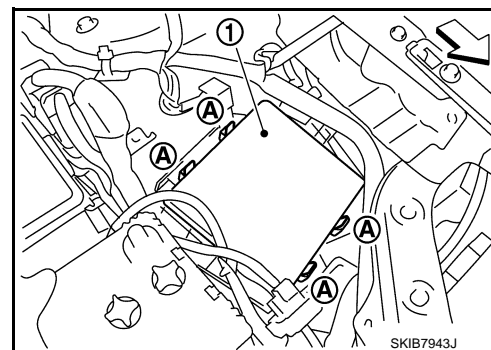
IPDM E/R integrated relays are not serviceable parts, and must not be removed from the unit.

REMOVAL

1. Disconnect the battery cable from the negative terminal.
2. Remove the IPDM E/R (1) while pressing the pawls (A).

← : Vehicle front

3. Disconnect the harness connector and then remove the IPDM E/R.



INSTALLATION

Install in the reverse order of removal.

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RELAY CONTROL SYSTEM

< SYSTEM DESCRIPTION >

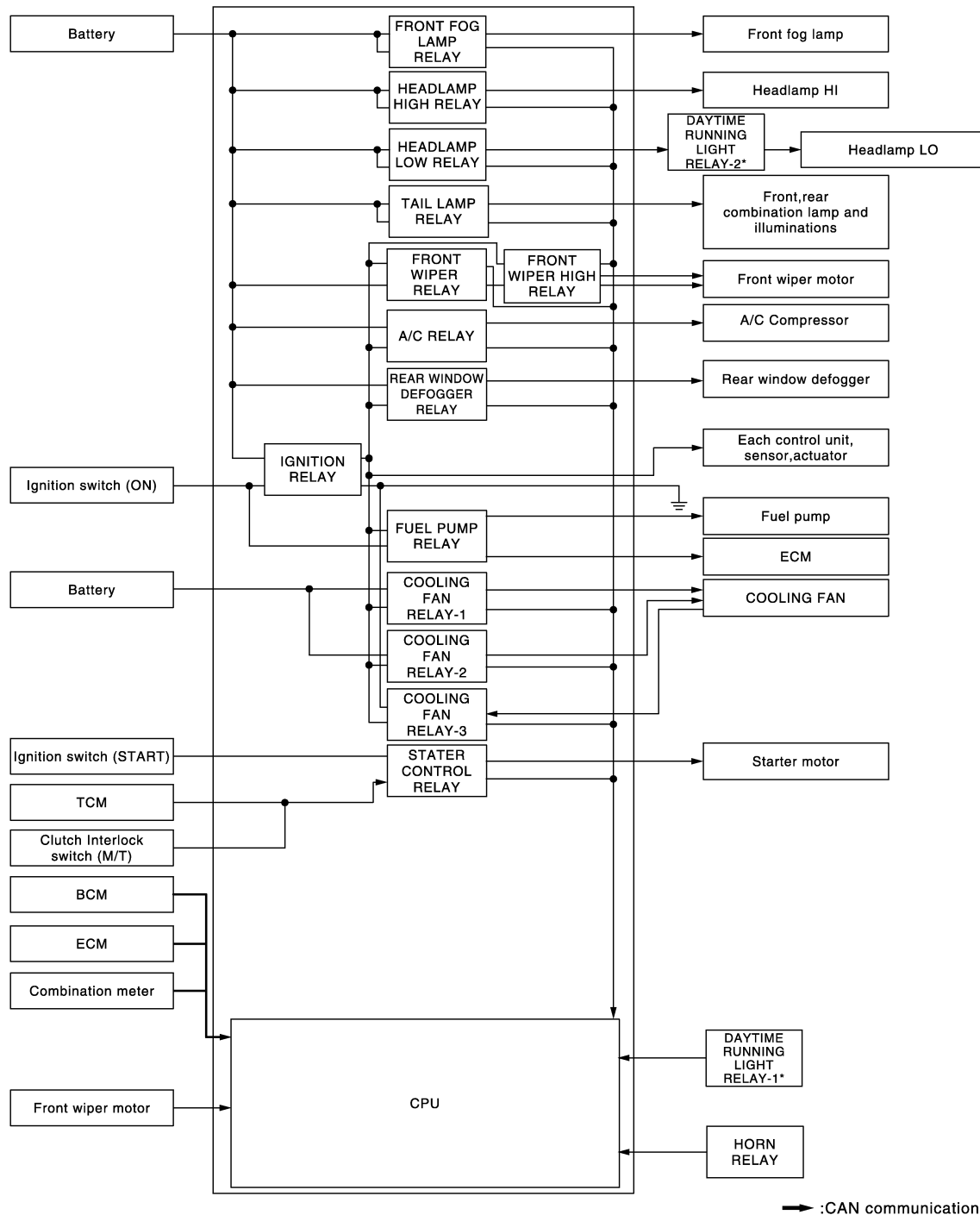
[IPDM E/R (WITHOUT I-KEY)]

SYSTEM DESCRIPTION

RELAY CONTROL SYSTEM

System Diagram

INFOID:00000000500801



JPMIA1483GB

*: With daytime running light system

System Description

INFOID:00000000500802

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

CAUTION:

IPDM E/R integrated relays cannot be removed.

RELAY CONTROL SYSTEM

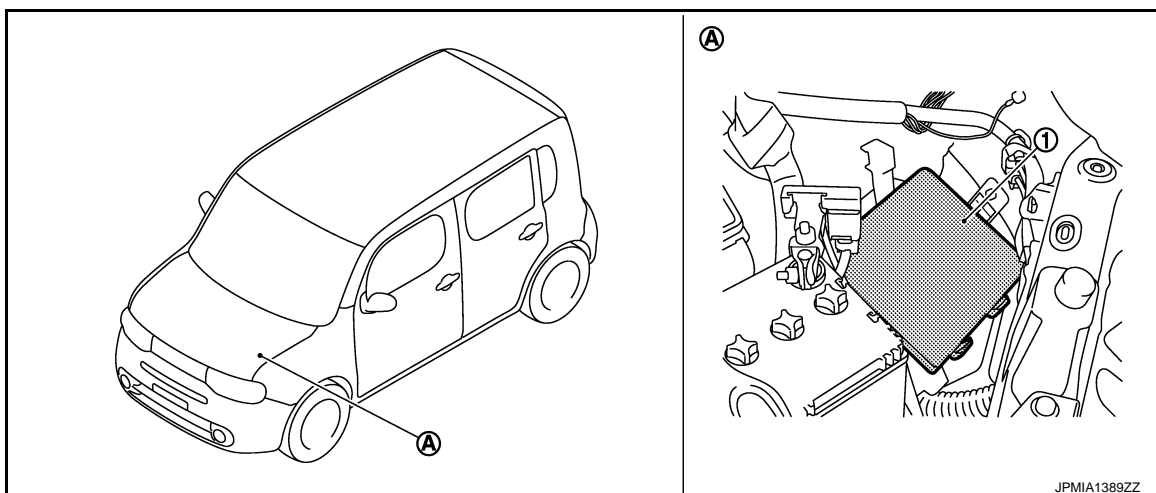
< SYSTEM DESCRIPTION >

[IPDM E/R (WITHOUT I-KEY)]

Control relay	Input/output	Transmit unit	Control part	Reference page
<ul style="list-style-type: none"> Headlamp low relay Headlamp high relay 	<ul style="list-style-type: none"> Low beam request signal High beam request signal 	BCM (CAN)	<ul style="list-style-type: none"> Headlamp low Headlamp high 	EXL-7
Front fog lamp relay	Front fog light request signal	BCM (CAN)	Front fog lamp	EXL-14
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-18
			Illuminations	INL-10
<ul style="list-style-type: none"> Front wiper relay Front wiper high relay 	Front wiper request signal	BCM (CAN)	Front wiper	WW-6
	Front wiper stop position signal	Front wiper motor		
Rear window defogger relay	Rear window defogger switch signal	BCM (CAN)	Rear window defogger	DEF-5
Horn relay	<ul style="list-style-type: none"> Theft warning horn request signal Horn reminder signal 	BCM (CAN)	Horn	SEC-203
Starter control relay	Ignition and starter request signal	BCM (CAN)	Starter motor	—
<ul style="list-style-type: none"> Cooling fan relay-1 Cooling fan relay-2 Cooling fan relay-3 	Cooling fan speed request signal	ECM (CAN)	Cooling fan	EC-60
A/C relay	A/C compressor request signal	ECM (CAN)	A/C compressor (Magnet clutch)	HAC-62
Ignition relay	Ignition switch ON signal	Ignition switch	Each control unit, sensor, actuator and relay (Ignition power supply)	PCS-47
<ul style="list-style-type: none"> Daytime running light relay-1 Daytime running light relay-2 NOTE: With daytime running light system	Daytime running light request signal	BCM (CAN)	Headlamp high (High beam at approximately half illumination)	EXL-9

Component Parts Location

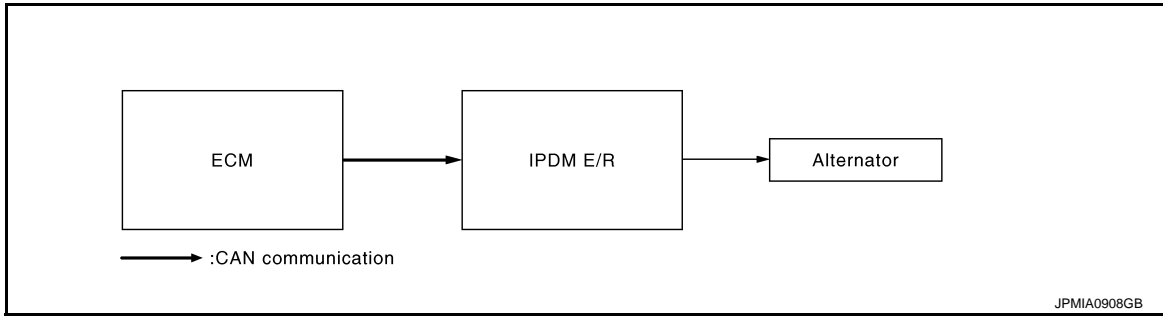
INFOID:000000005000803



- IPDM E/R
- A. Engine room (LH)

POWER CONTROL SYSTEM

System Diagram



System Description

INFOID:000000005172827

ALTERNATOR CONTROL

IPDM E/R outputs power generation command signal (PWM signal) to the alternator according to the status of the power generation command value signal received from ECM via CAN communication. Refer to [CHG-7, "System Diagram"](#).

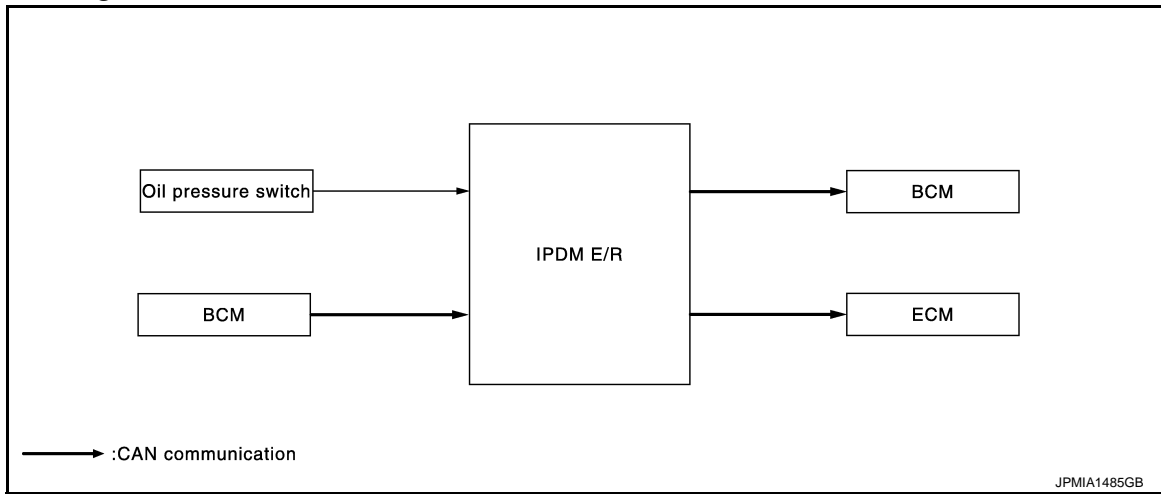
SIGNAL BUFFER SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R (WITHOUT I-KEY)]

SIGNAL BUFFER SYSTEM

System Diagram



System Description

INFOID:000000005172829

- IPDM E/R reads the status of the oil pressure switch and transmits the oil pressure switch signal to BCM via CAN communication. Refer to [MWI-18, "WARNING LAMPS/INDICATOR LAMPS : System Diagram"](#).
- IPDM E/R receives the rear window defogger switch signal from BCM via CAN communication and transmits it to ECM via CAN communication. Refer to [DEF-5, "System Diagram"](#).

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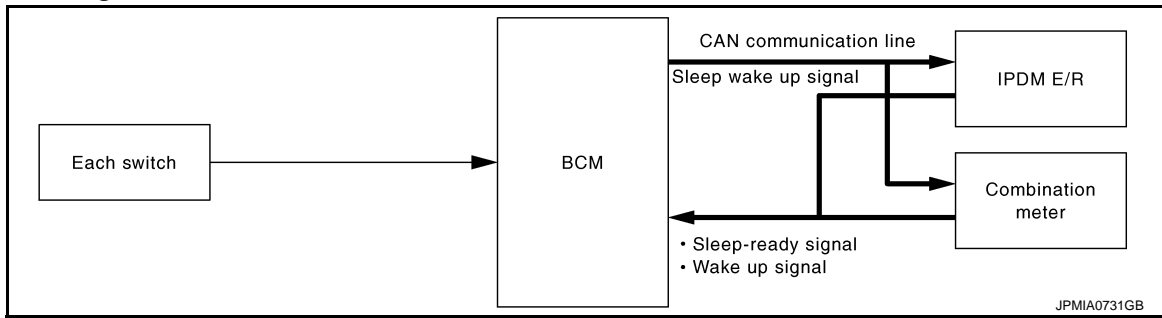
POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R (WITHOUT I-KEY)]

POWER CONSUMPTION CONTROL SYSTEM

System Diagram



INFOID:000000005172831

System Description

INFOID:000000005172830

OUTLINE

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

Normal mode (wake-up)

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

Low power consumption mode (sleep)

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

SLEEP MODE ACTIVATION

- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
 - Outputting signals to actuators
 - Switches or relays operating
 - 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.

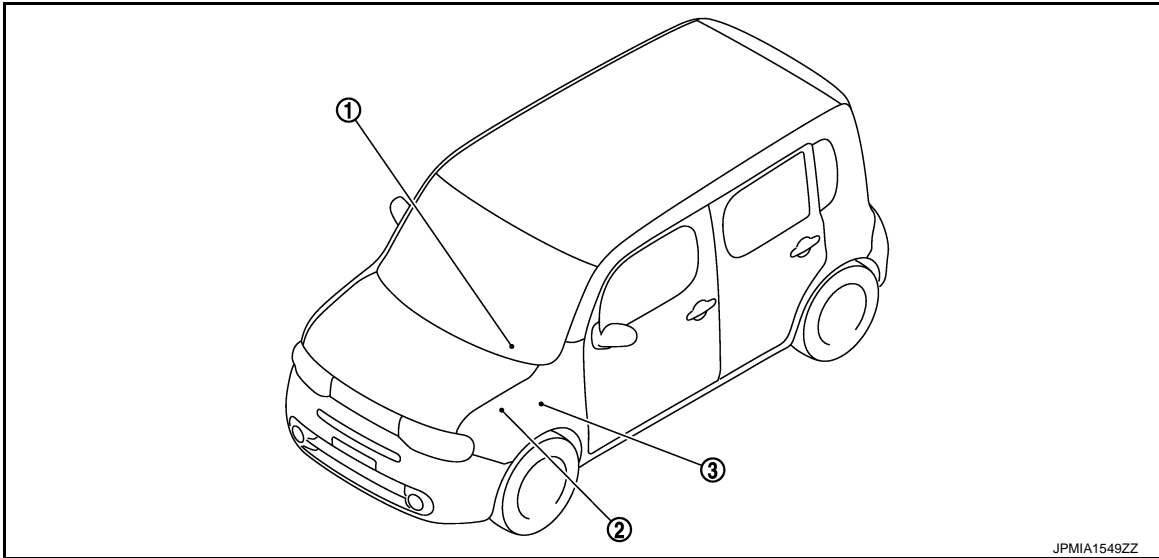
POWER CONSUMPTION CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R (WITHOUT I-KEY)]

Component Parts Location

INFOID:000000005172832



1. Combination meter

2. IPDM E/R
Refer to [PCS-37, "Component Parts Location"](#).

3. BCM
Refer to [BCS-88, "Component Parts Location"](#).

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DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:000000005172833

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.

- Oil pressure warning lamp
- Rear window defogger
- Front wiper (LO, HI)
- Parking lamps
- Side marker lamp
- License plate lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

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

NOTE:

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

CAUTION:

- **If auto active test mode cannot be actuated, check door switch system. Refer to [DLK-55, "Component Function Check"](#).**
- **Do not start the engine.**

Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 6 steps are repeated 3 times.

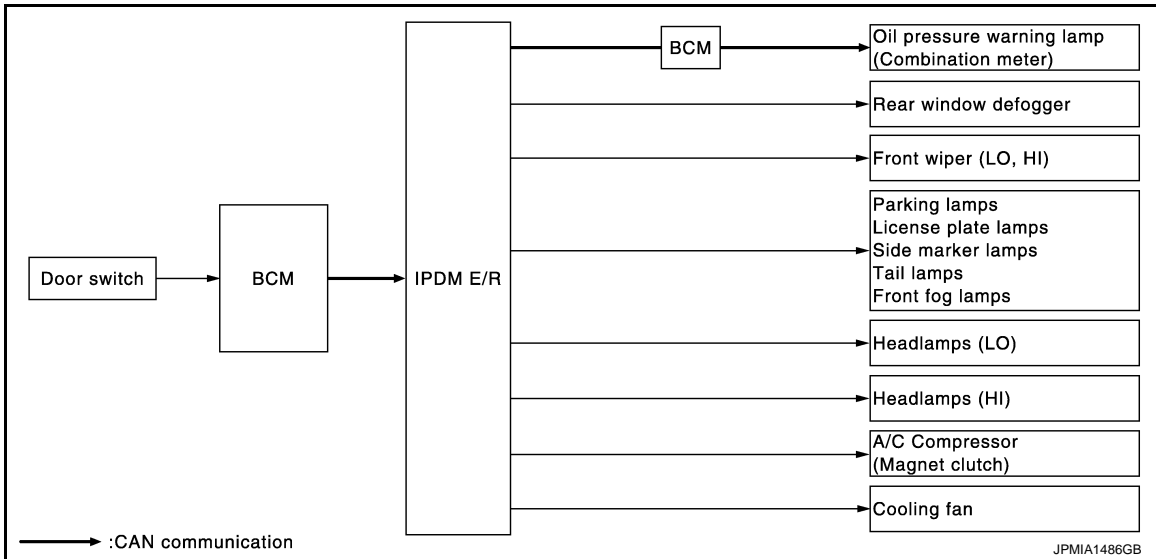
Operation sequence	Inspection location	Operation
A	Oil pressure warning lamp	Blinks continuously during operation of auto active test
1	Rear window defogger	10 seconds
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	<ul style="list-style-type: none"> • Parking lamps • Side marker lamps • License plate lamps • Tail lamps • Front fog lamps 	10 seconds
4	Headlamps	LO for 10 seconds → HI ON ↔ OFF 5 times
5	A/C compressor (magnet clutch)	ON ↔ OFF 5 times
6	Cooling fan	LO for 5 seconds → HI for 5 seconds

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R (WITHOUT I-KEY)]

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
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> • Rear window defogger • Rear window defogger ground circuit • Harness or connector between IPDM E/R and rear window defogger • IPDM E/R
Any of the following components do not operate <ul style="list-style-type: none"> • Parking lamps • Side marker lamps • License plate lamps • Tail lamps • Front fog lamps • Headlamps (HI, LO) • Front wiper (HI, LO) 	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> • Lamp or motor • Lamp or motor ground circuit • Harness or connector between IPDM E/R and applicable system • IPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> • A/C amp. signal input circuit • CAN communication signal between A/C amp. and ECM • CAN communication signal between ECM and IPDM E/R
		NO <ul style="list-style-type: none"> • Magnet clutch • Harness or connector between IPDM E/R and magnet clutch • IPDM E/R

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R (WITHOUT I-KEY)]

Symptom	Inspection contents	Possible cause
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES <ul style="list-style-type: none"> • Harness or connector between IPDM E/R and oil pressure switch • Oil pressure switch • IPDM E/R
		NO <ul style="list-style-type: none"> • CAN communication signal between IPDM E/R and BCM • CAN communication signal between BCM and combination meter • Combination meter
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES <ul style="list-style-type: none"> • ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO <ul style="list-style-type: none"> • Cooling fan motor • Harness or connector between IPDM E/R and cooling fan motor • IPDM E/R

CONSULT-III Function (IPDM E/R)

INFOID:000000005000812

APPLICATION ITEM

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

Diagnosis mode	Description
Ecu Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to [PCS-63, "DTC Index"](#).

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIGNALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R (WITHOUT I-KEY)]

Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position (CVT models) judged by IPDM E/R.
ST RLY-REQ [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. NOTE: This item is monitored only the vehicle with daytime running light system.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.

ACTIVE TEST

Test item

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
FRONT WIPER	Off	OFF
	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
MOTOR FAN	1	OFF
	2	Operates the cooling fan relay (LO operation).
	3	Operates the cooling fan relay (HI operation).
	4	
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITHOUT I-KEY)]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:000000005172862

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 unit, 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-H line, CAN-L 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-23, "CAN Communication Signal Chart"](#).

