SECTION PCS
POWER CONTROL SYSTEM

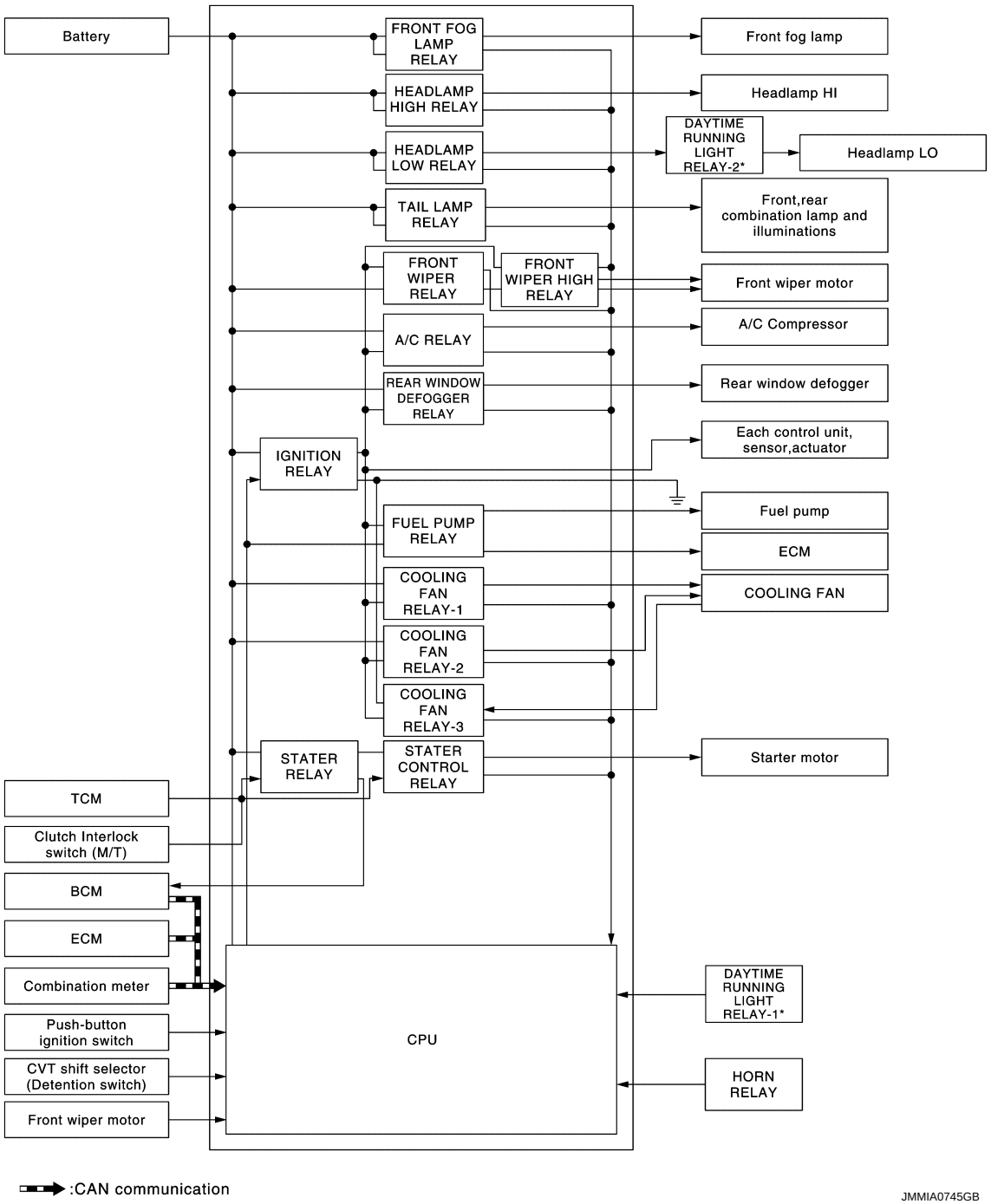
CONTENTS

SYSTEM DESCRIPTION

RELAY CONTROL SYSTEM

System Diagram

INFOID:0000000009944985



JMMIA0745GB

*: For this models, daytime running light relay is not applied.

System Description

INFOID:0000000009944986

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

CAUTION:

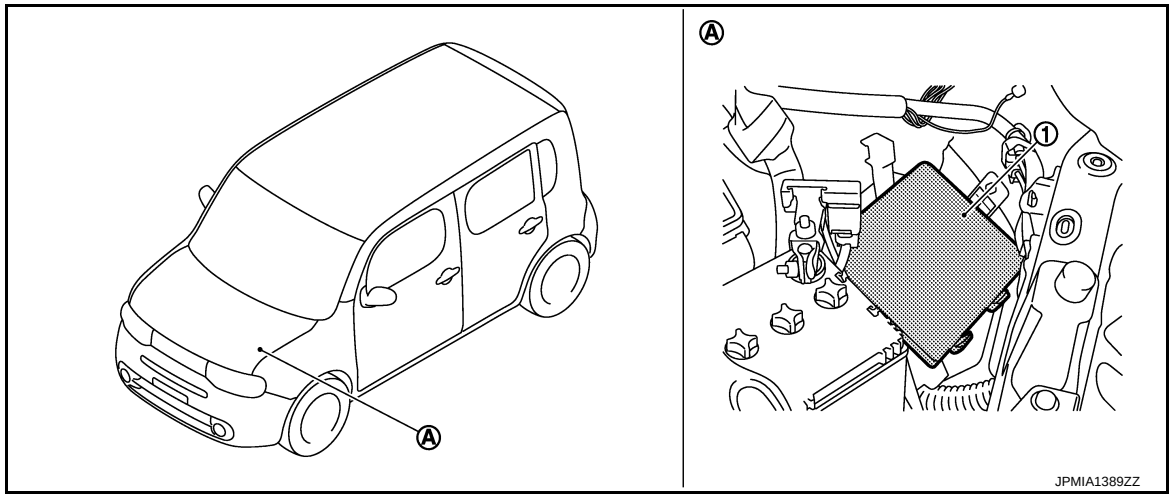
IPDM E/R integrated relays cannot be removed.

Control relay	Input/output	Transmit unit	Control part	Reference page
• Headlamp low relay • Headlamp high relay	• Low beam request signal • High beam request signal	BCM (CAN)	• Headlamp low • Headlamp high	EXL-7
Front fog lamp relay	Front fog light request signal	BCM (CAN)	Front fog lamp	EXL-12
Tail lamp relay	Position light request signal	BCM (CAN)	• Parking lamp • Side marker lamp • License plate lamp • Tail lamp	EXL-16
			Illuminations	INL-11
• 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-4
Horn relay	• Theft warning horn request signal • Horn reminder signal	BCM (CAN)	Horn	SEC-21
• Starter relay[NOTE] • Starter control relay	Starter control relay signal	BCM (CAN)	Starter motor	SEC-78, SEC-76
	Starter relay control signal	TCM		
		Clutch interlock switch (M/T)		
• Cooling fan relay-1 • Cooling fan relay-2 • Cooling fan relay-3	Cooling fan speed request signal	ECM (CAN)	Cooling fan	EC-74
A/C relay	A/C compressor request signal	ECM (CAN)	A/C compressor (Magnet clutch)	HAC-59
Ignition relay	Ignition switch ON signal	BCM (CAN)	Ignition relay	PCS-16
	Vehicle speed signal	Combination meter (CAN)		
	Push-button ignition switch signal	Push-button ignition switch		

NOTE:
BCM controls the starter relay.