DTC Logic

INFOID:000000005172863

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible cause
U1000	CAN COMM CIRCUIT	When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more	CAN communication system

Diagnosis Procedure

INFOID:000000005172864

1. PERFORM SELF DIAGNOSTIC

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

Is DTC "U1000" displayed?

- YES >> Refer to [LAN-14, "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-34, "Intermittent Incident"](#).

B2098 IGNITION RELAY ON STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITHOUT I-KEY)]

B2098 IGNITION RELAY ON STUCK

Description

INFOID:000000005000816

The ignition relay integrated in IPDM E/R is operated with ignition switch ON signal from the ignition switch.

DTC Logic

INFOID:000000005000817

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible causes
B2098	IGN RELAY ON	The ignition relay ON is detected for 1 second at ignition switch OFF (CPU monitors the status at the contact circuits of the ignition relay inside and ignition switch status from BCM via CAN communication)	<ul style="list-style-type: none"> IPDM E/R BCM Harness or connector (Ignition relay circuit)

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSIS

- Turn the ignition switch ON.
- Erase "Self Diagnostic Result" of IPDM E/R.
- Turn the ignition switch OFF, and wait for 1 second or more.
- Turn the ignition switch ON. Check "Self Diagnostic Result" again.

Is DTC "B2098" displayed?

- YES >> Refer to [PCS-47, "Diagnosis Procedure"](#).
- NO >> Refer to [GI-34, "Intermittent Incident"](#).

Diagnosis Procedure

INFOID:000000005000818

1.CHECK IGNITION RELAY OUTPUT SIGNAL

- Turn the ignition switch OFF.
- Disconnect BCM harness connectors.
- Turn the ignition switch ON.
- Check voltage between BCM harness connectors and the ground.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
BCM		Ignition switch	Battery voltage
Connector	Terminal		
M65	38	ON	Battery voltage
		OFF	0 V

Is the measurement value normal?

- YES >> Replace BCM. Refer to [BCS-148, "Exploded View"](#).
- NO >> GO TO 2.

2.CHECK IGNITION RELAY OUTPUT SIGNAL OPEN CIRCUIT

- Turn the ignition switch OFF.
- Disconnect IPDM E/R harness connectors.
- Check continuity between IPDM E/R harness connectors and BCM harness connectors.

IPDM E/R		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E15	62	M65	38	Exist

Does continuity exist?

B2098 IGNITION RELAY ON STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITHOUT I-KEY)]

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

3.CHECK IGNITION RELAY OUTPUT SIGNAL SHORT CIRCUIT

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E15	62		Exist

Does continuity exist?

- YES >> Repair the harness or connector.
NO >> Replace IPDM E/R.

B2099 IGNITION RELAY OFF STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITHOUT I-KEY)]

B2099 IGNITION RELAY OFF STUCK

Description

INFOID:000000005014624

The ignition relay integrated in IPDM E/R is operated with ignition switch ON signal from the ignition switch.

DTC Logic

INFOID:000000005000820

DTC DETECTION LOGIC

DTC	CONSULT-III display description	DTC Detection Condition	Possible causes
B2099	IGN RELAY OFF	The ignition relay OFF is detected for 1 second at ignition switch ON (CPU monitors the status at the contact circuits of the ignition relay inside and ignition switch status from BCM via CAN communication)	Ignition relay malfunction

Diagnosis Procedure

INFOID:000000005000821

1. PERFORM SELF DIAGNOSIS

1. Turn the ignition switch ON.
2. Erase "Self Diagnostic Result".
3. Turn the ignition switch OFF.
4. Turn the ignition switch ON. Check "Self Diagnostic Result" again.

Is DTC "B2099" displayed?

- YES >> Replace IPDM E/R.
NO >> Refer to [GI-34, "Intermittent Incident"](#).

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITHOUT I-KEY)]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000005000822

1. CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Battery power supply	C
	D
	J

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		Voltage (Approx.)
(+)	(-)	
IPDM E/R		Battery voltage
Connector	Terminal	
E9	1	
	2	
E10	8	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3. CHECK IGNITION POWER SUPPLY CIRCUIT

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

Terminals		Voltage (Approx.)
(+)	(-)	
IPDM E/R		Battery voltage
Connector	Terminal	
E12	18	

Is the measurement value normal?

YES >> GO TO 4.

NO >> Repair the harness or connector.

4. CHECK GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Check continuity between IPDM E/R harness connectors and the ground.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R (WITHOUT I-KEY)]

IPDM E/R		Ground	Continuity
Connector	Terminal		
E11	9		Existed
E12	19		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]

ECU DIAGNOSIS INFORMATION

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

Reference Value

INFOID:000000005014643

VALUES ON THE DIAGNOSIS TOOL

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
AC COMP REQ	Engine running	A/C switch OFF	Off
		A/C switch ON (Compressor is operating)	On
TAIL&CLR REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		On
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
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	Off
		Front fog lamp switch ON	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
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
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N (CVT models)	Off
		Selector lever in P or N position (CVT models)	On
ST RLY -REQ	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
DTRL REQ NOTE: This item is monitored only on the vehicle with the daytime running light system.	Not operation		Off
	Daytime running light system is operated.		On
OIL P SW	Ignition switch OFF, ACC or engine running		Open
	Ignition switch ON		Close

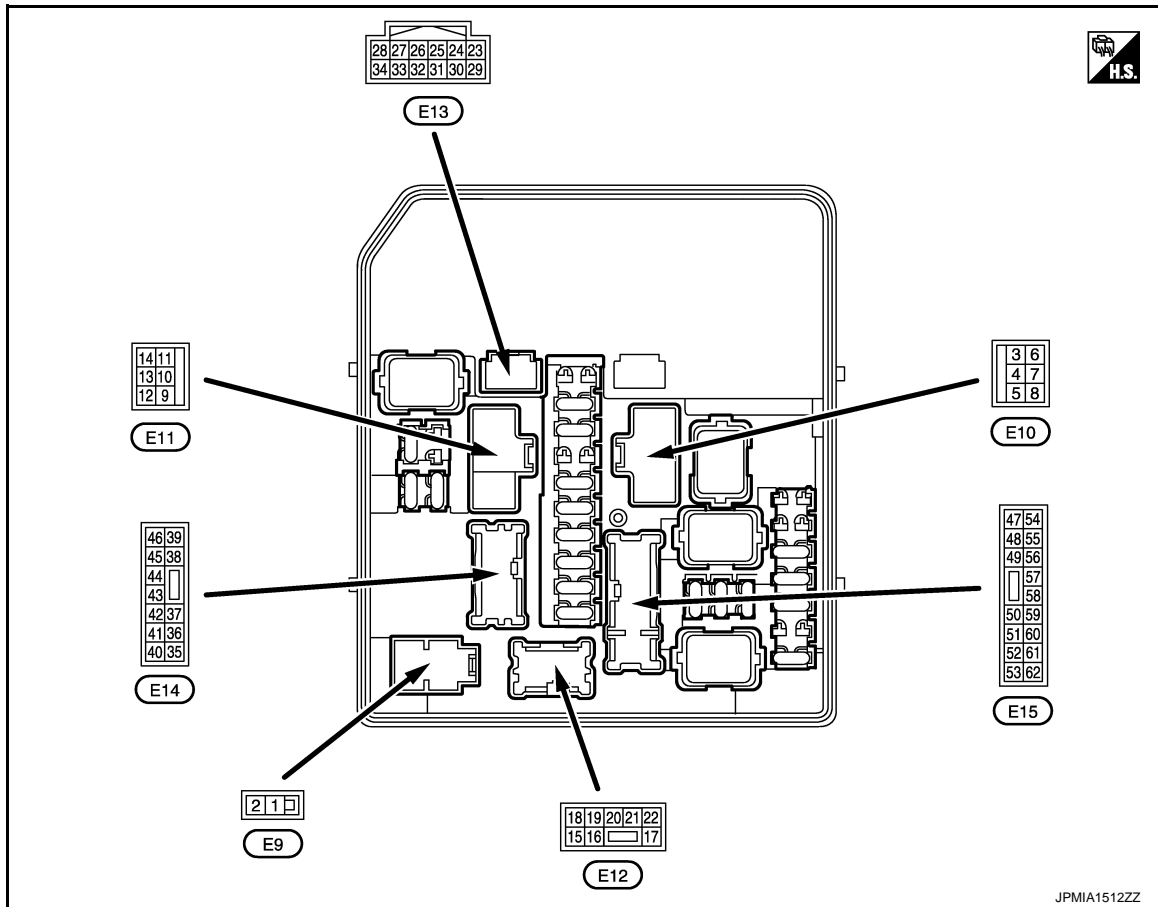
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]

Monitor Item	Condition	Value/Status
HOOD SW	NOTE: The item is indicated, but not monitored.	Off
THFT HRN REQ	Not operation	Off
	<ul style="list-style-type: none"> Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 	On
HORN CHIRP	Not operating	Off
	Door locking with key fob (horn chirp mode)	On

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
3 (BR)	Ground	Starter motor	Output	Ignition switch ON	0 V
				At engine cranking	Battery voltage
5 (LG)	Ground	Cooling fan relay-1 power supply	Output	Cooling fan OFF	0 V
				Cooling fan operated	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

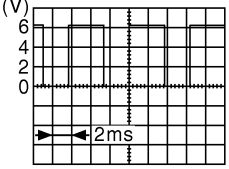
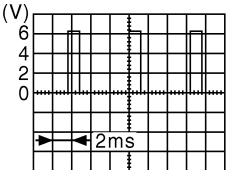
[IPDM E/R (WITHOUT I-KEY)]

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
6 (SB)	Ground	Ignition switch START	Output	Any position other ignition switch START		0 V
				Ignition switch START		Battery voltage
7 (Y)	Ground	Cooling fan relay-2 power supply	Output	Cooling fan OFF		0 V
				Cooling fan LO operated		9.0 V
				Cooling fan HI operated		Battery voltage
8 (V)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
9 (B/W)	Ground	Ground	—	Ignition switch ON		0 V
10 (L)	Ground	Cooling fan motor ground	Output	Cooling fan OFF		0 V
				Cooling fan LO operated		5.0 V
				Cooling fan HI operated		0 V
13 (W)	Ground	Rear window defogger	Output	Ignition switch ON	Rear window defogger switch OFF	0 V
					Rear window defogger switch ON	Battery voltage
18 (Y)	Ground	Ignition switch	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
19 (B/W)	Ground	Ground	—	Ignition switch ON		0 V
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V
					Front fog lamp switch ON	Battery voltage
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V
					Front fog lamp switch ON	Battery voltage
24 (G)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
					Engine running	Battery voltage
25 (Y)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position	0 V
					Any position other than front wiper stop position	Battery voltage
26 (P)	Ground	CAN-L	Input/ Output	—		—
27 (L)	Ground	CAN-H	Input/ Output	—		—
28*1 (P)	Ground	Daytime running light relay-1 control	Output	Daytime running light deactivated		0 V
				Daytime running light activated		Battery voltage
31 (W)	Ground	Fuel pump relay control	Output	<ul style="list-style-type: none"> • Approximately 1 second after turning the ignition switch ON • Engine running 		0 - 1.5 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 (WITHOUT I-KEY)]

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
33 (O)	Ground	Power generation command signal	Output	Ignition switch ON	Battery voltage
				40 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"	 <p style="text-align: right; font-size: small;">JPMIA0002GB</p>
				80 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"	 <p style="text-align: right; font-size: small;">JPMIA0003GB</p>
34 (R)	Ground	Horn relay control	Output	The horn is deactivated	Battery voltage
				The horn is activated	0 V
36 (O)	Ground	Parking lamp (LH)	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
37 (V)	Ground	Parking lamp (RH)	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
38 (G)	Ground	Tail lamp (RH) & illuminations	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
39 (V)	Ground	Front wiper HI	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
40 (R)	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	Battery voltage
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF) 	0 - 1.5 V
41 (SB)	Ground	Tail lamp (LH) & license plate lamps	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
43 (G)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF) 	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
44 (P)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V	
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF) 	Battery voltage	
45 (Y)	Ground	TCM power supply	Output	Ignition switch OFF	Battery voltage	
46 (O)	Ground	Front wiper LO	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Front wiper switch OFF Front wiper switch LO	Battery voltage
47 (BR)	Ground	Transmission range switch*2	Input	Select lever in any position other than P or N (Ignition switch ON)	0 V	
				Select lever P or N (Ignition switch ON)	Battery voltage	
		Clutch interlock switch*3	Input	Release the clutch pedal	0 V	
				Depress the clutch pedal	Battery voltage	
49 (W)	Ground	Headlamp HI (RH)	Output	Ignition switch OFF	0 V	
				Ignition switch ON	<ul style="list-style-type: none"> • Lighting switch HI • Lighting switch PASS 	Battery voltage
				Daytime running light activated*1	7.0 V	
50 (GR)	Ground	Headlamp HI (LH)	Output	Ignition switch OFF	0 V	
				Ignition switch ON	<ul style="list-style-type: none"> • Lighting switch HI • Lighting switch PASS 	Battery voltage
				Daytime running light activated*1	7.0 V	
51 (R)	Ground	Headlamp LO (LH)	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Lighting switch 2ND	Battery voltage
52 (P)	Ground	Headlamp LO (RH)	Output	Ignition switch OFF	0 V	
		Daytime running light relay-2*1		Ignition switch ON	Lighting switch 2ND	Battery voltage
54 (GR)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V	
				<ul style="list-style-type: none"> • Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF) 	Battery voltage	
55 (P)	Ground	Fuel pump power supply	Output	Approximately 1 second or more than 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	
56 (SB)	Ground	A/C relay power supply	Output	Engine not running	0 V	
				Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
57 (G)	Ground	Throttle control motor relay control	Output	Ignition switch ON → OFF	0 - 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON	0 - 1.0 V
58 (R) ^{*2} (Y) ^{*3}	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
59 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
60 (V)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
61 (W)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
62 (L)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage

*1: With daytime running light system

*2: CVT models

*3: M/T models

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

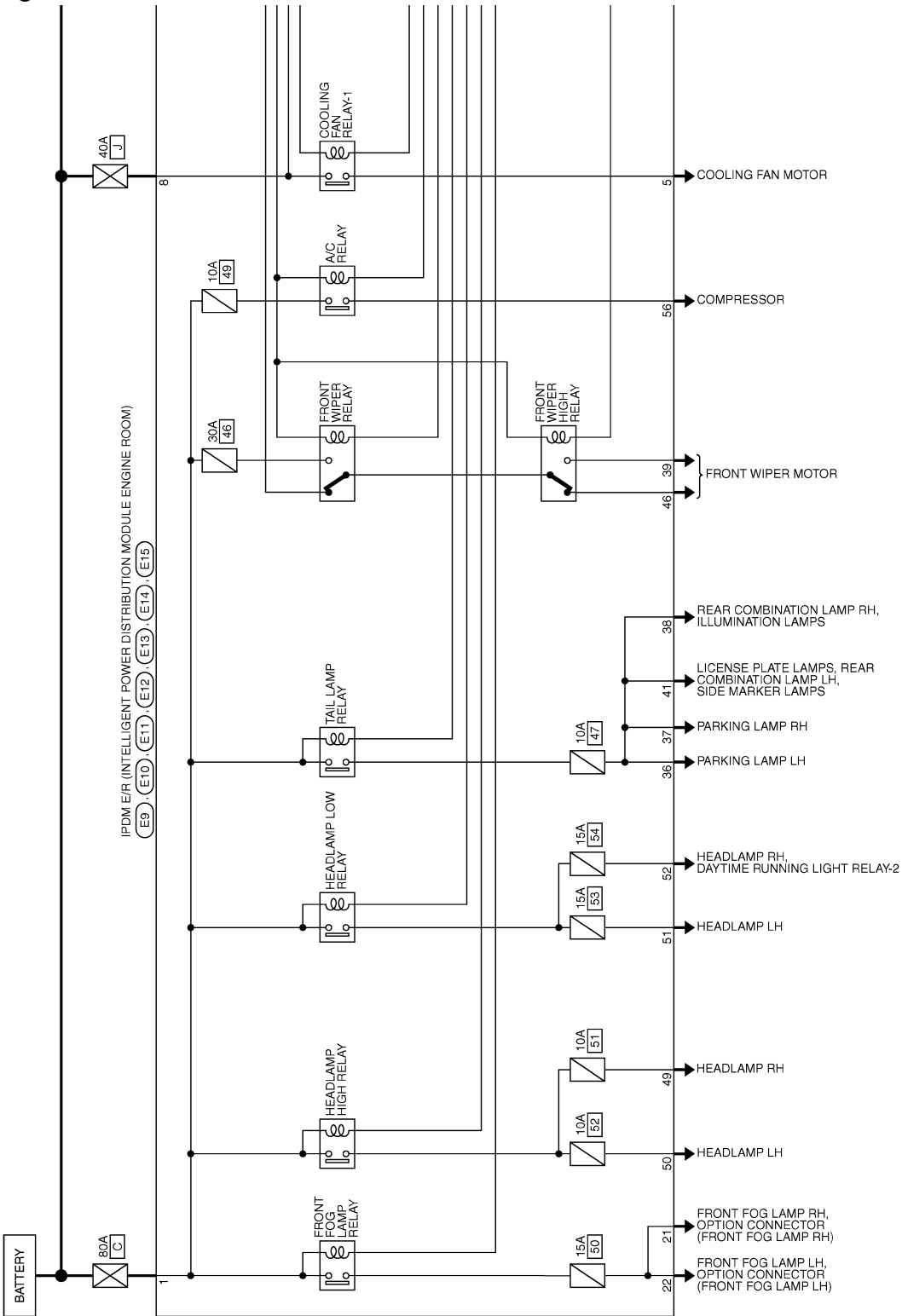
< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]

Wiring Diagram — IPDM E/R —

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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (WITHOUT INTELLIGENT KEY)



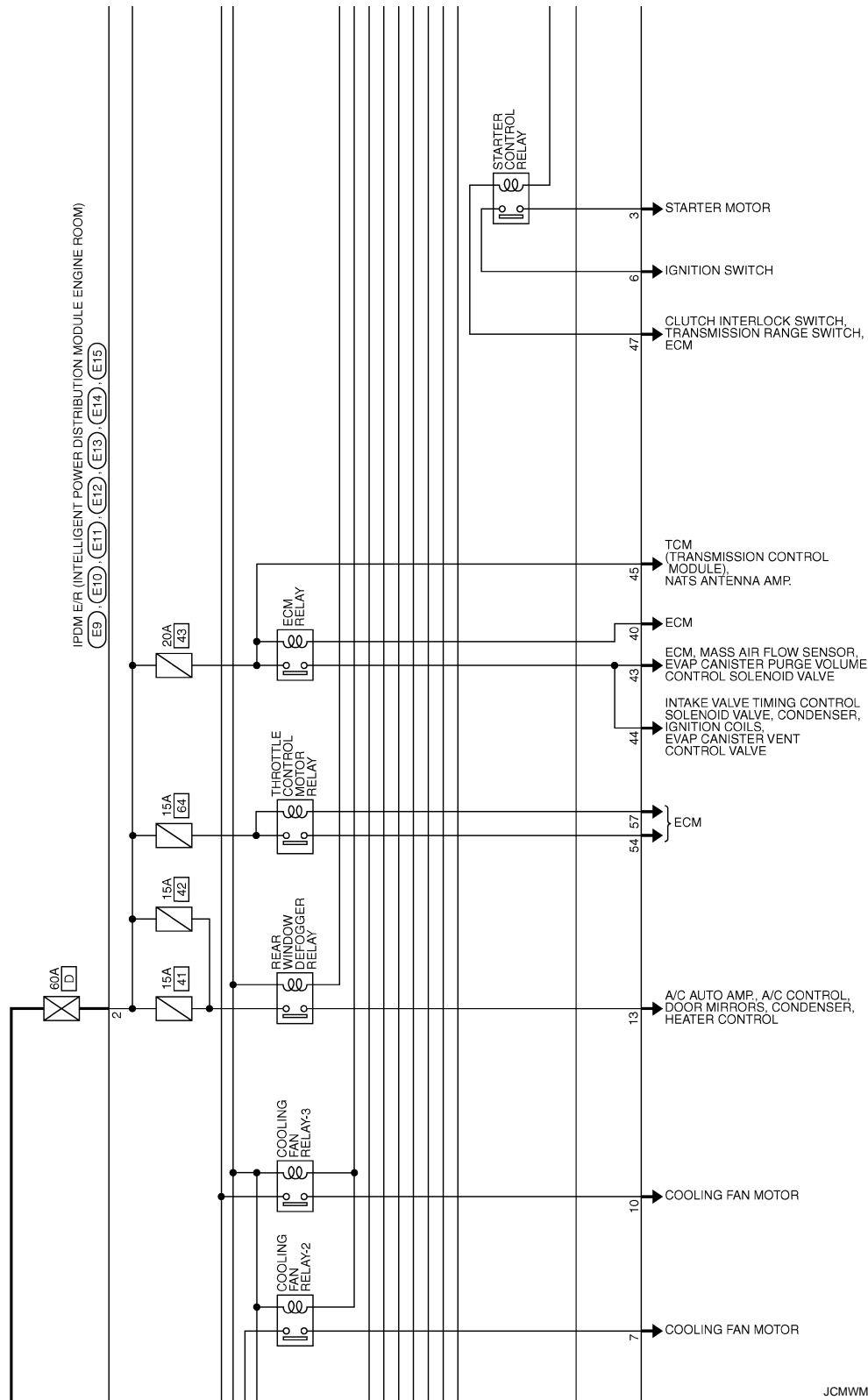
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JCMWM4085GB

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]



JCMWM4086GB

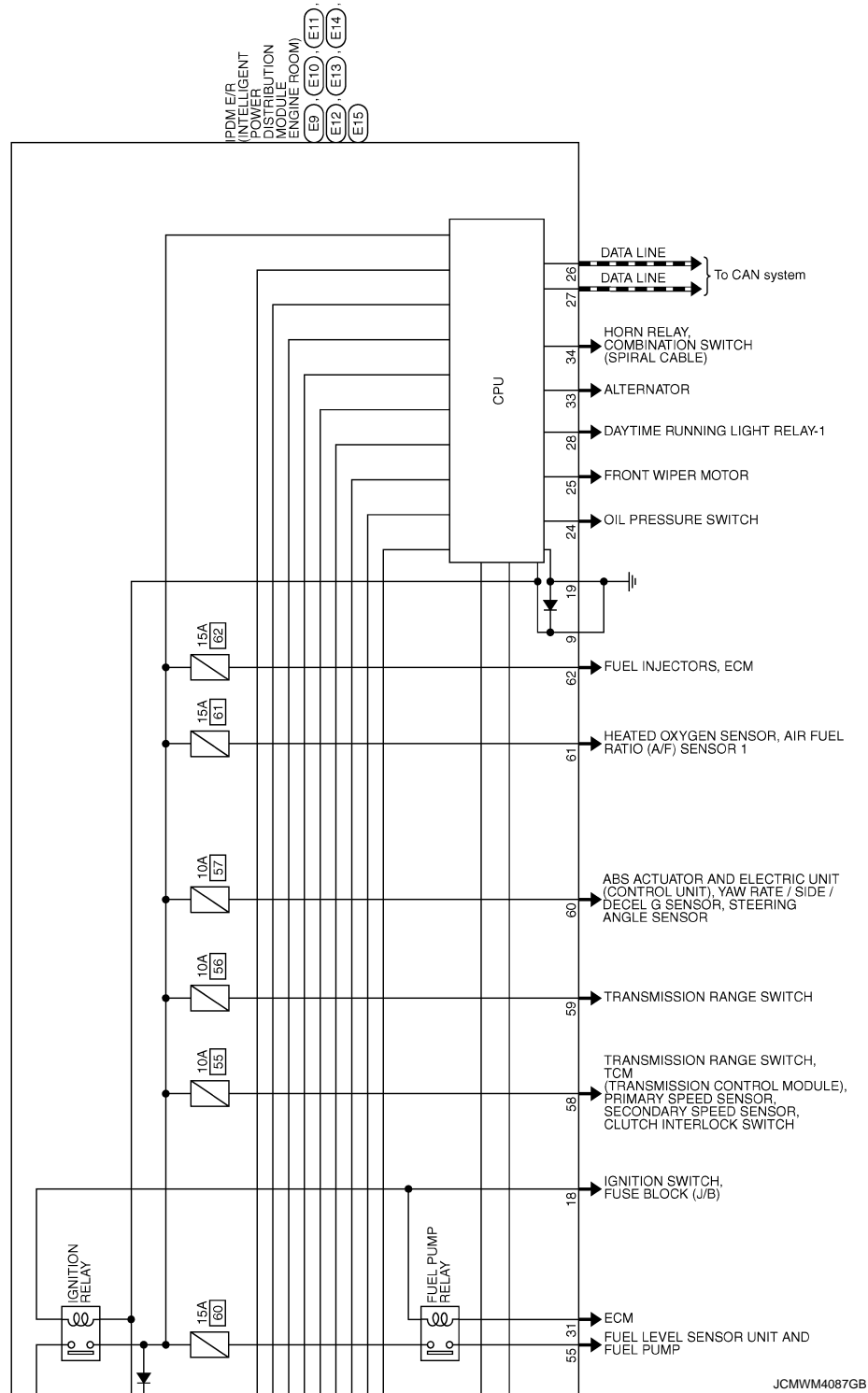
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]



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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (WITHOUT INTELLIGENT KEY)

Connector No.	E12
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS33FBR-CS



22	21	19	18
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Terminal No.	Color of Wire	Signal Name [Specification]
18	Y	-
19	B/W	-
21	W	-
22	V	-

Connector No.	E11
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	MS18FV-LC



10	9
13	

Terminal No.	Color of Wire	Signal Name [Specification]
9	B/W	-
10	L	-
13	W	-

Connector No.	E10
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	MS18FV-LC



5	4	3
8	7	6

Terminal No.	Color of Wire	Signal Name [Specification]
3	BR	-
5	LG	-
6	SB	-
7	Y	-
8	V	-

Connector No.	E9
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	LC2FV-MC



1	2
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Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	G	-

Connector No.	E15
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS18FV-CS



52	51	50	49	47
62	61	60	59	58
57	56	55	54	

Terminal No.	Color of Wire	Signal Name [Specification]
59	Y	-
60	V	-
61	W	-
62	L	-

Connector No.	E14
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS12FBR-CS



39	38	37	36
46	45	44	43
42	41	40	

Connector No.	E13
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH12FV-NH



28	27	26	25	24
34	33	31	30	

Terminal No.	Color of Wire	Signal Name [Specification]
24	G	-
25	Y	-
26	P	-
27	L	-
28	P	-
31	W	-
33	O	-
34	R	-

Terminal No.	Color of Wire	Signal Name [Specification]
47	BR	-
49	W	-
50	GR	-
51	R	-
52	P	-
54	GR	-
55	P	-
56	SB	-
57	G	-
58	Y	-
59	R	- [With M.C.T] - [With C.V.T]

Terminal No.	Color of Wire	Signal Name [Specification]
36	O	-
37	V	-
38	G	-
39	V	-
40	R	-
41	SB	-
43	G	-
44	P	-
45	Y	-
46	O	-

Fail-Safe

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

JCMWM4088GB

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]

Control part	Fail-safe operation
Cooling fan	<ul style="list-style-type: none"> The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation) The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Alternator	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 Daytime running light relay OFF*
<ul style="list-style-type: none"> Parking lamps Side marker lamps License plate lamps Illuminations 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
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
Rear window defogger relay	Rear window defogger relay OFF
Horn	Horn OFF

*: With daytime running light system

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

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

Voltage judgment		IPDM E/R judgment	Operation
Ignition relay contact side	Ignition switch status from BCM		
ON	ON	Ignition relay ON normal	—
OFF	OFF	Ignition relay OFF normal	—
ON	OFF	Ignition relay ON stuck	<ul style="list-style-type: none"> Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"

FRONT WIPER CONTROL

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

When a front wiper stop position 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.

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

< ECU DIAGNOSIS INFORMATION >

[IPDM E/R (WITHOUT I-KEY)]

Ignition switch	Front wiper switch	Front wiper stop position signal
ON	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.
	ON	The front wiper stop position 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.

DTC Index

INFOID:000000005014642

NOTE:

- The details of time display are as follows.
 - CRNT: A malfunction is detected now.
 - PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
 - The number is 0 when is detected now.
 - The number increases like 1 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
 - The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—
U1000: CAN COMM CIRCUIT	×	PCS-16
B2098: IGN RELAY ON	×	PCS-17
B2099: IGN RELAY OFF	—	PCS-49

×: Applicable

PCS

PRECAUTION

PRECAUTIONS

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

INFOID:000000005172906

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

- 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

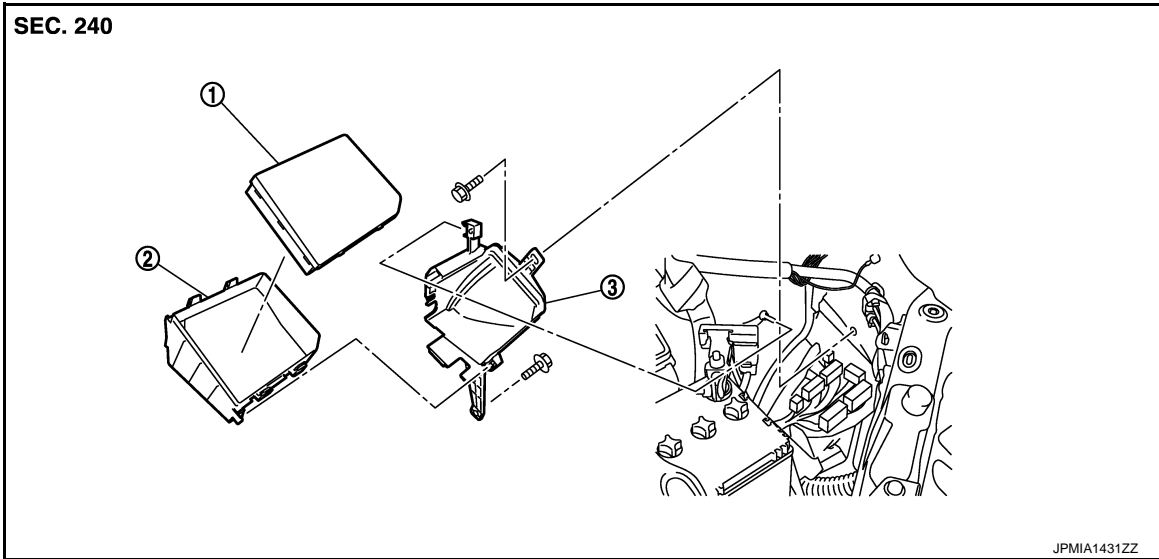
- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

REMOVAL AND INSTALLATION

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

Exploded View

INFOID:000000005172865



1. IPDM E/R cover A

2. IPDM E/R

3. IPDM E/R cover B

Removal and Installation

INFOID:000000005172866

CAUTION:

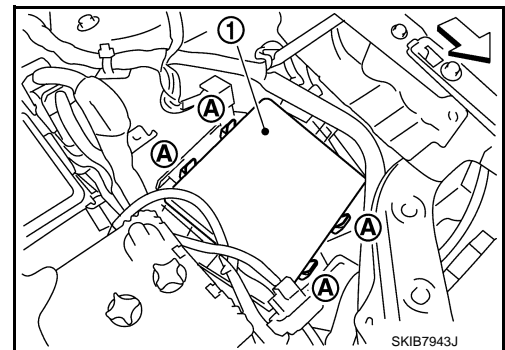
IPDM E/R integrated relays are not serviceable parts, and must not be removed from the unit.

REMOVAL

1. Disconnect the battery cable from the negative terminal.
2. Remove the IPDM E/R (1) while pressing the pawls (A).

← : Vehicle front

3. Disconnect the harness connector and then remove the IPDM E/R.



INSTALLATION

Install in the reverse order of removal.

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

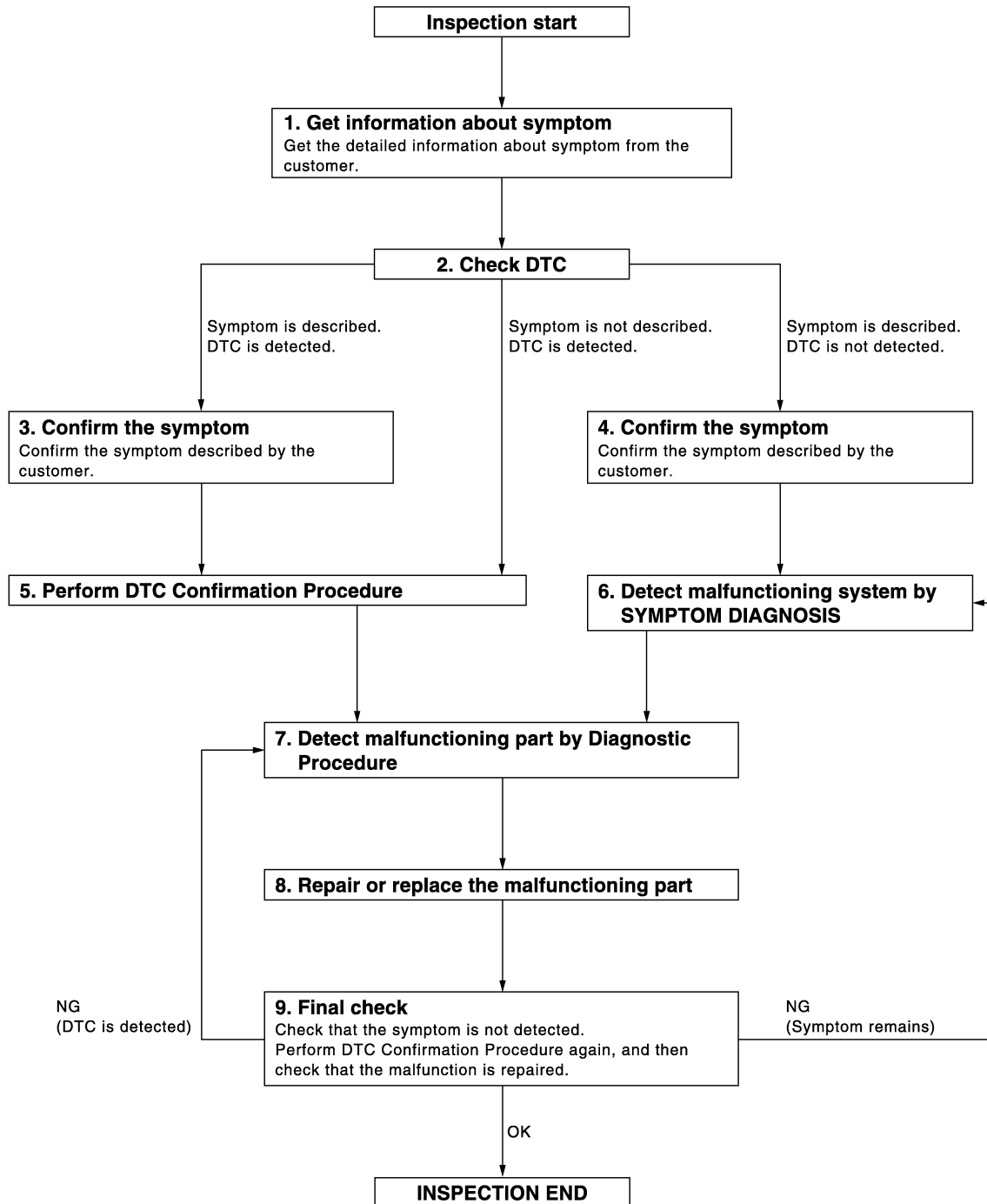
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000005050045

OVERALL SEQUENCE



DETAILED FLOW

JMKIA3449GB

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

1.GET INFORMATION ABOUT SYMPTOM

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).

>> GO TO 2.

2.CHECK DTC

1. Check DTC for BCM and IPDM E/R.
2. Perform the following procedure if DTC is displayed.
 - Record DTC and freeze frame data (Print them out with CONSULT-III.)
 - 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 displayed>>GO TO 3.
- Symptom is described, DTC is not displayed>>GO TO 4.
- Symptom is not described, DTC is displayed>>GO TO 5.

3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in the "DATA MONITOR" mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.
Connect CONSULT-III to the vehicle in the "DATA MONITOR" mode and check real time diagnosis results.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.
At this time, always connect CONSULT-III to the vehicle, and check diagnostic results in real time.
If two or more DTCs are detected, refer to [PCS-137, "DTC Inspection Priority Chart"](#) (BCM), and determine trouble diagnosis order.

NOTE:

Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This simplified check procedure is an effective alternative, although DTC cannot be detected during this check.
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

- YES >> GO TO 7.
- NO >> Refer to [GI-34, "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.

>> GO TO 7.

7.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

NOTE:

The Diagnostic Procedure described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

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PCS

DIAGNOSIS AND REPAIR WORK FLOW

[POWER DISTRIBUTION SYSTEM]

< BASIC INSPECTION >

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check voltage of related BCM terminals using CONSULT-III.

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction is repaired securely.

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

Does the symptom reappear?

YES (DTC is detected)>>GO TO 7.

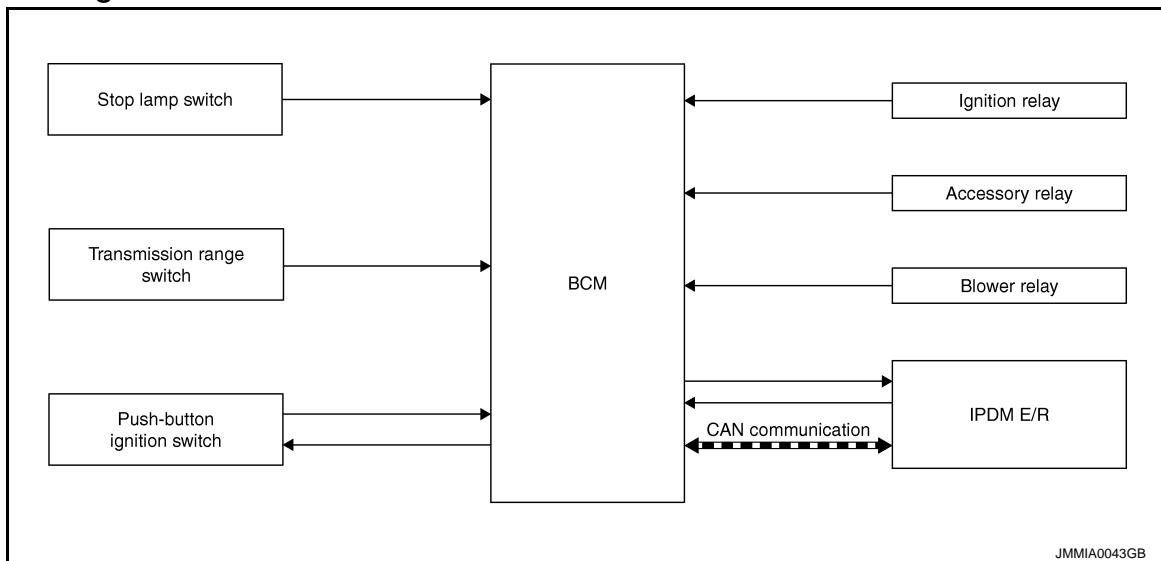
YES (Symptom remains)>>GO TO 6.

NO >> INSPECTION END

SYSTEM DESCRIPTION

POWER DISTRIBUTION SYSTEM

System Diagram



System Description

INFOID:000000005050046

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. Refer to Engine Start Function for details.
 - Intelligent Key is in the detection area of the interior antenna
 - Insert Intelligent Key in to the key slot
- The push-button ignition switch operation is input to BCM as a signal. BCM changes the power supply position according to the status and operates the following relays to supply power to each power circuit.
 - Ignition relay (inside IPDM E/R)
 - Ignition relay
 - ACC relay
 - Blower fan 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 near the push-button ignition switch.

BATTERY SAVER SYSTEM

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

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

Reset Condition of Battery Saver System

In order to prevent the battery from discharging, the battery saver system will cut off the power supply when all doors are closed, the selector lever is on P position and the ignition switch is left on ACC position for 1 hour. If any of the following conditions are met the battery saver system is released and the steering will change automatically to lock position from OFF position.

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

POWER DISTRIBUTION SYSTEM

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

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

STEERING LOCK OPERATION

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

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

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

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

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna and when 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	
LOCK → ACC	—	Not depressed	1
LOCK → ACC → ON	—	Not depressed	2
LOCK → ACC → ON → OFF	—	Not depressed	3
LOCK → START ACC → START ON → START	P or N position	Depressed	1
Engine is running → OFF	—	—	1

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

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

Emergency Stop Operation

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

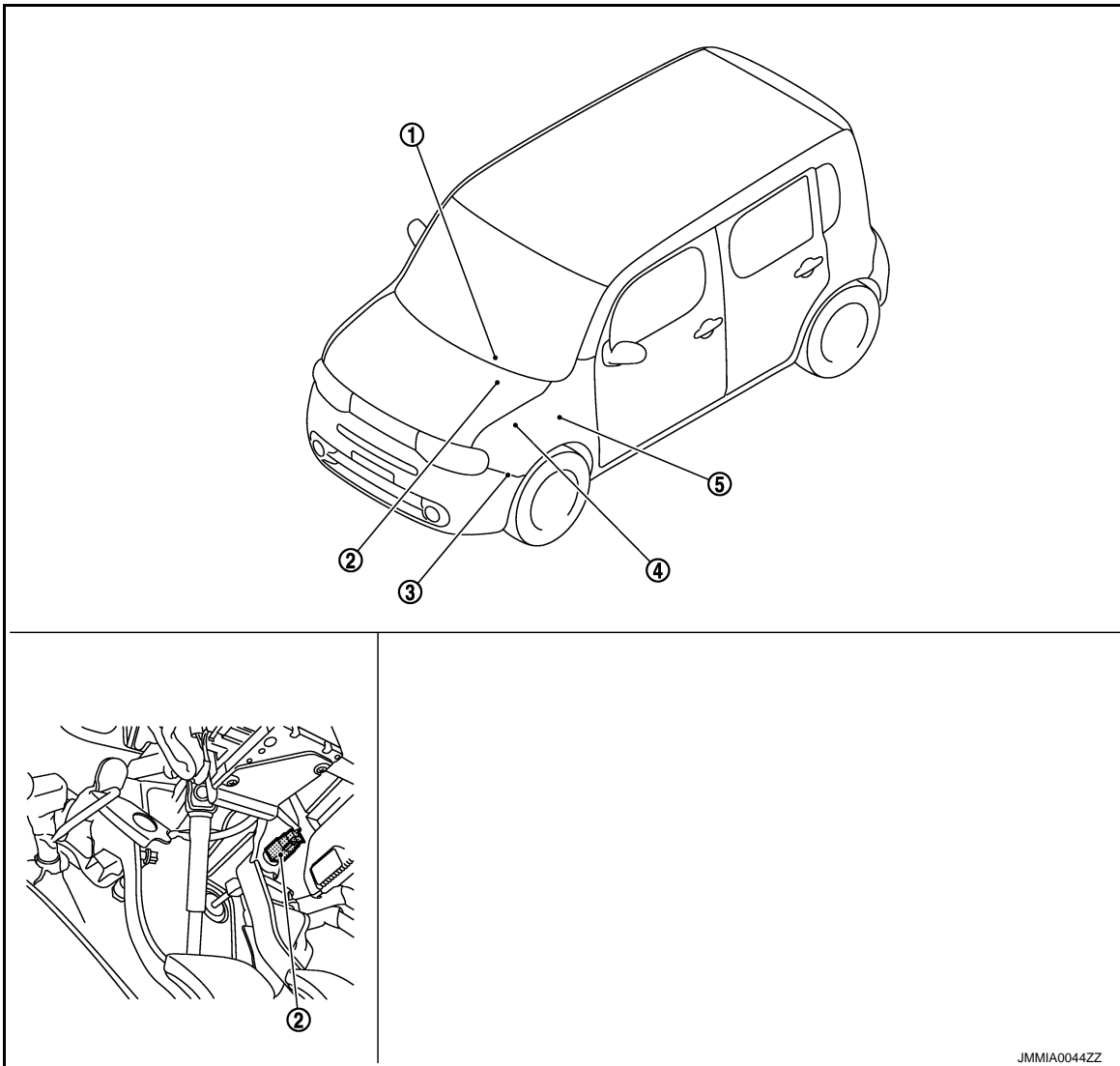
POWER DISTRIBUTION SYSTEM

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

Component Parts Location

INFOID:000000005050047



1. Push-button ignition switch M101
2. Stop lamp switch E115
3. Transmission range switch F21
Refer to [TM-64. "Component Parts Location"](#)
4. IPDM E/R E10, E11, E12, E13, E15, E17
Refer to [PCS-6. "Component Parts Location"](#)
5. BCM M68, M70, M71
Refer to [BCS-9. "Component Parts Location"](#)

Component Description

INFOID:000000005050048

BCM	Reference
IPDM E/R	PCS-7
Ignition relay (Built-in IPDM E/R)	PCS-78
Ignition relay	PCS-78
Accessory relay	PCS-80
Blower relay	PCS-83
Stop lamp switch	SEC-49

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POWER DISTRIBUTION SYSTEM

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

BCM	Reference
Transmission range switch	SEC-65
Push-button ignition switch	PCS-90

DIAGNOSIS SYSTEM (BCM)

[POWER DISTRIBUTION SYSTEM]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT-III Function (BCM - COMMON ITEM)

INFOID:000000005175574

APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	<ul style="list-style-type: none"> Read and save the vehicle specification. Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

x: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	x	x	x
Rear window defogger	REAR DEFOGGER		x	x
Warning chime	BUZZER		x	x
Interior room lamp timer	INT LAMP	x	x	x
Exterior lamp	HEAD LAMP	x	x	x
Wiper and washer	WIPER	x	x	x
Turn signal and hazard warning lamps	FLASHER	x	x	x
Automatic air conditioner	AIR CONDITONER		x	x
<ul style="list-style-type: none"> Intelligent Key system Engine start system 	INTELLIGENT KEY	x	x	x
Combination switch	COMB SW		x	
Body control system	BCM	x		
NVIS - NATS	IMMU	x	x	x
Interior room lamp battery saver	BATTERY SAVER	x	x	x
Back door	TRUNK		x	
Vehicle security system	THEFT ALM	x	x	x
RAP system	RETAINED PWR		x	
Signal buffer system	SIGNAL BUFFER		x	x
TPMS	TPMS (AIR PRESSURE MONITOR)	x	x	x

FREEZE FRAME DATA (FFD)

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

DIAGNOSIS SYSTEM (BCM)

[POWER DISTRIBUTION SYSTEM]

< SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power position status of 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 stopping and selector lever is except 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 with steering is locked.)
	OFF		Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)
	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	<p>The number of times that ignition switch is turned ON after DTC is detected</p> <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 switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. 	