Component Parts Location

INFOID:0000000009944987

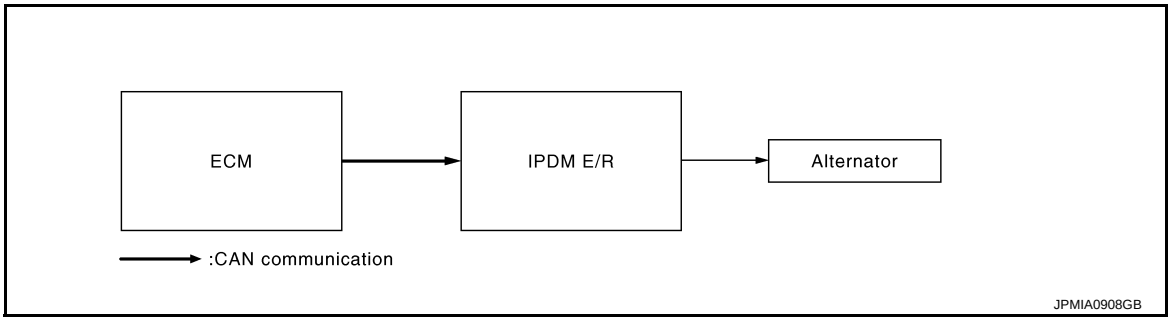


1. IPDM E/R
A. Engine room (LH)

POWER CONTROL SYSTEM

System Diagram

INFOID:0000000009944988



System Description

INFOID:0000000009944989

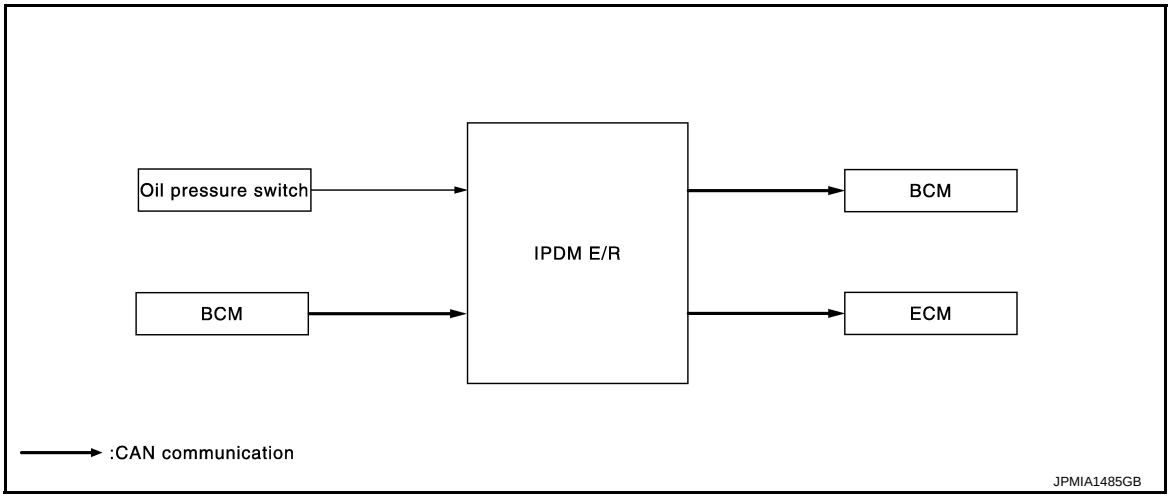
ALTERNATOR CONTROL

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-12, "System Diagram".

SIGNAL BUFFER SYSTEM

System Diagram

INFOID:0000000009944990



System Description

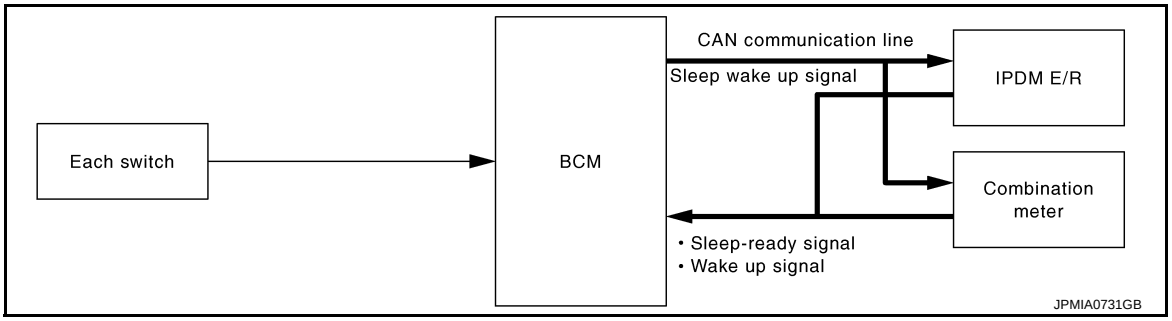
INFOID:0000000009944991

- 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-4, "System Diagram".