INTELLIGENT KEY

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

INFOID:000000005175575

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

[POWER DISTRIBUTION SYSTEM]

< SYSTEM DESCRIPTION >

Monitor item	Description	A
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode	A
AUTO LOCK SET	Auto door lock time can be changed in this mode <ul style="list-style-type: none"> • MODE 1: OFF • MODE 2: 30 sec • MODE 3: 1 minute • MODE 4: 2 minutes • MODE 5: 3 minutes • MODE 6: 4 minutes • MODE 7: 5 minutes 	B C
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operation in this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation 	D
ENGINE START BY I-KEY	Engine start function mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation 	E
TRUNK/GLASS HATCH OPEN	NOTE: This item is displayed, but cannot be monitored	F
PANIC ALARM SET	Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode <ul style="list-style-type: none"> • MODE 1: 0.5 sec • MODE 2: Non-operation • MODE 3: 1.5 sec 	G
TRUNK OPEN DELAY	NOTE: This item is displayed, but cannot be monitored	H
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation 	I
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation 	J
HAZARD ANSWER BACK	Hazard reminder function mode by door request switch and Intelligent Key button can be selected from the following with this mode <ul style="list-style-type: none"> • Lock Only: Door lock operation only • Unlock Only: Door unlock operation only • Lock/Unlock: Lock/unlock operation • Off: Non-operation 	K
ANS BACK I-KEY LOCK	Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode <ul style="list-style-type: none"> • Horn Chirp: Sound horn • Buzzer: Sound Intelligent Key warning buzzer • Off: Non-operation 	L PCS
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation 	N
SHORT CRANKING OUTPUT	Starter motor can operate during the times below	O
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis	
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation 	P

SELF-DIAG RESULT

Refer to [DLK-138. "DTC Index"](#).

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

Monitor Item	Condition
REQ SW -DR	Indicates [On/Off] condition of door request switch (driver side)
REQ SW -AS	Indicates [On/Off] condition of door request switch (passenger side)
REQ SW -BD/TR	Indicates [On/Off] condition of back door request switch
PUSH SW	Indicates [On/Off] condition of push-button ignition switch
CLUTCH SW*1	Indicates [On/Off] condition of clutch switch
BRAKE SW 1	Indicates [On/Off]*2 condition of brake switch power supply
BRAKE SW 2	Indicates [On/Off] condition of brake switch
DETE/CANCL SW	Indicates [On/Off] condition of P position
SFT PN/N SW	Indicates [On/Off] condition of P or N position
S/L -LOCK	Indicates [On/Off] condition of steering lock unit (LOCK)
S/L -UNLOCK	Indicates [On/Off] condition of steering lock unit (UNLOCK)
S/L RELAY -F/B	Indicates [On/Off] condition of steering lock relay
UNLK SEN -DR	Indicates [On/Off] condition of driver door UNLOCK status
PUSH SW -IPDM	Indicates [On/Off] condition of push-button ignition switch
IGN RLY1 -F/B	Indicates [On/Off] condition of ignition relay 1
DETE SW -IPDM	Indicates [On/Off] condition of P position
SFT PN -IPDM	Indicates [On/Off] condition of P or N position
SFT P -MET	Indicates [On/Off] condition of P position
SFT N -MET	Indicates [On/Off] condition of N position
ENGINE STATE	Indicates [Stop/Stall/Crank/Run] condition of engine states
S/L LOCK-IPDM	Indicates [On/Off] condition of steering lock unit (LOCK)
S/L UNLK-IPDM	Indicates [On/Off] condition of steering lock unit (UNLOCK)
S/L RELAY-REQ	Indicates [On/Off] condition of steering lock relay
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [Km/h]
VEH SPEED 2	Display the vehicle speed signal received from ABS or VDC or TCM by numerical value [Km/h]
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver side door status
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] condition of passenger side door status
ID OK FLAG	Indicates [Set/Reset] condition of key ID
PRMT ENG STRT	Indicates [Set/Reset] condition of engine start possibility
PRMT RKE STRT	NOTE: This item is displayed, but cannot be monitored
TRNK/HAT MNTR	NOTE: This item is displayed, but cannot be monitored
RKE-LOCK	Indicates [On/Off] condition of LOCK signal from Intelligent Key
RKE-UNLOCK	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key
RKE-TR/BD	NOTE: This item is displayed, but cannot be monitored
RKE-PANIC	Indicates [On/Off] condition of PANIC button of Intelligent Key
RKE-MODE CHG	Indicates [On/Off] condition of MODE CHANGE signal from Intelligent Key
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored

*1: It is displayed but does not operate on M/T models.

*2: OFF is displayed when brake pedal is depressed while brake switch power supply is OFF.

DIAGNOSIS SYSTEM (BCM)

[POWER DISTRIBUTION SYSTEM]

< SYSTEM DESCRIPTION >

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
INSIDE BUZZER	This test is able to check warning chime in combination meter operation <ul style="list-style-type: none"> • Take out: Take away warning chime sounds when CONSULT-III screen is touched • Key: Key warning chime sounds when CONSULT-III screen is touched • Knob: OFF position warning chime sounds when CONSULT-III screen is touched
INDICATOR	This test is able to check warning lamp operation <ul style="list-style-type: none"> • KEY ON: "KEY" Warning lamp illuminates when CONSULT-III screen is touched • "KEY" Warning lamp blinks when CONSULT-III screen is touched
INT LAMP	This test is able to check interior room lamp operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
LCD	This test is able to check meter display information <ul style="list-style-type: none"> • BP N: Engine start operation indicator lamp indicate when CONSULT-III screen is touched • BP I: Engine start operation indicator lamp indicate when CONSULT-III screen is touched • ID NG: This item is displayed, but cannot be monitored • ROTAT: This item is displayed, but cannot be monitored • SFT P: Shift P warning lamp indicate when CONSULT-III screen is touched • INSRT: This item is displayed, but cannot be monitored • BATT: Key warning lamp indicator when CONSULT-III screen is touched • NO KY: This item is displayed, but cannot be monitored • OUTKEY: Engine start operation indicator lamp indicate when CONSULT-III screen is touched • LK WN: Engine start operation indicator lamp indicate when CONSULT-III screen is touched
FLASHER	This test is able to check security hazard lamp operation The hazard lamps are activated after "LH/RH/Off" on CONSULT-III screen is touched
HORN	This test is able to check horn operation The horn is activated after "ON" on CONSULT-III screen is touched
P RANGE	This test is able to check CVT shift selector power supply <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation Push-ignition switch illumination illuminates when "ON" on CONSULT-III screen is touched
PUSH SWITCH INDICATOR	This test is able to check LOCK indicator in push-ignition switch operation LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched
TRUNK/BACK DOOR	NOTE: This item is displayed, but cannot be monitored

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PCS

B2553 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

DTC/CIRCUIT DIAGNOSIS

B2553 IGNITION RELAY

Description

INFOID:000000005050056

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.

- Ignition relay
- Ignition relay (inside IPDM E/R)
- Blower relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

DTC Logic

INFOID:000000005050057

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2553	IGNITION RELAY	BCM detects a difference of signal for 2 seconds or more between the following items. <ul style="list-style-type: none">• Ignition relay ON/OFF operation• Ignition relay feedback.	<ul style="list-style-type: none">• Harness or connectors (ignition relay feedback circuit is open or short)• BCM• IPDM E/R• Fuse

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for 2 seconds or more.
 - Selector lever is in the P or N position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-78. "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005050058

1.CHECK FUSE

Check that the following fuse is not blown.

Signal name	Fuse
Ignition power supply	2

Is the fuse fusing?

- YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.
NO >> GO TO 2.

2.CHECK IGNITION RELAY FEEDBACK INPUT SIGNAL

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

B2553 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

(+)		(-)	Condition	Voltage (V) (Approx.)
BCM				
Connector	Terminal			
M68	38	Ground	Ignition switch	0
			OFF or ACC	Battery voltage
			ON	

Is the inspection result normal?

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

NO >> GO TO 3.

3. CHECK IGNITION RELAY FEEDBACK CIRCUIT

1. Disconnect ignition relay connector.
2. Check continuity between BCM harness connector and ignition relay harness connector.

BCM		Ignition relay		Continuity
Connector	Terminal	Connector	Terminal	
M68	38	M10	3	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M68	38		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK IGNITION RELAY

Refer to [PCS-79, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace ignition relay.

5. CHECK INTERMITTENT INCIDENT

Refer to [GI-34, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000005072156

PCS

1. CHECK IGNITION RELAY

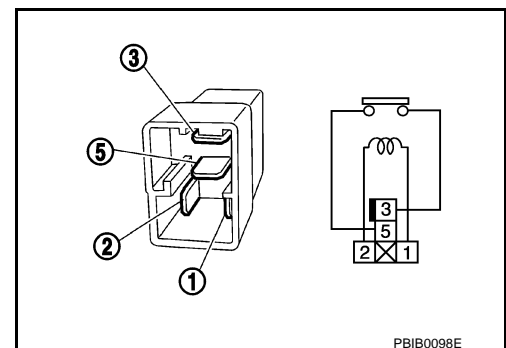
1. Turn ignition switch OFF.
2. Remove ignition relay.
3. Check the continuity between ignition relay terminals.

Terminals	Condition	Continuity
3 and 5	12 V direct current supply between terminals 1 and 2	Existed
	No current supply	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace ignition relay.



PBIB0098E

B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2614 ACC RELAY CIRCUIT

Description

INFOID:000000005050062

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.
BCM checks the power supply position internally.

DTC Logic

INFOID:000000005050063

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2614	BCM	An immediate operation of ACC relay is requested by BCM, but there is no response for more than 2 second.	<ul style="list-style-type: none">• Harness or connectors (ACC relay circuit is open or shorted)• BCM• ACC relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the power supply position to ACC under the following conditions, and wait for 2 second or more.
 - Selector lever is in the P position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-80, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005050064

1.CHECK ACCESSORY RELAY POWER SUPPLY-1

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

(+)	(-)	Condition	Voltage (V) (Approx.)
Accessory relay Terminal			
1	Ground	Ignition switch	0
		ACC	12

Is the inspection result normal?

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

2.CHECK ACCESSORY RELAY POWER SUPPLY CIRCUIT

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

Accessory relay	BCM		Continuity
Terminal	Connector	Terminal	
1	M71	96	Existed

4. Check continuity between accessory relay harness connector and ground.

B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Accessory relay	Ground	Continuity
Terminal		
1		Not existed

A
B

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-83, "Removal and Installation"](#).
NO >> Repair or replace harness.

C

3.CHECK ACCESSORY RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between accessory relay harness connector and ground.

D

Accessory relay	Ground	Continuity
Terminal		
2		Existed

E

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Repair accessory relay ground circuit.

F

4.CHECK ACCESSORY RELAY POWER SUPPLY CIRCUIT-2

1. Turn ignition switch ACC.
2. Check voltage between accessory relay harness connector and ground.

G

(+)	(-)	Voltage (V) (Approx.)
Accessory relay		
Terminal		
5	Ground	Battery voltage

H

Is the inspection result normal?

- YES >> GO TO 5.
NO >> Check continuity open or short between accessory relay and battery.

J

5.CHECK ACCESSORY RELAY

Refer to [PCS-81, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 6.
NO >> Replace accessory relay.

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6.CHECK INTERMITTENT INCIDENT

Refer to [GI-34, "Intermittent Incident"](#).

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>> INSPECTION END

N

Component Inspection

INFOID:000000005050065

1.CHECK ACCESSORY RELAY

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

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B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

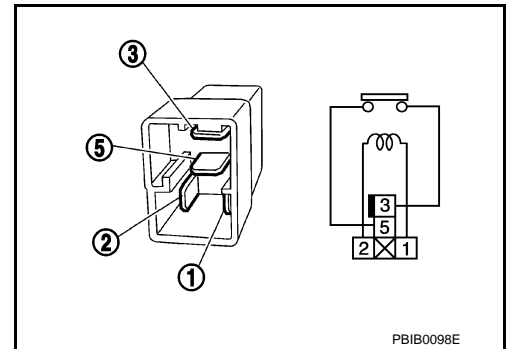
3. Check the continuity between accessory relay terminals.

Terminals	Condition	Continuity
3 and 5	12 V direct current supply between terminals 1 and 2	Existed
	No current supply	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace accessory relay



B2615 BLOWER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2615 BLOWER RELAY CIRCUIT

Description

INFOID:000000005050066

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.

- Ignition relay
- Ignition relay (inside IPDM E/R)
- Blower relay

BCM checks any blower relay ON request for consistency with the actual blower relay operation status.

DTC Logic

INFOID:000000005050067

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2615	BCM	BCM detects a difference of signal for 1 second or more between the following items. <ul style="list-style-type: none"> • Blower relay ON/OFF request • Blower relay feedback 	<ul style="list-style-type: none"> • Harness or connectors (Blower relay circuit is open or shorted) • BCM • Blower relay

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for 1 second or more.
 - Selector lever is in the P position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

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

Diagnosis Procedure

INFOID:000000005050068

1. CHECK BLOWER RELAY POWER SUPPLY

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

(+)	(-)	Condition	Voltage (V) (Approx.)
Blower relay Terminal			
1	Ground	Ignition switch	0
			Battery voltage

Is the inspection result normal?

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

2. CHECK BLOWER RELAY POWER SUPPLY CIRCUIT

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

B2615 BLOWER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Blower relay Terminal	BCM		Continuity
	Connector	Terminal	
1	M71	106	Existed

4. Check continuity between blower relay harness connector and ground.

Blower relay Terminal	Ground	Continuity
1		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

3.CHECK BLOWER RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between blower relay harness connector and ground.

Blower relay Terminal	Ground	Continuity
2		Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair blower relay ground circuit.

4.CHECK BLOWER RELAY POWER SUPPLY CIRCUIT-2

1. Turn ignition switch ON or ACC.
2. Check voltage between blower relay harness connector and ground.

(+) Blower relay Terminal	(-)	Voltage (V) (Approx.)
5	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check continuity open or short between blower relay and battery.

5.CHECK BLOWER RELAY

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

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace blower relay.

6.CHECK INTERMITTENT INCIDENT

Refer to [GI-34, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000005050069

1.CHECK BLOWER RELAY

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

B2615 BLOWER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

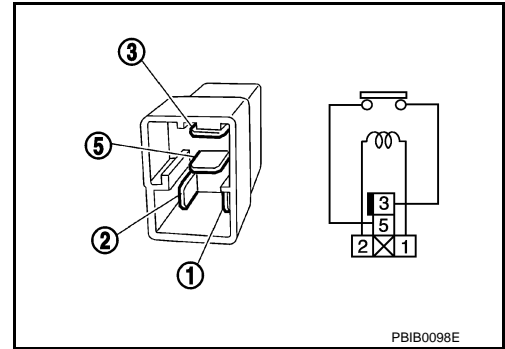
[POWER DISTRIBUTION SYSTEM]

3. Check the continuity between blower relay terminals.

Terminals	Condition	Continuity
3 and 5	12 V direct current supply between terminals 1 and 2	Existed
	No current supply	Not existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace blower relay



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PCS

B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2616 IGNITION RELAY CIRCUIT

Description

INFOID:000000005050070

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.

- Ignition relay
- Ignition relay (inside IPDM E/R)
- Blower relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

DTC Logic

INFOID:000000005050071

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2616	BCM	An immediate operation of ignition relay is requested by BCM, but there is no response for more than 1 second	<ul style="list-style-type: none">• Harness or connectors (Ignition relay circuit is open or shorted)• BCM• Ignition relay

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for 1 second or more.
 - Selector lever is in the P position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-86, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005050072

1. CHECK IGNITION RELAY POWER SUPPLY

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

(+)	(-)	Condition	Voltage (V) (Approx.)
Ignition relay Terminal			
2	Ground	Ignition switch	0
			Battery voltage

Is the inspection result normal?

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

2. CHECK IGNITION RELAY POWER SUPPLY CIRCUIT

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

B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Ignition relay	BCM		Continuity
Terminal	Connector	Terminal	
2	M71	99	Existed

4. Check continuity between ignition relay harness connector and ground.

Ignition relay	Ground	Continuity
Terminal		
2		Not existed

Is the inspection result normal?

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

3.CHECK IGNITION RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between ignition relay harness connector and ground.

Ignition relay	Ground	Continuity
Terminal		
1		Existed

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Repair ignition relay ground circuit.

4.CHECK IGNITION RELAY POWER SUPPLY CIRCUIT-2

1. Turn ignition switch ON.
2. Check voltage between ignition relay harness connector and ground.

(+)	(-)	Voltage (V) (Approx.)
Ignition relay		
Terminal		
5	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 5.
NO >> Check continuity open or short between ignition relay and battery.

5.CHECK IGNITION RELAY

Refer to [PCS-87, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 6.
NO >> Replace ignition relay.

6.CHECK INTERMITTENT INCIDENT

Refer to [GI-34, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000005050073

1.CHECK IGNITION RELAY

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

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B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

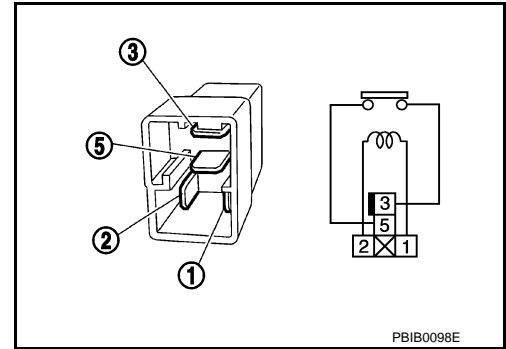
[POWER DISTRIBUTION SYSTEM]

3. Check the continuity between ignition relay terminals.

Terminals	Condition	Continuity
3 and 5	12 V direct current supply between terminals 1 and 2	Existed
	No current supply	Not existed

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace Ignition relay



B2618 BCM

Description

INFOID:000000005050074

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.
 BCM checks the power supply position internally.

DTC Logic

INFOID:000000005050075

DTC DETECTION LOGIC

NOTE:

- If DTC B2618 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-39, "DTC Logic"](#).
- If DTC B2618 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-40, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2618	BCM	An immediate operation of ignition relay (IPDM E/R) is requested by BCM, but there is no response for more than 1 second	BCM

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for 1 second or more.
 - Selector lever is in the P or N position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-89, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005050076

1. INSPECTION START

1. Turn ignition switch ON.
2. Select "Self-diagnosis result" mode with CONSULT-III.
3. Touch "ERASE".
4. Perform DTC Confirmation Procedure.
 See [PCS-89, "DTC Logic"](#).

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

Description

INFOID:000000005050077

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

DTC Logic

INFOID:000000005050078

DTC DETECTION LOGIC

NOTE:

- If DTC B261A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-39, "DTC Logic"](#).
- If DTC B261A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-40, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261A	PUSH-BTN IGN SW	BCM detects a difference of signal for 1 second or more between the following items. <ul style="list-style-type: none"> • Power supply position by push-button ignition switch • Power supply position from IPDM E/R (CAN) 	<ul style="list-style-type: none"> • Harness or connectors (Push-button ignition switch circuit is open or shorted.) • BCM • IPDM E/R

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions, and wait for 1 second or more.
 - Selector lever is in the P or N position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-90, "Diagnosis Procedure"](#).
 NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005072157

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

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

(+)		(-)	Voltage (V) (Approx.)
Push-button ignition switch			
Connector	Terminal	Ground	12
M101	8		

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

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M71	100	M101	8	Existed

B261A PUSH-BUTTON IGNITION SWITCH

[POWER DISTRIBUTION SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M101	8		Not existed

Is the inspection result normal?

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

NO >> Repair or replace harness.

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

Check voltage between IPDM E/R harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
IPDM E/R			
Connector	Terminal		
E17	66	Ground	12

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-35, "Removal and Installation"](#).

NO >> GO TO 4.

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

1. Disconnect IPDM E/R connector.

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

IPDM E/R		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
E17	66	M101	8	Existed

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M101	8		Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK INTERMITTENT INCIDENT

Refer to [GI-34, "Intermittent Incident"](#).

>> INSPECTION END

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B26F1 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B26F1 IGNITION RELAY

Description

INFOID:000000005175563

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.

- Ignition relay
- Ignition relay (inside IPDM E/R)
- Blower relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

DTC Logic

INFOID:000000005175564

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F1	IGN RELAY OFF	Ignition relay ON signal is not transmitted from IPDM E/R when BCM turns ignition relay ON.	<ul style="list-style-type: none"> • Harness or connectors (ignition relay circuit is open or short) • BCM • Ignition relay

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for 2 seconds or more.
 - Selector lever is in the P or N position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-95, "Diagnosis Procedure"](#).
 NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005175565

1. CHECK FUSE

Check that the following fuse is not blown.

Signal name	Fuse
Battery power supply	H (40 A)
Ignition power supply	2 (10 A)

Is the fuse fusing?

- YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.
 NO >> GO TO 2.

2. CHECK IGNITION RELAY FEEDBACK INPUT SIGNAL

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

(+)		(-)	Condition	Voltage (V) (Approx.)	
BCM					
Connector	Terminal				
M68	38	Ground	Ignition switch	OFF or ACC	0
				ON	Battery voltage

Is the inspection result normal?

B26F1 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

- YES >> Replace BCM. Refer to [BCS-82. "Removal and Installation"](#).
 NO >> GO TO 3.

3. CHECK IGNITION RELAY FEEDBACK CIRCUIT

1. Disconnect ignition relay connector.
2. Check continuity between BCM harness connector and ignition relay harness connector.

BCM		Ignition relay		Continuity
Connector	Terminal	Connector	Terminal	
M68	38	M10	3	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M68	38		Not existed

Is the inspection result normal?

- YES >> GO TO 4.
 NO >> Repair or replace harness.

4. CHECK IGNITION RELAY POWER SUPPLY 1

Check voltage between ignition relay harness connector and ground.

(+)	(-)	Voltage (V) (Approx.)
Ignition relay Terminal		
5	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 5.
 NO >> Check continuity between ignition relay harness connector and battery.

5. CHECK IGNITION RELAY POWER SUPPLY 2

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

(+)	(-)	Condition	Voltage (V) (Approx.)
Ignition relay Terminal			
2	Ground	Ignition switch	0
			12

Is the inspection result normal?

- YES >> GO TO 7.
 NO >> GO TO 6.

6. CHECK IGNITION RELAY POWER SUPPLY CIRCUIT

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

Ignition relay terminal	BCM		Continuity
	Connector	Terminal	
2	M71	99	Existed

4. Check continuity between ignition relay harness connector and ground.

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B26F1 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Ignition relay	Ground	Continuity
terminal		
2		Not existed

Is the inspection result normal?

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

7. CHECK IGNITION RELAY GROUND CIRCUIT

- Turn ignition switch OFF.
- Check continuity between ignition relay harness connector and ground.

Ignition relay	Ground	Continuity
terminal		
1		Existed

Is the inspection result normal?

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

8. CHECK IGNITION RELAY

Refer to [PCS-97, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 9.
 NO >> Replace ignition relay.

9. CHECK INTERMITTENT INCIDENT

Refer to [GI-34, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000005175566

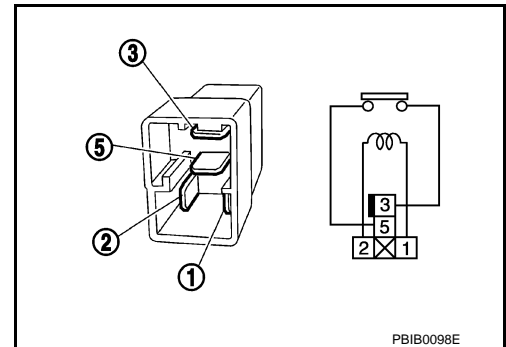
1. CHECK IGNITION RELAY

- Turn ignition switch OFF.
- Remove ignition relay.
- Check the continuity between ignition relay terminals.

Terminals	Condition	Continuity
3 and 5	12 V direct current supply between terminals 1 and 2	Existed
	No current supply	Not existed

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Replace ignition relay.



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B26F2 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B26F2 IGNITION RELAY

Description

INFOID:000000005175567

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.

- Ignition relay
- Ignition relay (inside IPDM E/R)
- Blower relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

DTC Logic

INFOID:000000005175568

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F2	IGN RELAY ON	Ignition relay OFF signal is not transmitted from IPDM E/R when BCM turns ignition relay OFF.	<ul style="list-style-type: none"> • Harness or connectors (ignition relay circuit is open or short) • BCM • Ignition relay

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for 2 seconds or more.
 - Selector lever is in the P or N position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-95, "Diagnosis Procedure"](#).
 NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005175569

1.CHECK FUSE

Check that the following fuse is not blown.

Signal name	Fuse
Battery power supply	H (40 A)
Ignition power supply	2 (10 A)

PCS

Is the fuse fusing?

- YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.
 NO >> GO TO 2.

2.CHECK IGNITION RELAY FEEDBACK INPUT SIGNAL

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

(+)		(-)	Condition	Voltage (V) (Approx.)
BCM				
Connector	Terminal			
M68	38	Ground	Ignition switch	OFF or ACC 0
				ON Battery voltage

Is the inspection result normal?

B26F2 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

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

NO >> GO TO 3.

3. CHECK IGNITION RELAY FEEDBACK CIRCUIT

1. Disconnect ignition relay connector.
2. Check continuity between BCM harness connector and ignition relay harness connector.

BCM		Ignition relay		Continuity
Connector	Terminal	Connector	Terminal	
M68	38	M10	3	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M68	38		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK IGNITION RELAY POWER SUPPLY 1

Check voltage between ignition relay harness connector and ground.

(+)	(-)	Voltage (V) (Approx.)
Ignition relay Terminal		
5	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check continuity between ignition relay harness connector and battery.

5. CHECK IGNITION RELAY POWER SUPPLY 2

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

(+)	(-)	Condition	Voltage (V) (Approx.)
Ignition relay Terminal			
2	Ground	Ignition switch	0
			ON

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

6. CHECK IGNITION RELAY POWER SUPPLY CIRCUIT

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

Ignition relay terminal	BCM		Continuity
	Connector	Terminal	
2	M71	99	Existed

4. Check continuity between ignition relay harness connector and ground.

B26F2 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Ignition relay	Ground	Continuity
terminal		Not existed
2		

Is the inspection result normal?

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

7.CHECK IGNITION RELAY GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between ignition relay harness connector and ground.

Ignition relay	Ground	Continuity
terminal		Existed
1		

Is the inspection result normal?

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

8.CHECK IGNITION RELAY

Refer to [PCS-97, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 9.
- NO >> Replace ignition relay.

9.CHECK INTERMITTENT INCIDENT

Refer to [GI-34, "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:000000005175570

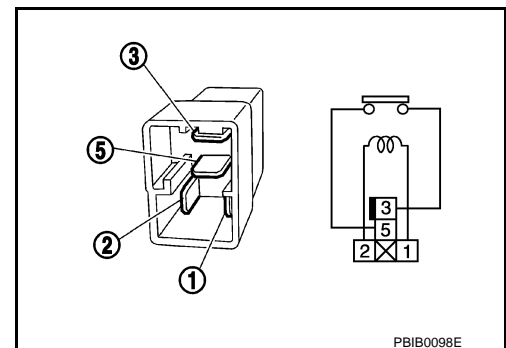
1.CHECK IGNITION RELAY

1. Turn ignition switch OFF.
2. Remove ignition relay.
3. Check the continuity between ignition relay terminals.

Terminals	Condition	Continuity
3 and 5	12 V direct current supply between terminals 1 and 2	Existed
	No current supply	Not existed

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace ignition relay.



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B26F6 BCM

Description

INFOID:000000005175571

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.
 BCM checks the power supply position internally.

DTC Logic

INFOID:000000005175572

DTC DETECTION LOGIC

NOTE:

- If DTC B26F6 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-39, "DTC Logic"](#).
- If DTC B26F6 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-40, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F6	BCM	Ignition relay ON signal is not transmitted from IPDM E/R when BCM turns ignition relay ON.	BCM

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for 1 second or more.
 - Selector lever is in the P or N position
 - Do not depress brake pedal
2. Check "Self-diagnosis result" with CONSULT-III.

Is DTC detected?

- YES >> Go to [PCS-98, "Diagnosis Procedure"](#).
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000005175573

1. INSPECTION START

1. Turn ignition switch ON.
2. Select "Self-diagnosis result" mode with CONSULT-III.
3. Touch "ERASE".
4. Perform DTC Confirmation Procedure.
 See [PCS-98, "DTC Logic"](#).

Is DTC detected?

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

INFOID:000000005154947

1.CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.
Battery power supply	G (40 A)
	8 (10 A)

Is the fuse fusing?

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

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

(+)		(-)	Voltage (Approx.)
BCM			
Connector	Terminal	Ground	Battery voltage
M70	57		
	70		

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M70	67		Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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PCS

PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

PUSH-BUTTON IGNITION SWITCH

Description

INFOID:000000005050081

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

Component Function Check

INFOID:000000005050082

1. CHECK FUNCTION

1. Select "PUSH SW" in "Data Monitor" mode with CONSULT-III.
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-100, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000005050083

1. CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 1

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

(+)		(-)	Voltage (V) (Approx.)
Push-button ignition switch			
Connector	Terminal	Ground	Battery voltage
M101	8		

Is the inspection result normal?

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

2. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 1

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

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M71	100	M101	8	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M71	100		Not existed

Is the inspection result normal?

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

3. CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 2

Check voltage between IPDM E/R harness connector and ground.

PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

(+)		(-)	Voltage (V) (Approx.)
IPDM E/R			
Connector	Terminal		
E17	66	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 2

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

IPDM E/R		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
E17	66	M101	8	Existed

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E17	66		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-35. "Removal and Installation"](#).

NO >> Repair or replace harness.

5.CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

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

Push-button ignition switch		Ground	Continuity
Connector	Terminal		
M101	4		Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to [PCS-101. "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace push-button ignition switch. Refer to [PCS-146. "Removal and Installation"](#).

7.CHECK INTERMITTENT INCIDENT

Refer to [GI-34. "Intermittent Incident"](#).

>> INSPECTION END

Component Inspection

INFOID:0000000005050084

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

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Push-button ignition switch		Condition	Continuity
Terminal			
4	8	Pressed	Existed
		Not pressed	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace push-button ignition switch. Refer to [PCS-146, "Removal and Installation"](#).

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

Description

INFOID:000000005050085

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

Component Function Check

INFOID:000000005050086

1.CHECK FUNCTION

Check push-button ignition switch ("PUSH SWITCH INDICATOR") in Active Test Mode with CONSULT-III.

Test item		Description	
PUSH SWITCH INDICATOR	ON	Position indicator	Illuminates
	OFF		Does not illuminate

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Refer to [PCS-103, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000005050087

1.CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

(+)		(-)	Voltage (V) (Approx.)
Push-button ignition switch			
Connector	Terminal	Ground	Battery voltage
M101	3		

Is the inspection normal?

- YES >> GO TO 2.
- NO-1 >> Check 10 A fuse [No.9, located in fuse block (J/B)].
- NO-2 >> Check harness for open or short between push-button ignition switch and fuse.

2.CHECK BCM INPUT

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

(+)		(-)	Voltage (V) (Approx.)
BCM			
Connector	Terminal	Ground	Battery voltage
M71	91		

Is the inspection normal?

- YES >> Replace BCM. Refer to [BCS-82, "Removal and Installation"](#).
- NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

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

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PCS

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M71	91	M101	3	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M71	91		Not existed

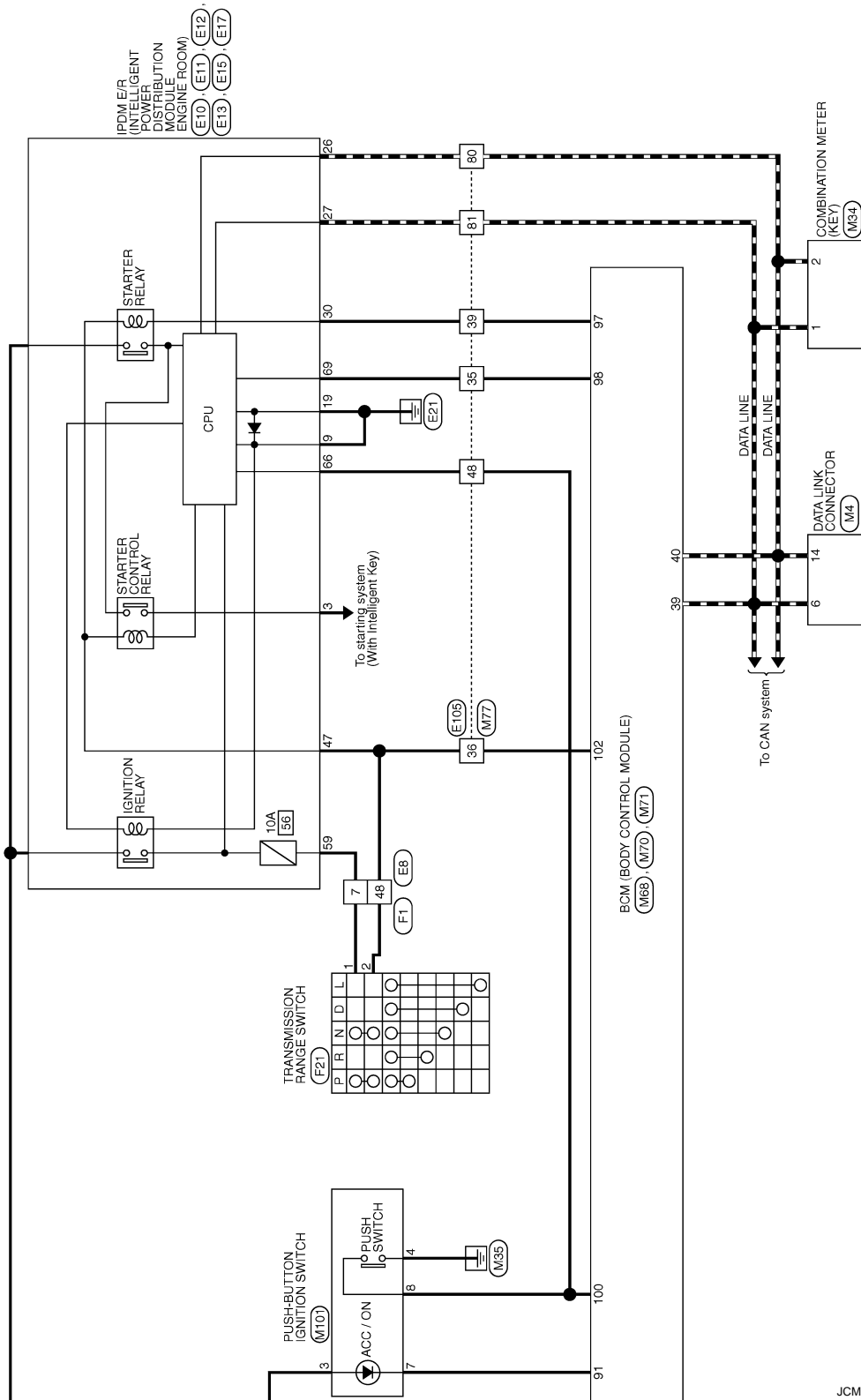
Is the inspection normal?

- YES >> Replace push-button ignition switch. Refer to [PCS-146, "Removal and Installation"](#).
- NO >> Repair or replace harness.

POWER DISTRIBUTION SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]



JCMWM4090GB

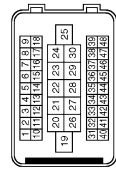


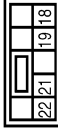
POWER DISTRIBUTION SYSTEM

< DTC/CIRCUIT DIAGNOSIS >


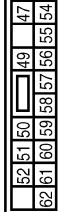
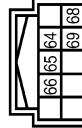
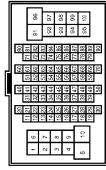
[POWER DISTRIBUTION SYSTEM]

PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	E8	Connector No.	E10	Connector No.	E11	Connector No.	E12
Connector Name	WIRE TO WIRE	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	SAA30MB-FS (0-SJZZ)	MOBFW-LC	MOBFW-LC	MOBFW-LC	MOBFW-LC	NS30FBR-CS	NS30FBR-CS
Terminal No.	48	3	9	19	9	19	19
Color of Wire	Y BR	BR	BR	B/W	B/W	B/W	B/W
Signal Name [Specification]							

Connector No.	E13	Connector No.	E15	Connector No.	E17	Connector No.	E105
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	WIRE TO WIRE	WIRE TO WIRE
Connector Type	TH12FW-NH	NS10FW-CS	NS10FW-CS	TH10FB-NH	TH10FB-NH	TH80MY-CST16-TM4	TH80MY-CST16-TM4
Terminal No.	30	47	59	68	69	1	1
Color of Wire	P L SB	BR Y	BR Y	L O	O	V W	V W
Signal Name [Specification]							

Terminal No.	1	2	5	35	36	39	48	80	81	96
Color of Wire	V	W	P	Y	BR	SB	L	P	L	L.G.
Signal Name [Specification]										

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POWER DISTRIBUTION SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	E115
Connector Name	STOP LAMP SWITCH (WITH CVT)
Connector Type	MO4FW-LC



Terminal No.	Color of Wire	Signal Name [Specification]
1	V	-
2	W	-
3	O	-
4	G	-

Connector No.	F1
Connector Name	WIRE TO WIRE
Connector Type	SAA36FB-RS10-SJZ2



Terminal No.	Color of Wire	Signal Name [Specification]
7	V	-
48	BR	-

Connector No.	F21
Connector Name	TRANSMISSION RANGE SWITCH
Connector Type	RK6BFG



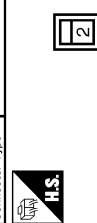
Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	W	-

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	-



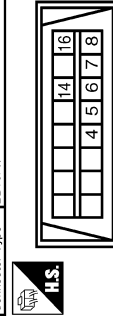
Terminal No.	Color of Wire	Signal Name [Specification]
1	W	-

Connector No.	M2
Connector Name	FUSE BLOCK (J/B)
Connector Type	-



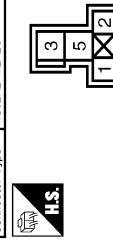
Terminal No.	Color of Wire	Signal Name [Specification]
2	W/B	-[With Intelligent Key]

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color of Wire	Signal Name [Specification]
6	L	-
14	P	-

Connector No.	M10
Connector Name	IGNITION RELAY
Connector Type	MS02FL-M2-LC



Terminal No.	Color of Wire	Signal Name [Specification]
1	B	-
2	W/R	-
3	W/B	-
5	L	-

Connector No.	M24
Connector Name	COMBINATION METER
Connector Type	TH4DFW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L

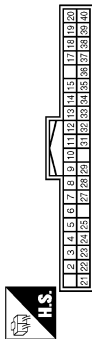
POWER DISTRIBUTION SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

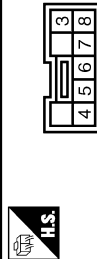
PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	M6B
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH40FB-NH



Terminal No.	Color of Wire	Signal Name [Specification]
9	R	STOP LAMP SW 1
11	L/Y	ACC F/B
38	O	IGN F/B
38	L	CAN-H
40	P	CAN-L

Connector No.	M101
Connector Name	PUSH-BUTTON (IGNITION SWITCH)
Connector Type	TK08FBR



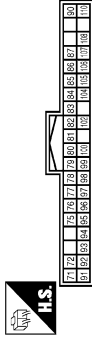
Terminal No.	Color of Wire	Signal Name [Specification]
3	P	-
4	B	-
7	Y	-
8	L/O	-

Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FE40FB-FHA6-SA



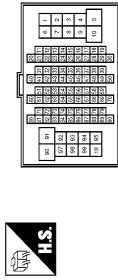
Terminal No.	Color of Wire	Signal Name [Specification]
57	Y	BAT (FUSE)
67	B	GND
70	Y	BAT (F/L)

Connector No.	M71
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH40FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
91	Y	ACC/ON IND
96	BR/W	ACC RELAY CONT
97	L/R	STARTER RELAY CONT
98	BR	IGN RELAY (PDM F/R) CONT
99	W/R	IGN RELAY CONT
100	L/O	PUSH SW
102	G	SHIFT IN/P
105	B/O	STOP LAMP SW 2
106	Y/B	BLOWER FAN MOTOR RELAY CONT

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS (P-TM4)



Terminal No.	Color of Wire	Signal Name [Specification]
1	B/O	-
2	R	-
5	L	-
35	BR	-
36	G	-
39	L/R	-
48	L/O	-
80	P	-
81	L	-
96	Y	-