POWER CONSUMPTION CONTROL SYSTEM

System Diagram

INFOID:0000000010269397



System Description

INFOID:0000000009944993

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

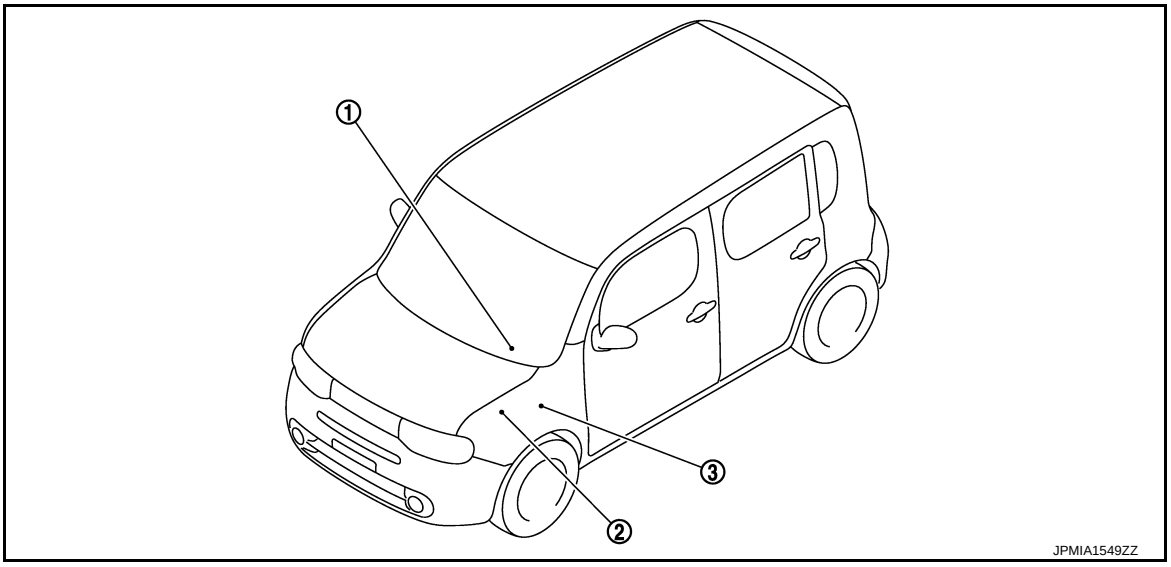
- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
  - Outputting signals to actuators
  - Switches or relays operating
  - Output requests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

Component Parts Location

INFOID:0000000010269398



1. Combination meter
2. IPDM E/R
   Refer to PCS-5, "Component Parts Location".
3. BCM
   Refer to BCS-10, "Component Parts Location".

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:0000000009944995

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:

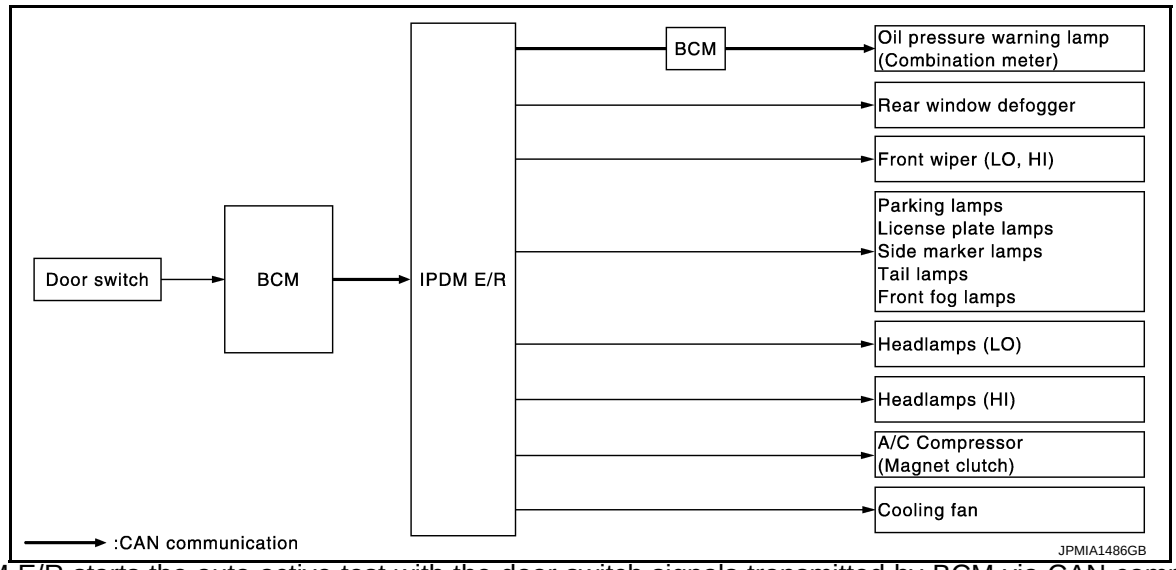
- **If auto active test mode cannot be actuated, check door switch system. Refer to DLK-55, "Component Function Check".**
- **Do not start the engine.**