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000005153222

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT/AUTO	Off
	Front wiper switch INT/AUTO	On
FR WIPER STOP	Front wiper is not in STOP position	Off
	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
RR WIPER ON	Other than rear wiper switch ON	Off
	Rear wiper switch ON	On
RR WIPER INT	Other than rear wiper switch INT	Off
	Rear wiper switch INT	On
RR WASHER SW	Rear washer switch OFF	Off
	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
	Rear wiper is not in STOP position	On
TURN SIGNAL R	Other than turn signal switch RH	Off
	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
	Lighting switch AUTO	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Monitor Item	Condition	Value/Status	
DOOR SW-DR	Driver door closed	Off	A
	Driver door opened	On	
DOOR SW-AS	Passenger door closed	Off	B
	Passenger door opened	On	
DOOR SW-RR	Rear RH door closed	Off	C
	Rear RH door opened	On	
DOOR SW-RL	Rear LH door closed	Off	D
	Rear LH door opened	On	
DOOR SW-BK	Back door closed	Off	E
	Back door opened	On	
CDL LOCK SW	Other than power door lock switch LOCK	Off	E
	Power door lock switch LOCK	On	
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off	F
	Power door lock switch UNLOCK	On	
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off	G
	Driver door key cylinder LOCK position	On	
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off	H
	Driver door key cylinder UNLOCK position	On	
HAZARD SW	Hazard switch is OFF	Off	H
	Hazard switch is ON	On	
REAR DEF SW	Rear window defogger switch OFF	Off	I
	Rear window defogger switch ON	On	
TR/BD OPEN SW	NOTE: The item is indicated, but not monitored.	Off	J
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off	K
FAN ON SIG	Blower fan OFF	Off	K
	Blower fan ON	On	
AIR COND SW	Air conditioner OFF (A/C switch indicator OFF)	Off	L
	Air conditioner ON (A/C switch indicator ON)	On	
RKE-LOCK	LOCK button of the key is not pressed	Off	PCS
	LOCK button of the key is pressed	On	
RKE-UNLOCK	UNLOCK button of the key is not pressed	Off	N
	UNLOCK button of the key is pressed	On	
RKE-TR/BD	BACK DOOR OPEN button of the key is not pressed	Off	O
	BACK DOOR OPEN button of the key is pressed	On	
RKE-PANIC	PANIC button of the key is not pressed	Off	O
	PANIC button of the key is pressed	On	
RKE-MODE CHG	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off	P
	LOCK/UNLOCK button of the key is pressed and held simultaneously	On	
OPTI SEN (DTCT)	Bright outside of the vehicle	Close to 5 V	
	Dark outside of the vehicle	Close to 0 V	
OPTI SEN (FILT)	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V	
	Dark outside of the vehicle (Lighting switch AUTO)	Close to 1.50 V	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Monitor Item	Condition	Value/Status
OPTICAL SENSOR	NOTE: The item is indicated, but not monitored.	Off
RAIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -DR	Driver door request switch is not pressed	Off
	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
	Push-button ignition switch (push switch) is pressed	On
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
BRAKE SW 1	The brake pedal is not depressed	Off
	The brake pedal is depressed	On
BRAKE SW 2	The brake pedal is depressed when No. 7 fuse is blown	Off
	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
DETE/CANCL SW	Selector lever in P position	Off
	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
S/L -LOCK	Steering is locked	Off
	Steering is unlocked	On
S/L -UNLOCK	Steering is unlocked	Off
	Steering is locked	On
S/L RELAY-F/B	Steering is unlocked	Off
	Steering is locked	On
UNLK SEN -DR	Driver door is locked	Off
	Driver door is unlocked	On
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off
	Push-button ignition switch (push-switch) is pressed	On
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
DETE SW -IPDM	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT PN -IPDM	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
SFT P -MET	Selector lever in any position other than P	Off
	Selector lever in P position	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Monitor Item	Condition	Value/Status	
SFT N -MET	Selector lever in any position other than N	Off	A
	Selector lever in N position	On	
ENGINE STATE	Engine stopped	Stop	B
	While the engine stalls	Stall	
	At engine cranking	Crank	C
	Engine running	Run	
S/L LOCK-IPDM	Steering is locked	Off	
	Steering is unlocked	On	D
S/L UNLK-IPDM	Steering is unlocked	Off	
	Steering is locked	On	E
S/L RELAY-REQ	Steering is unlocked	Off	
	Steering is locked	On	F
VEH SPEED 1	While driving	Equivalent to speedometer reading	
VEH SPEED 2	While driving	Equivalent to speedometer reading	
DOOR STAT-DR	Driver door is locked	LOCK	G
	Wait with selective UNLOCK operation (5 seconds)	READY	
	Driver door is unlocked	UNLOCK	H
DOOR STAT-AS	Passenger door is locked	LOCK	
	Wait with selective UNLOCK operation (5 seconds)	READY	I
	Passenger door is unlocked	UNLOCK	
ID OK FLAG	Steering is locked	Reset	J
	Steering is unlocked	Set	
PRMT ENG STRT	The engine start is prohibited	Reset	
	The engine start is permitted	Set	K
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset	
RKE OPE COUN1	During the operation of the key	Operation frequency of the key	L
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	—	
CONFIRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet	PCS
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done	N
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet	
	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done	O
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet	
	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done	P
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet	
	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

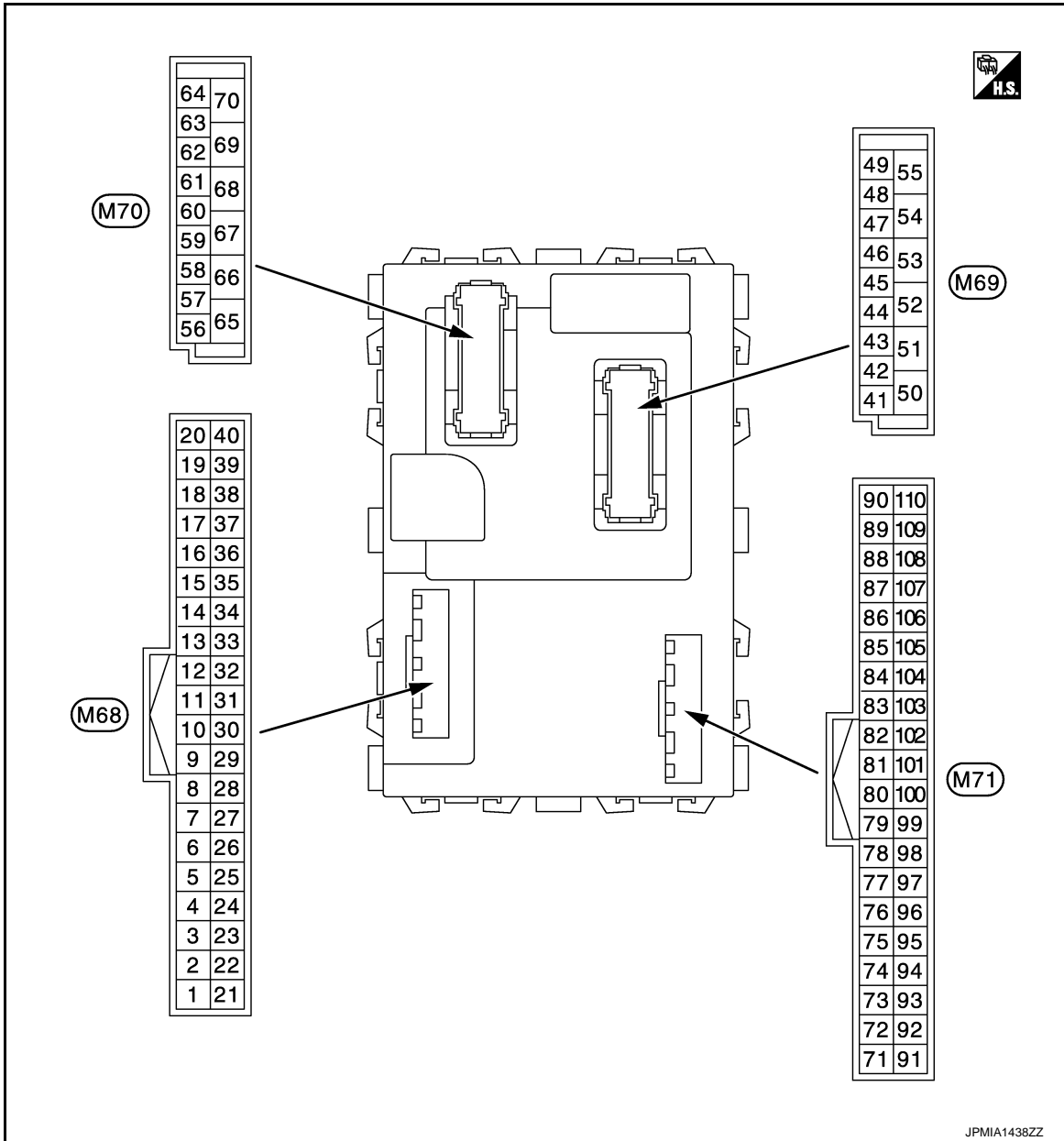
Monitor Item	Condition	Value/Status
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done
NOT REGISTERED	BCM detects registered key ID, or BCM does not detect key ID.	ID OK
	BCM detects non-registration key ID.	ID NG
TP 4	The ID of fourth key is not registered to BCM	Yet
	The ID of fourth key is registered to BCM	Done
TP 3	The ID of third key is not registered to BCM	Yet
	The ID of third key is registered to BCM	Done
TP 2	The ID of second key is not registered to BCM	Yet
	The ID of second key is registered to BCM	Done
TP 1	The ID of first key is not registered to BCM	Yet
	The ID of first key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Done
	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
	Tire pressure warning alarm is sounding	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

TERMINAL LAYOUT



NOTE:

- Connector color
- M68, M70: Black
- M69, M71: White

PHYSICAL VALUES

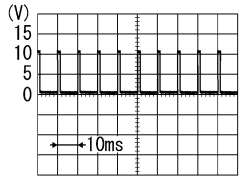
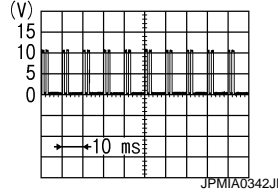
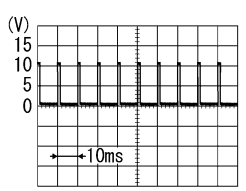
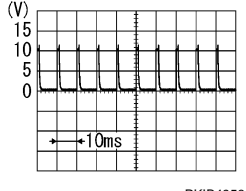
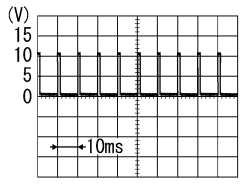
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)		
		Signal name	Input/ Output				
+	-						
2 (BR/W)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V	
					Turn signal switch RH		
					Lighting switch HI		
					Lighting switch 1ST		1.0 V
					Lighting switch 2ND		2.0 V
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V	
					Turn signal switch LH		
					Lighting switch PASS		
					Lighting switch 2ND		1.0 V
					Front fog lamp switch ON		0.8 V
4 (L/Y)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V	
					Front wiper switch LO		
					Front wiper switch MIST		
					Front wiper switch INT		
					Lighting switch AUTO		1.0 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)		
+	-	Signal name	Input/ Output				
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V	
					Front washer switch (Wiper intermittent dial 4)		
					Rear washer ON (Wiper intermittent dial 4)		
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6 		1.0 V
					Rear wiper switch ON (Wiper intermittent dial 4)		0.8 V
6 (L/R)	Ground	Combination switch INPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V	
					Front wiper switch HI (Wiper intermittent dial 4)		
					Rear wiper switch INT (Wiper intermittent dial 4)		
					Wiper intermittent dial 3 (All switch OFF)		1.0 V
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 2 		1.9 V
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> • Wiper intermittent dial 6 • Wiper intermittent dial 7 		0.8 V

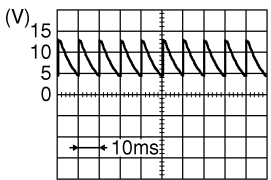
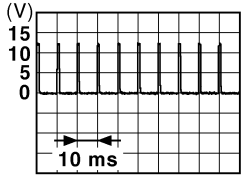
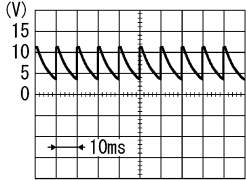
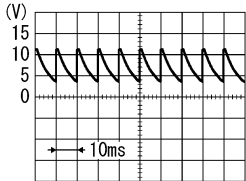
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BCM (BODY CONTROL MODULE)

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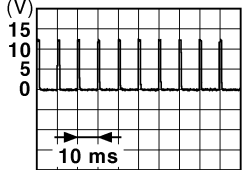
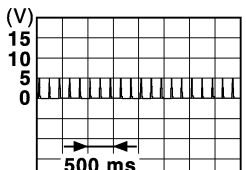
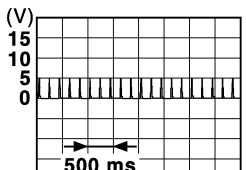
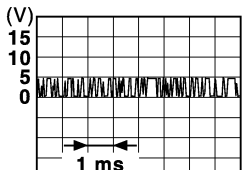
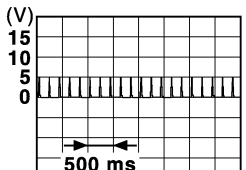
[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylin- der switch	NEUTRAL position	 <small>JPMIA0587GB</small> 8.0 - 8.5 V
					UNLOCK position	0 V
8 (W/B)	Ground	Door key cylinder switch LOCK	Input	Door key cylin- der switch	NEUTRAL position	12 V
					LOCK position	0 V
9 (R)	Ground	Stop lamp switch 1	Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
					ON (Brake pedal is de- pressed)	Battery voltage
10 (V/W)	Ground	Tire pressure warn- ing check switch	Input	Ignition switch OFF	OFF	 <small>JPMIA0012GB</small> 1.0 - 1.5 V
					ON	Battery voltage
11 (L/Y)	Ground	ACC feedback	Input	Ignition switch OFF	0 V	
				Ignition switch ACC or ON	Battery voltage	
12 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	 <small>PKIB4960J</small> 7.0 - 8.0 V
					ON (When passenger door opened)	0 V
13 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)	 <small>PKIB4960J</small> 7.0 - 8.0 V
					ON (When rear RH door opened)	0 V
14 (L/B)	Ground	Optical sensor	Input	Ignition switch ON	When bright outside of the vehicle	Close to 5 V
					When dark outside of the vehicle	Close to 0 V

BCM (BODY CONTROL MODULE)

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[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
15 (W/L)	Ground	Rear window defogger switch	Input	Rear window defogger switch	Not pressed	 1.0 - 1.5 V
					Pressed	0 V
17 (R/G)	Ground	Optical sensor power supply	Output	Ignition switch	OFF, ACC	0 V
					ON	5 V
18 (V)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
19 (BR)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		 JMKIA3838GB
20 (G/Y)	Ground	Remote keyless entry receiver communication	Input	Waiting		 JMKIA3838GB
				Signal receiving		 JMKIA3841GB
21 (P/L)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
22 (W/G)	Ground	Remote keyless entry receiver RSSI	Input	Waiting		0 V
				Signal receiving		 JMKIA3838GB

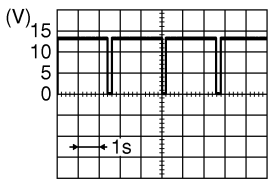
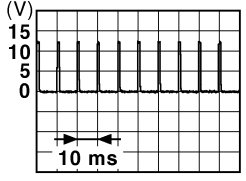
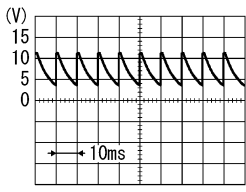
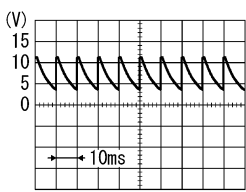
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BCM (BODY CONTROL MODULE)

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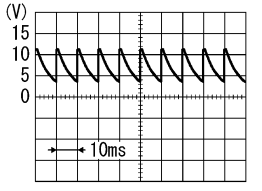
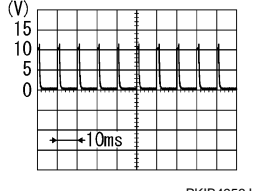
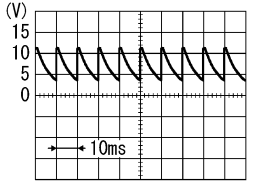
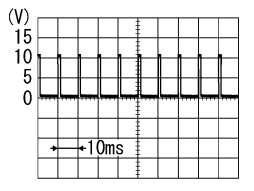
[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)		
+	-	Signal name	Input/ Output				
23 (R/Y)	Ground	Security indicator lamp	Output	Security indicator	ON	0 V	
				Blinking (Ignition switch OFF)	 <p style="text-align: center;">12.0 V</p>		
				OFF	Battery voltage		
24* (GR/R)	Ground	Dongle link	Input/ Output	Ignition switch OFF		5 V	
25 (LG)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
27 (Y/G)	Ground	A/C switch	Input	Air conditioner	OFF (A/C switch indicator: OFF)	 <p style="text-align: center;">1.0 - 1.5 V</p>	
				ON (A/C switch indicator: ON)	0 V		
28 (G/W)	Ground	Blower fan switch	Input	Blower fan	OFF	0 V	
				ON	 <p style="text-align: center;">7.0 - 8.0 V</p>		
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF	12 V	
				ON	0 V		
31 (G/B)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	 <p style="text-align: center;">7.0 - 8.0 V</p>	
				UNLOCK status (Unlock sensor switch ON)	0 V		

BCM (BODY CONTROL MODULE)

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[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
32 (LG)	Ground	Combination switch OUTPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)
					Front fog lamp switch ON (Wiper intermittent dial 4)
					Rear wiper switch ON (Wiper intermittent dial 4)
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7
					 <p style="text-align: center;">7.0 - 8.0 V</p>
					 <p style="text-align: center;">1.0 V</p>
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)
					Lighting switch 1ST (Wiper intermittent dial 4)
					Lighting switch AUTO (Wiper intermittent dial 4)
					Rear wiper switch INT (Wiper intermittent dial 4)
					 <p style="text-align: center;">7.0 - 8.0 V</p>
					 <p style="text-align: center;">1.2 V</p>

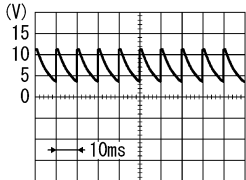
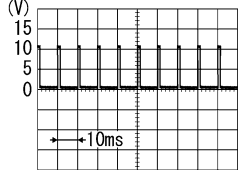
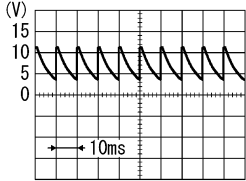
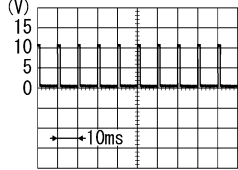
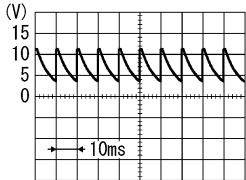
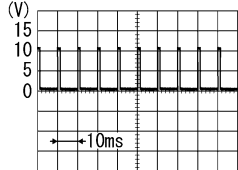
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BCM (BODY CONTROL MODULE)

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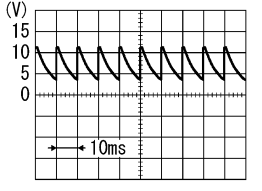
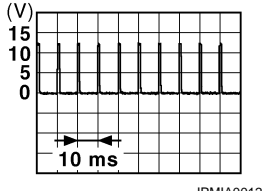
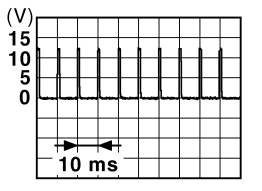
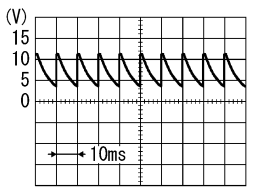
[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 2ND (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Lighting switch HI (Wiper intermittent dial 4)	
					Rear washer switch ON (Wiper intermittent dial 4)	
Any of the condition below with all switch OFF						
<ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 						
35 (R/L)	Ground	Combination switch OUTPUT 2	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 <p style="text-align: right; font-size: small;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 2ND	 <p style="text-align: right; font-size: small;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Lighting switch PASS	
					Front wiper switch INT	
Front wiper switch HI						
36 (L/O)	Ground	Combination switch OUTPUT 1	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 <p style="text-align: right; font-size: small;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Turn signal switch RH	 <p style="text-align: right; font-size: small;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Turn signal switch LH	
					Front wiper switch LO (Front wiper switch MIST)	
Front washer switch ON						

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
37 (G/O)	Ground	Selector lever P position switch	Input	Selector lever	P position	0 V
					Any position other than P	12 V
38 (O)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
						ON
39 (L)	Ground	CAN-H	Input/ Output	—	—	
40 (P)	Ground	CAN-L	Input/ Output	—	—	
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	 <small>PKIB4960J</small> 9.5 - 10.0 V
						ON (When back door opened)
44 (LG)	Ground	Rear wiper stop position	Input	Ignition switch ON	Rear wiper stop position	12 V
						Any position other than rear wiper stop position
45 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	 <small>JPMIA0012GB</small> 1.0 - 1.5 V
						LOCK position
46 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	 <small>JPMIA0012GB</small> 1.0 - 1.5 V
						UNLOCK position
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 <small>PKIB4960J</small> 7.0 - 8.0 V
						ON (When driver door opened)

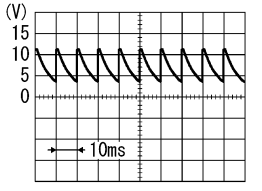
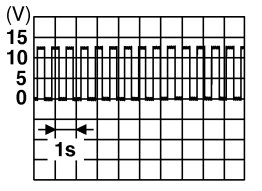
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

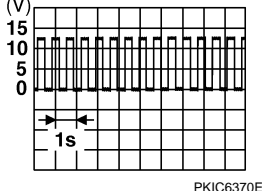
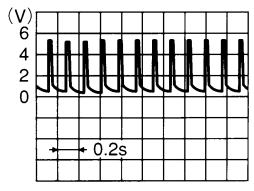
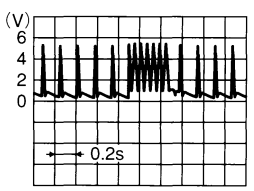
[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	 7.0 - 8.0 V
					ON (When rear door LH opened)	0 V
49 (Y)	Ground	Luggage room lamp	Output	Luggage room lamp switch DOOR position	Back door is closed (Back door lamp turns OFF)	12 V
					Back door is opened (Back door lamp turns ON)	0 V
54 (L/W)	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V
					ON (Activated)	12 V
55 (G)	Ground	Rear door UNLOCK	Output	Rear door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Actuator is not activated)	0 V
56 (L)	Ground	Interior room lamp power supply	Output		Interior room lamp battery saver is activated. (Cuts the interior room lamp power supply)	0 V
					Interior room lamp battery saver is not activated. (Outputs the interior room lamp power supply)	12 V
57 (Y)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
59 (G)	Ground	Passenger door UNLOCK	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Actuator is not activated)	0 V
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 6.0 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Turn signal switch RH	 6.0 V
63 (BR)	Ground	Interior room lamp timer control	Output	Interior room lamp OFF	12 V	
				Interior room lamp ON	0 V	
65 (V)	Ground	All doors LOCK	Output	All doors LOCK (Actuator is activated)	12 V	
				All doors Other than LOCK (Actuator is not activated)	0 V	
66 (L/B)	Ground	Driver door UN-LOCK	Output	Driver door UNLOCK (Actuator is activated)	12 V	
				Driver door Other than UNLOCK (Actuator is not activated)	0 V	
67 (B)	Ground	Ground	Output	Ignition switch ON	0 V	
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch ON	12 V	
69 (L/W)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF	12 V	
70 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
71 (R)	Ground	Tire pressure receiver communication	Input/ Output	Ignition switch ON	Standby state	
				Ignition switch ON	When receiving the signal from the transmitter	
72 (R/W)	Ground	Back door lock actuator relay control	Output	Back door LOCK (Actuator is activated)	0 V	
				Back door Other than LOCK (Actuator is not activated)	Battery voltage	
75 (SB)	Ground	Driver door request switch	Input	Driver door request switch ON (Pressed)	0 V	
				Driver door request switch OFF (Not pressed)	12 V	

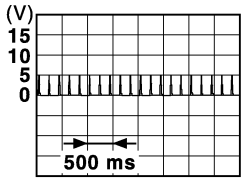
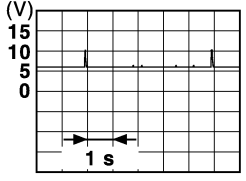
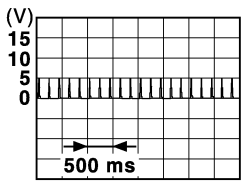
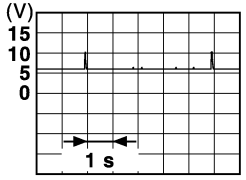
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

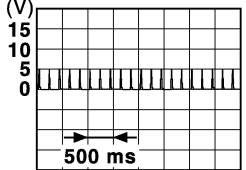
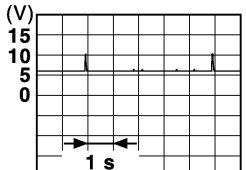
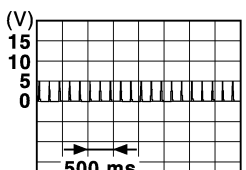
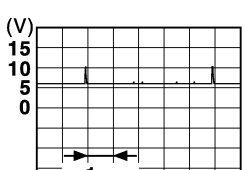
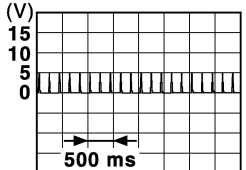
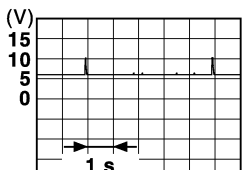
[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
76 (G)	Ground	Passenger door re- quest switch	Input	Passenger door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	12 V
77 (W)	Ground	Back door request switch	Input	Back door re- quest switch	ON (Pressed)	0 V
					OFF (Not pressed)	12 V
78 (LG)	Ground	Driver door antenna (+)	Output	When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detec- tion area	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
					When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>
79 (V)	Ground	Driver door antenna (-)	Output	When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detec- tion area	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
					When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
80 (BR/Y)	Ground	Passenger door antenna (+)	Output	When Intelligent Key is not in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When the passenger door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>
81 (L/Y)	Ground	Passenger door antenna (-)	Output	When Intelligent Key is not in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When the passenger door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>
82 (W/B)	Ground	Back door antenna (+)	Output	When Intelligent Key is not in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When the back door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>

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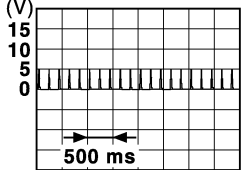
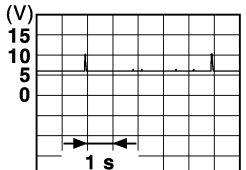
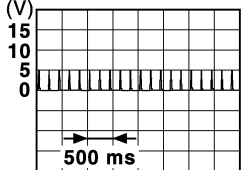
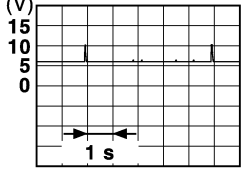
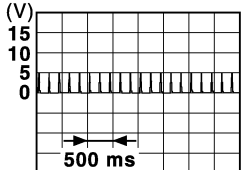
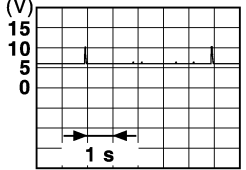
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

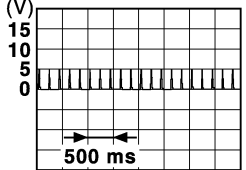
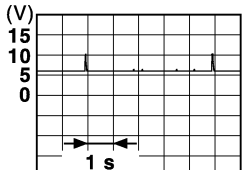
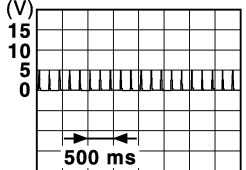
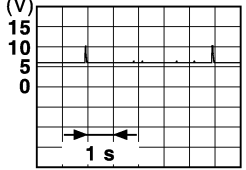
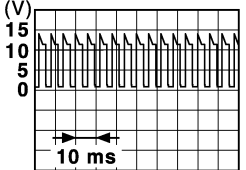
[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
83 (B/W)	Ground	Back door antenna (-)	Output	When the back door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>
84 (Y/G)	Ground	Room antenna (+) (Instrument panel)	Output	When Intelligent Key is not in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>
85 (Y/L)	Ground	Room antenna (-) (Instrument panel)	Output	When Intelligent Key is not in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
86 (P)	Ground	Luggage room antenna (+)	Output	Ignition switch OFF	 <p style="text-align: right; font-size: small;">JMKIA3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMKIA3839GB</p>
87 (L)	Ground	Luggage room antenna (-)	Output	Ignition switch OFF	 <p style="text-align: right; font-size: small;">JMKIA3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMKIA3839GB</p>
90 (W/L)	Ground	Push-button ignition switch illumination	Output	ON	12 V
				OFF	0 V
91 (Y)	Ground	ACC/ON indicator lamp	Output	Ignition switch OFF	Battery voltage
				ACC or ON	0.5 V
92 (BR/R)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp OFF	0 V
				ON	<p style="text-align: center;">NOTE: When the illumination brightening/dimming level is in the neutral position</p>  <p style="text-align: right; font-size: small;">JPMIA1554GB</p> <p style="text-align: center;">6.0 - 7.0 V</p>

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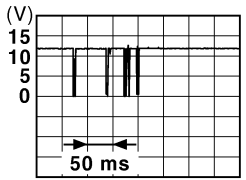
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
93 (GR/W)	Ground	Intelligent Key warn- ing buzzer	Output	Intelligent Key warning buzzer	Sounding	0 V
					Not sounding	12 V
94 (Y/R)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK status	12 V
					LOCK or UNLOCK	
					For 15 seconds after UN- LOCK	12 V
					15 seconds or later after UNLOCK	0 V
95 (W/G)	Ground	Steering lock unit power supply	Output	Ignition switch	OFF or ACC	12 V
					ON	0 V
96 (BR/W)	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
					ACC or ON	12 V
97 (L/R)	Ground	Starter relay control	Output	Ignition switch ON	When selector lever is in P or N position	Battery voltage
					When selector lever is not in P or N position	0 V
98 (BR)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	12 V
					ON	0 V
99 (W/R)	Ground	Ignition relay control	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V
100 (L/O)	Ground	Push-button ignition switch (push switch)	Input	Push-button ig- nition switch (push switch)	Pressed	0 V
					Not pressed	12 V
102 (G)	Ground	Selector lever P/N position	Input	Selector lever	P or N position	Battery voltage
					Except P and N positions	0 V
104 (Y/R)	Ground	CVT shift selector (detention switch) power supply	Output	Ignition switch ON		12 V
105 (B/O)	Ground	Stop lamp switch 2	Input	Ignition switch OFF		Battery voltage
106 (Y/B)	Ground	Blower fan motor re- lay control	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V
107 (L/W)	Ground	Steering lock condi- tion No. 1	Input	Steering lock	LOCK status	0 V
					UNLOCK status	12 V
108 (P/L)	Ground	Steering lock condi- tion No. 2	Input	Steering lock	LOCK status	12 V
					UNLOCK status	0 V
110 (BR/W)	Ground	Tire pressure receiv- er power supply	Output	Ignition switch	OFF or ACC	0 V
					ON	5 V

*: For Canada

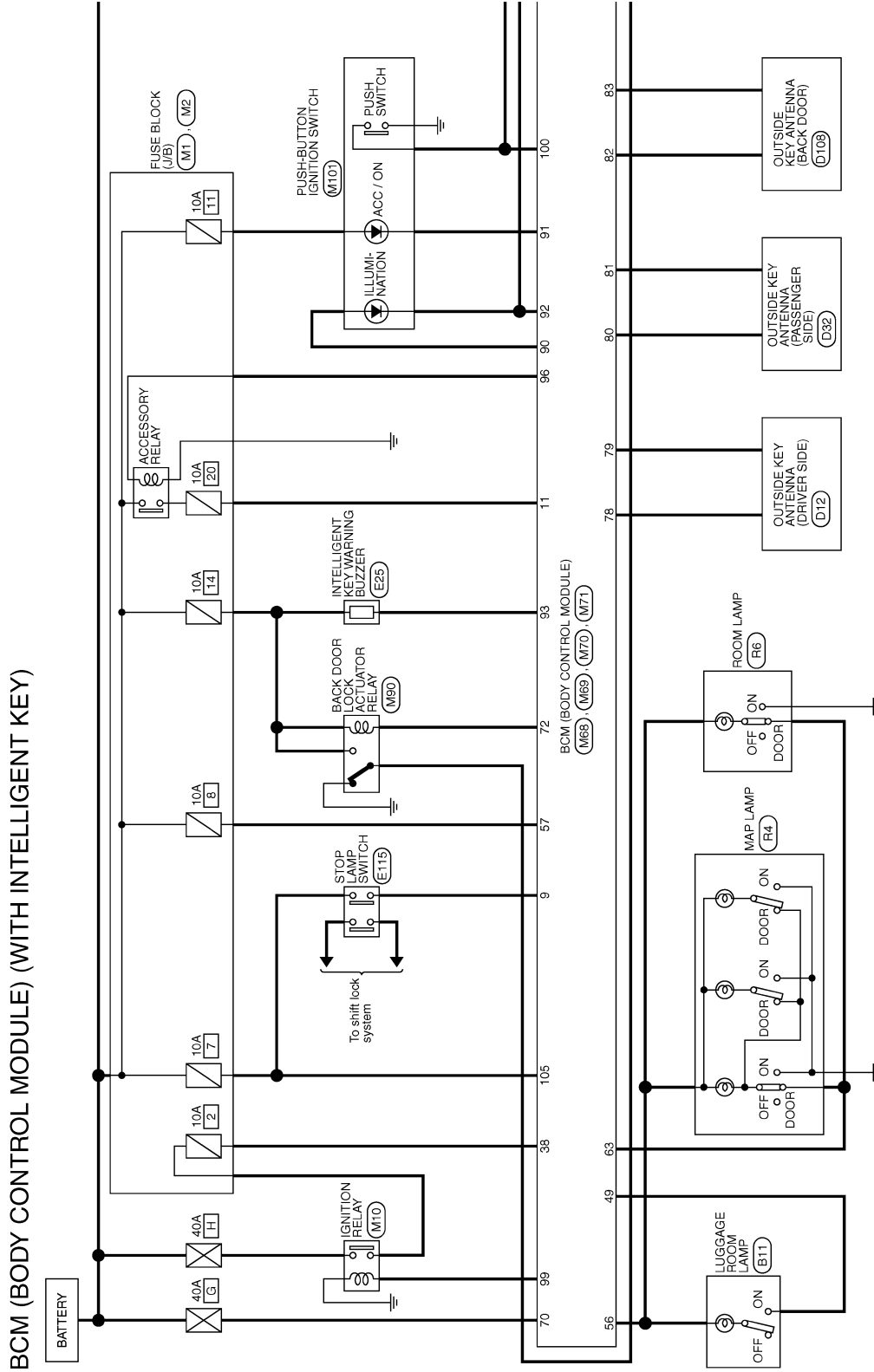
BCM (BODY CONTROL MODULE)

[POWER DISTRIBUTION SYSTEM]

< ECU DIAGNOSIS INFORMATION >

Wiring Diagram - BCM -

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BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

JCMWM4068GB

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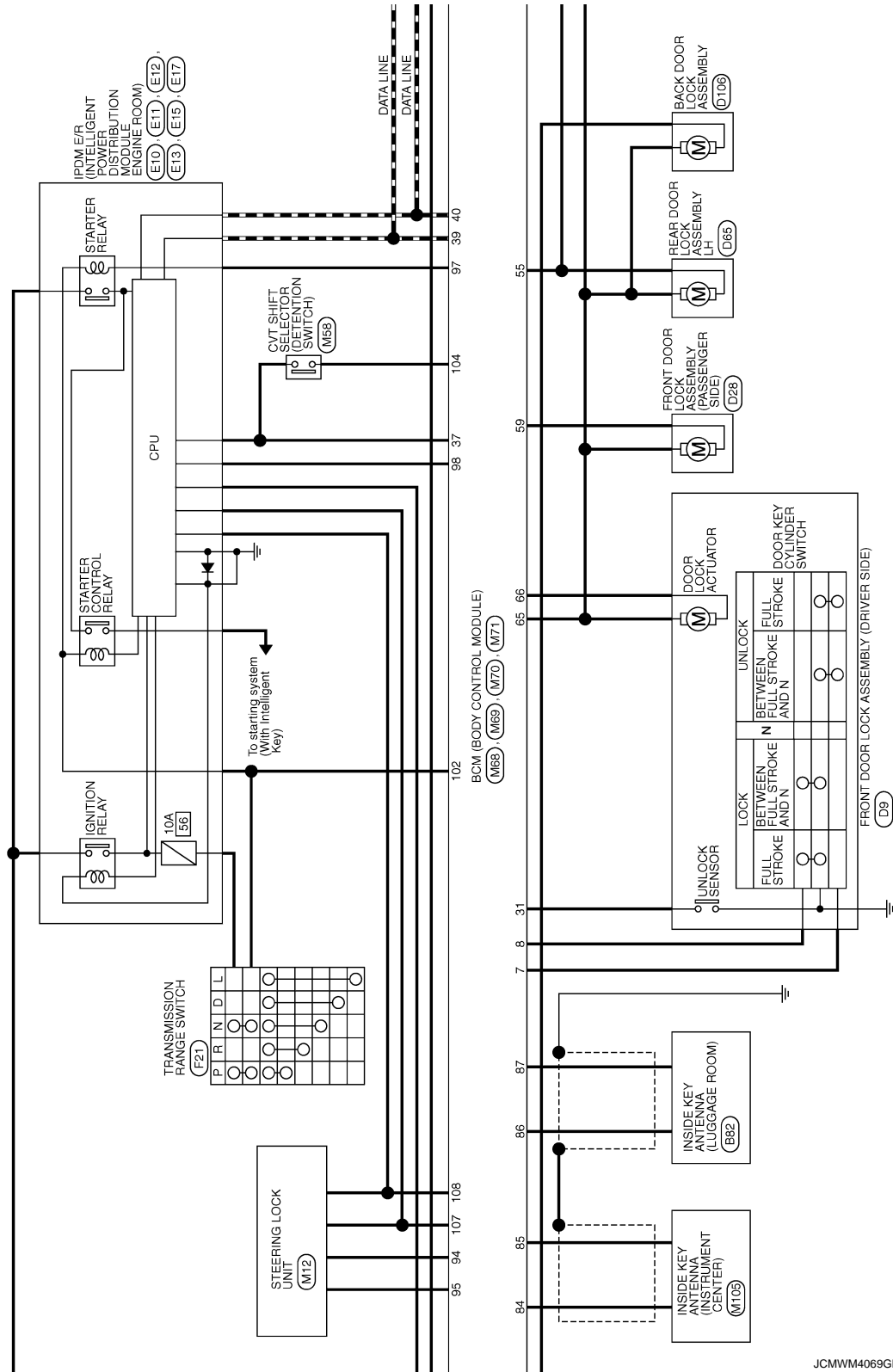
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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

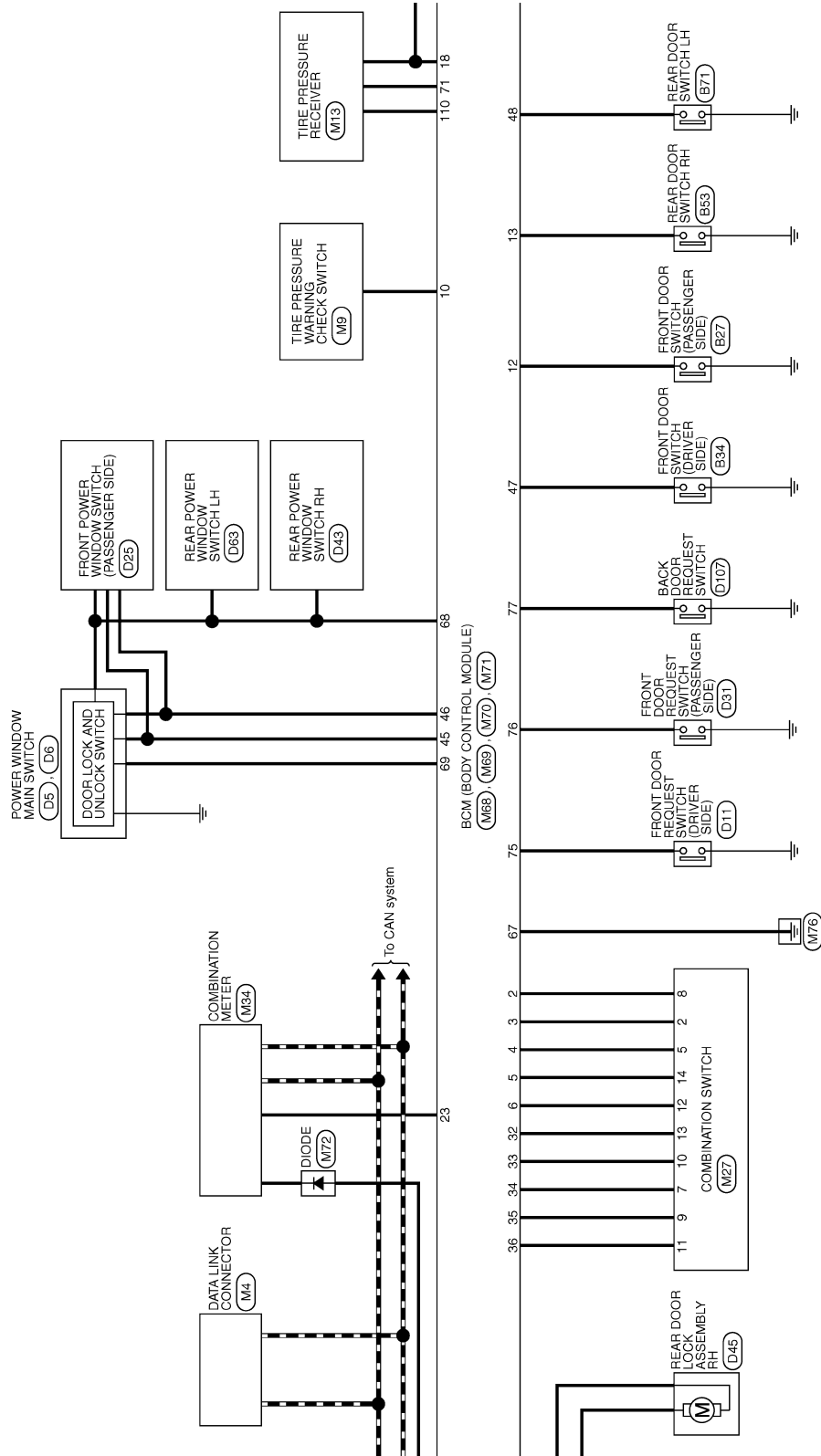


JCMWM4069GB

BCM (BODY CONTROL MODULE)

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[POWER DISTRIBUTION SYSTEM]



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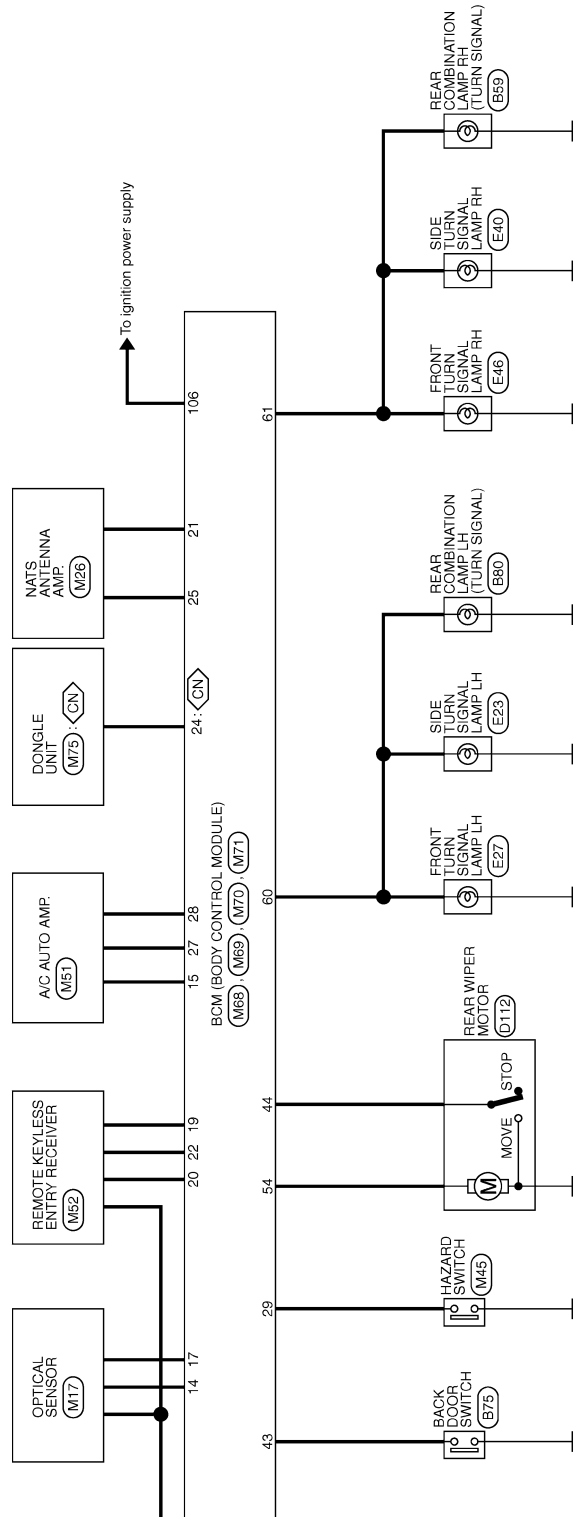
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BCM (BODY CONTROL MODULE)

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[POWER DISTRIBUTION SYSTEM]

For Canada



JCMWM4071GB

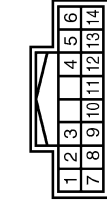
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH



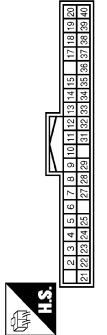
Terminal No.	Color of Wire	Signal Name [Specification]
2	GR	INPUT 4
3	L/Y	INPUT 3
4	W	INPUT 3
5	BR/W	INPUT 5
6	BR/W	INPUT 2
7	L/Y	OUTPUT 4
8	L/O	OUTPUT 1
9	L/R	OUTPUT 1
10	LG	OUTPUT 5
11	L/Y	INPUT 2

Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FEA09FW-FHA6-SA



Terminal No.	Color of Wire	Signal Name [Specification]
56	L	INTERIOR ROOM LAMP POWER SUPPLY
57	Y	BAT (FUSE)
58	G	PASSENGER DOOR UNLOCK OUTPUT
60	W/B	TURN SIGNAL LH OUTPUT
61	W/L	TURN SIGNAL RH OUTPUT
63	BR	ROOM LAMP TIMER CONTROL
65	V	ALL DOOR LOCK OUTPUT
66	L/B	DRIVER DOOR LOCK OUTPUT
67	B	GND
68	L	POWER WINDOW POWER SUPPLY(GN)
69	L/W	POWER WINDOW POWER SUPPLY(BAT)

Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH4QFP-NH

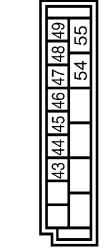


Terminal No.	Color of Wire	Signal Name [Specification]
2	BR/W	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L/Y	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L/R	COMBI SW INPUT 1
7	W/R	KEY CYL UNLOCK SW
8	W/B	KEY CYL LOCK SW
9	R	STOP LAMP SW 1
10	V/W	TIRE PRESS WARNING CHECK SW
11	L/Y	ACC F/B
12	SB	PASSENGER DOOR SW

Connector No.	70
Color of Wire	Y
Signal Name	BAT (F/L)

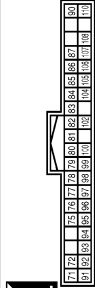
13	GR/L	REAR RH DOOR SW
14	L/B	OPTICAL SENSOR
15	W/L	REAR WINDOW DEFROGGER SW
17	R/G	OPTICAL SENSOR POWER SUPPLY
18	V	RECEIVER SENSOR GND
19	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY
20	G/Y	KEYLESS ENTRY RECEIVER COMM
21	P/L	NATS ANTENNA AMP
22	W/G	KEYLESS ENTRY RECEIVER RSSI
23	R/Y	SECURITY INDICATOR LAMP
24	GR/R	DOUBLE LINK
25	LG	NATS ANTENNA AMP
27	Y/G	A/C SW
28	G/W	BLOWER FAN SW
29	L/W	HAZARD SW
31	G/B	DR DOOR UNLOCK SENSOR
32	LG	COMBI SW OUTPUT 5
33	Y/L	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/L	COMBI SW OUTPUT 2
36	L/O	COMBI SW OUTPUT 1
37	G/O	SHIFT P
38	O	IGN F/B
39	L	CAN-H
40	P	CAN-L

Connector No.	M69
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FEA09FW-FHA6-SA



Terminal No.	Color of Wire	Signal Name [Specification]
43	W	BACK DOOR SW
44	LG	REAR WIPER STOP POSITION
45	GR	CENTRAL DOOR LOCK SW
46	BR	CENTRAL DOOR UNLOCK SW
47	BR/Y	DRIVER DOOR SW
48	W/G	REAR LH DOOR SW
49	Y	LUGGAGE ROOM LAMP OUTPUT
54	L/W	REAR WIPER OUTPUT
55	G	REAR DOOR UNLOCK OUTPUT

Connector No.	M71
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH4QFP-NH



Terminal No.	Color of Wire	Signal Name [Specification]
71	R	TIRE PRESS RECEIVER COMM
72	R/W	BK DR LOCK ACT RELAY CONT
75	SB	DRIVER DOOR REQUEST SW
76	G	PASSENGER DOOR REQUEST SW
77	W	BACK DOOR REQUEST SW
78	LG	DRIVER DOOR ANT+
79	V	DRIVER DOOR ANT-
80	BR/Y	PASSENGER DOOR ANT-
81	L/Y	PASSENGER DOOR ANT+
82	W/B	BACK DOOR ANT-
83	B/W	BACK DOOR ANT+

Connector No.	M71
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH4QFP-NH

Connector No.	M71
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH4QFP-NH

Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FEA09FW-FHA6-SA

Fail-safe

FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

JCMWMM4072GB

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED	Inhibit steering lock	When the following CAN signal status (vehicle speed signal) becomes consistent <ul style="list-style-type: none"> • Vehicle speed signal (ABS) • Vehicle speed signal (Meter)
B2601: SHIFT POSITION	Inhibit steering lock	500 ms after the following signal reception status becomes consistent <ul style="list-style-type: none"> • Selector lever P position switch signal • P range signal (CAN)
B2602: SHIFT POSITION	Inhibit steering lock	5 seconds after the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> • Ignition switch is in the ON position • Selector lever P position switch signal: Except P position (battery voltage) • Vehicle speed: 4 km/h (2.5 MPH) or more
B2603: SHIFT POSI STATUS	Inhibit steering lock	500 ms after any of the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> • Status 1 <ul style="list-style-type: none"> - Ignition switch is in the ON position - Selector lever P position switch signal: Except P position (12 V) - Selector lever P/N position signal: Except P and N positions (0 V) • Status 2 <ul style="list-style-type: none"> - Ignition switch is in the ON position - Selector lever P position switch signal: P position (0 V) - Selector lever P/N position signal: P or N positions (12 V)
B2604: PNP/CLUTCH SW	Inhibit steering lock	500 ms after any of the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> • Status 1 <ul style="list-style-type: none"> - Ignition switch is in the ON position - Selector lever P/N position signal: P or N position (12 V) - Shift position signal (CAN): P or N position • Status 2 <ul style="list-style-type: none"> - Ignition switch is in the ON position - Selector lever P/N position signal: Except P and N positions (0 V) - Shift position signal (CAN): Except P and N position
B2605: PNP/CLUTCH SW	Inhibit steering lock	500 ms after any of the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> • Status 1 <ul style="list-style-type: none"> - Power position: IGN - Selector lever P/N position signal: Except P and N positions (0 V) - Interlock/PNP switch signal (CAN): OFF • Status 2 <ul style="list-style-type: none"> - Ignition switch is in the ON position - Selector lever P/N position signal: P or N position (12 V) - Interlock/PNP switch signal (CAN): ON
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent <ul style="list-style-type: none"> • Starter motor relay control signal • Starter relay status signal (CAN)
B2609: S/L STATUS	<ul style="list-style-type: none"> • Inhibit engine cranking • Inhibit steering lock 	When the following steering lock conditions agree <ul style="list-style-type: none"> • BCM steering lock control status • Steering lock condition No. 1 signal status • Steering lock condition No. 2 signal status
B260B: STEERING LOCK UNIT	Inhibit steering lock	Erase DTC

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation
B260D: STEERING LOCK UNIT	Inhibit steering lock	Erase DTC
B260F: ENG STATE SIG LOST	Inhibit engine cranking	When any of the following conditions are fulfilled • Power position changes to ACC • Receives engine status signal (CAN)
B2612: S/L STATUS	<ul style="list-style-type: none"> Inhibit engine cranking Inhibit steering lock 	When any of the following conditions are fulfilled • Steering lock unit status signal (CAN) is received normally • The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control inside BCM becomes normal
B26EF: STRG LCK RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Steering lock relay signal (CAN): ON • Steering lock unit status signal (CAN): ON
B26F0: STRG LCK RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled • Steering lock relay signal (CAN): OFF • Steering lock unit status signal (CAN): OFF
B26F1: IGN RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Ignition switch ON signal (CAN: Transmitted from BCM): ON • Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled • Ignition switch ON signal (CAN: Transmitted from BCM): OFF • Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F3: START CONT RLY ON	Inhibit engine cranking	When the following conditions are fulfilled • Starter control relay signal (CAN: Transmitted from BCM): OFF • Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF
B26F4: START CONT RLY OFF	Inhibit engine cranking	When the following conditions are fulfilled • Starter control relay signal (CAN: Transmitted from BCM): ON • Starter control relay signal (CAN: Transmitted from IPDM E/R): ON
B26F7: BCM	Inhibit engine cranking by Intelligent Key system	When room antenna and luggage room antenna functions normally
U0415: VEHICLE SPEED	Inhibit steering lock	When vehicle speed signal (Meter) (CAN) is received normally

HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

NOTE:

The blinking speed is normal while activating the hazard warning lamp.

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.

When the rear wiper stop position signal does not change for more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

1. More than 1 minute is passed after the rear wiper stop.
2. Turn rear wiper switch OFF.
3. Operate the rear wiper switch or rear washer switch.

DTC Inspection Priority Chart

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If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Priority	DTC
1	B2562: LOW VOLTAGE
2	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	<ul style="list-style-type: none"> • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM • B2195: ANTI-SCANNING • B2196: DONGLE NG • B2198: NATS ANTENNA AMP
4	<ul style="list-style-type: none"> • B2013: ID DISCORD BCM-S/L • B2014: CHAIN OF S/L-BCM • B2553: IGNITION RELAY • B2555: STOP LAMP • B2556: PUSH-BTN IGN SW • B2557: VEHICLE SPEED • B2601: SHIFT POSITION • B2602: SHIFT POSITION • B2603: SHIFT POSI STATUS • B2604: PNP/CLUTCH SW • B2605: PNP/CLUTCH SW • B2608: STARTER RELAY • B2609: S/L STATUS • B260B: STEERING LOCK UNIT • B260C: STEERING LOCK UNIT • B260D: STEERING LOCK UNIT • B260F: ENG STATE SIG LOST • B2612: S/L STATUS • B2614: BCM • B2615: BCM • B2616: BCM • B2618: BCM • B2619: BCM • B261A: PUSH-BTN IGN SW • B26E9: LOCK MALFUNCTION • B26EF: STRG LCK RELAY OFF • B26F0: STRG LCK RELAY ON • B26F1: IGN RELAY OFF • B26F2: IGN RELAY ON • B26F3: START CONT RLY ON • B26F4: START CONT RLY OFF • B26F5: STRG LCK STS SW • B26F6: BCM • B26F7: BCM • B26F8: BCM • B26FC: KEY REGISTRATION • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Priority	DTC	
5	<ul style="list-style-type: none"> • C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL • C1734: CONTROL UNIT 	A B C D E F G
6	<ul style="list-style-type: none"> • B2621: INSIDE ANTENNA • B2622: INSIDE ANTENNA 	H
7	<ul style="list-style-type: none"> • B2626: OUTSIDE ANTENNA • B2627: OUTSIDE ANTENNA • B2628: OUTSIDE ANTENNA 	I

DTC Index

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NOTE:

The details of time display are as follows.

- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to [BCS-18, "COMMON ITEM : CONSULT-III Function \(BCM - COMMON ITEM\)"](#).

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—	—
U1000: CAN COMM	—	—	—	—	BCS-39
U1010: CONTROL UNIT (CAN)	—	—	—	—	BCS-40
U0415: VEHICLE SPEED	×	—	×	—	BCS-41
B2013: ID DISCORD BCM-S/L	×	×	×	—	SEC-45
B2014: CHAIN OF S/L-BCM	×	×	×	—	SEC-46
B2192: ID DISCORD BCM-ECM	×	—	—	—	SEC-35
B2193: CHAIN OF BCM-ECM	×	—	—	—	SEC-37
B2195: ANTI-SCANNING	×	—	—	—	SEC-38
B2196: DONGLE NG	×	—	—	—	SEC-39

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2198: NATS ANTENNA AMP	×	—	—	—	SEC-41
B2553: IGNITION RELAY	—	×	×	—	PCS-78
B2555: STOP LAMP	—	×	×	—	SEC-49
B2556: PUSH-BTN IGN SW	—	×	×	—	SEC-51
B2557: VEHICLE SPEED	×	×	×	—	SEC-53
B2562: LOW VOLTAGE	—	×	—	—	BCS-42
B2601: SHIFT POSITION	×	×	×	—	SEC-54
B2602: SHIFT POSITION	×	×	×	—	SEC-57
B2603: SHIFT POSI STATUS	×	×	×	—	SEC-60
B2604: PNP/CLUTCH SW	×	×	×	—	SEC-65
B2605: PNP/CLUTCH SW	×	×	×	—	SEC-68
B2608: STARTER RELAY	×	×	×	—	SEC-70
B2609: S/L STATUS	×	×	×	—	SEC-72
B260B: STEERING LOCK UNIT	×	×	×	—	SEC-75
B260C: STEERING LOCK UNIT	—	×	×	—	SEC-76
B260D: STEERING LOCK UNIT	×	×	×	—	SEC-77
B260F: ENG STATE SIG LOST	×	×	×	—	SEC-78
B2612: S/L STATUS	×	×	×	—	SEC-79
B2614: BCM	—	×	×	—	PCS-80
B2615: BCM	—	×	×	—	PCS-83
B2616: BCM	—	×	×	—	PCS-86
B2618: BCM	—	×	×	—	PCS-89
B2619: BCM	×	×	×	—	SEC-82
B261A: PUSH-BTN IGN SW	—	×	×	—	PCS-90
B2621: INSIDE ANTENNA	—	×	—	—	DLK-44
B2622: INSIDE ANTENNA	—	×	—	—	DLK-46
B2626: OUTSIDE ANTENNA	—	×	—	—	DLK-48
B2627: OUTSIDE ANTENNA	—	×	—	—	DLK-50
B2628: OUTSIDE ANTENNA	—	×	—	—	DLK-52
B26E9: LOCK MALFUNCTION	—	×	× (Turn ON for 15 seconds)	—	SEC-83
B26EF: STRG LCK RELAY OFF	×	×	×	—	SEC-84
B26F0: STRG LCK RELAY ON	×	×	×	—	SEC-86
B26F1: IGN RELAY OFF	×	×	×	—	PCS-92
B26F2: IGN RELAY ON	×	×	×	—	PCS-95
B26F3: START CONT RLY ON	×	×	×	—	SEC-87
B26F4: START CONT RLY OFF	×	×	×	—	SEC-88
B26F5: STRG LCK STS SW	—	×	×	—	SEC-90
B26F6: BCM	—	×	×	—	PCS-98
B26F7: BCM	×	×	×	—	SEC-93
B26F8: BCM	—	×	×	—	SEC-94

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B26FC: KEY REGISTRATION	—	×	×	—	SEC-95
C1704: LOW PRESSURE FL	—	—	—	×	WT-16
C1705: LOW PRESSURE FR	—	—	—	×	
C1706: LOW PRESSURE RR	—	—	—	×	
C1707: LOW PRESSURE RL	—	—	—	×	
C1708: [NO DATA] FL	—	—	—	×	WT-18
C1709: [NO DATA] FR	—	—	—	×	
C1710: [NO DATA] RR	—	—	—	×	
C1711: [NO DATA] RL	—	—	—	×	
C1712: [CHECKSUM ERR] FL	—	—	—	×	WT-21
C1713: [CHECKSUM ERR] FR	—	—	—	×	
C1714: [CHECKSUM ERR] RR	—	—	—	×	
C1715: [CHECKSUM ERR] RL	—	—	—	×	
C1716: [PRESSDATA ERR] FL	—	—	—	×	WT-24
C1717: [PRESSDATA ERR] FR	—	—	—	×	
C1718: [PRESSDATA ERR] RR	—	—	—	×	
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1720: [CODE ERR] FL	—	—	—	×	WT-26
C1721: [CODE ERR] FR	—	—	—	×	
C1722: [CODE ERR] RR	—	—	—	×	
C1723: [CODE ERR] RL	—	—	—	×	
C1724: [BATT VOLT LOW] FL	—	—	—	×	WT-29
C1725: [BATT VOLT LOW] FR	—	—	—	×	
C1726: [BATT VOLT LOW] RR	—	—	—	×	
C1727: [BATT VOLT LOW] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	WT-32
C1734: CONTROL UNIT	—	—	—	×	WT-34

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PRECAUTION

PRECAUTIONS

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

INFOID:000000005142597

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

- 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 "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation after Battery Disconnect

INFOID:000000005142598

NOTE:

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

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

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

OPERATION PROCEDURE

1. Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

2. Turn the push-button ignition switch to ACC position.
(At this time, the steering lock will be released.)
3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
4. Perform the necessary repair operation.

PRECAUTIONS

< PRECAUTION >

[POWER DISTRIBUTION SYSTEM]

5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT-III.

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PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

SYMPTOM DIAGNOSIS

PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

Description

INFOID:000000005050097

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/NVIS in the Intelligent Key system are closely related to each other regarding control. The vehicle security function can operate only when the door lock and power distribution system are operating normally.

Conditions of Vehicle (Operating Conditions)

- “ENGINE START BY I-KEY” in “WORK SUPPORT” is ON when setting on CONSULT-III.
- Intelligent Key is not inserted in key slot.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:000000005050098

1.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” on Work Support of “INTELLIGENT KEY”.

Refer to [PCS-74. "INTELLIGENT KEY : CONSULT-III Function \(BCM - INTELLIGENT KEY\)".](#)

>> GO TO 2.

2.PERFORM SELF-DIAGNOSIS RESULT

Perform Self-Diagnosis Result of “BCM”.

Is DTC detected?

YES >> Refer to [DLK-44. "DTC Logic"](#) (instrument center) or [DLK-46. "DTC Logic"](#) (luggage room).

NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Refer to [PCS-100. "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-34. "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

Description

INFOID:000000005050099

- Before performing the diagnosis in the following table, check “Work Flow”. Refer to [PCS-66, "Work Flow"](#).
- Check that vehicle is under the condition shown in “Conditions of vehicle” before starting diagnosis, and check each symptom.

Conditions of Vehicle (Operating Conditions)

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

Diagnosis Procedure

INFOID:000000005050100

1. CHECK PUSH-BUTTON IGNITION SWITCH INDICATOR

Check push-button ignition switch indicator.

Refer to [PCS-103, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to [GI-34, "Intermittent Incident"](#).

NO >> GO TO 1.

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PUSH-BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

[POWER DISTRIBUTION SYSTEM]

REMOVAL AND INSTALLATION

PUSH-BUTTON IGNITION SWITCH

Exploded View

INFOID:000000005050103


Refer to [IP-12. "Exploded View"](#).

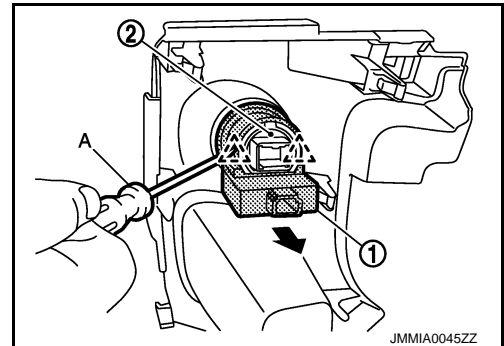
Removal and Installation

INFOID:000000005050104

REMOVAL

1. Remove the switch panel finisher. Refer to [IP-13. "Removal and Installation"](#).
2. Disconnect the push-ignition switch (2) fixing pawl using a flat-blade screwdriver (A), and then remove NATS antenna amp..

 : Pawl



INSTALLATION

Install in the reverse order of removal.