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	• 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

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	• 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 • 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	• 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	• 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	• Magnet clutch • Harness or connector between IPDM E/R and magnet clutch • IPDM E/R

Symptom	Inspection contents		Possible cause
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES	• Harness or connector between IPDM E/R and oil pressure switch • Oil pressure switch • IPDM E/R
		NO	• 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	• ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO	• Cooling fan motor • Harness or connector between IPDM E/R and cooling fan motor • IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:0000000009944996

APPLICATION ITEM

CONSULT 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-32, "DTC Index".

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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.

Monitor Item [Unit]	MAIN SIGNALS	Description
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
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]		**NOTE:** The item is indicated, but not monitored.
S/L STATE [LOCK/UNLOCK/UNKWN]		**NOTE:** The item is indicated, but not monitored.
DTRL REQ [Off/On]		**NOTE:** The item is indicated, but not monitored.
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	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	

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.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009944997

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-22, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000009944998

DTC DETECTION LOGIC

DTC	CONSULT 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:0000000009944999

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-13, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-40, "Intermittent Incident".

B2098 IGNITION RELAY ON STUCK

Description

INFOID:0000000009945000

- 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:0000000009945001

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible causes
B2098	IGN RELAY ON CIRC	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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to PCS-16, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000009945002

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B2098”?

“CRNT”>> GO TO 2.
“PAST” >> GO TO 5.

2.CHECK IGNITION RELAY CONTROL CIRCUIT VOLTAGE 1

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

(+)		(–)	Voltage
IPDM E/R			
Connector	Terminal		
E17	69	Ground	0 – 1 V

Is the inspection result normal?

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

3.CHECK IGNITION RELAY CONTROL CIRCUIT VOLTAGE 2

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

(+)		(–)	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E17	69	Ground	0 V

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".
NO >> Check the harness of the ignition relay control circuit for a short to power.

4. CHECK IGNITION RELAY CONTROL CIRCUIT

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E17	69		Not existed

Is the inspection result normal?

YES >> Perform the diagnosis procedure for DTC B26F2. Refer to PCS-91, "DTC Logic".
NO >> Repair or replace harness.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2099 IGNITION RELAY OFF STUCK

Description

INFOID:0000000009945003

- 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:0000000009945004

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible causes
B2099	IGN RELAY OFF CIRC	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.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to PCS-18, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000009945005

1.CHECK FUSE

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

Is the inspection result normal?

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

2.CHECK IGNITION RELAY CONTROL CIRCUIT VOLTAGE

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

(+)		(–)	Voltage
IPDM E/R			
Connector	Terminal		
E17	69	Ground	0 – 1 V

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-34, "Removal and Installation".
NO >> GO TO 3.

3.CHECK BATTERY VOLTAGE

Check battery voltage.

Which is the measurement result?

More than 12.4 V>>GO TO 4.
Less than 12.4 V>>Perform battery inspection. Refer to PG-3, "How to Handle Battery".

4.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000009945006

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			
Connector	Terminal	Ground	
E9	1		Battery voltage
	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.

ECU DIAGNOSIS INFORMATION

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

Reference Value

INFOID:0000000009945007

VALUES ON THE DIAGNOSIS TOOL

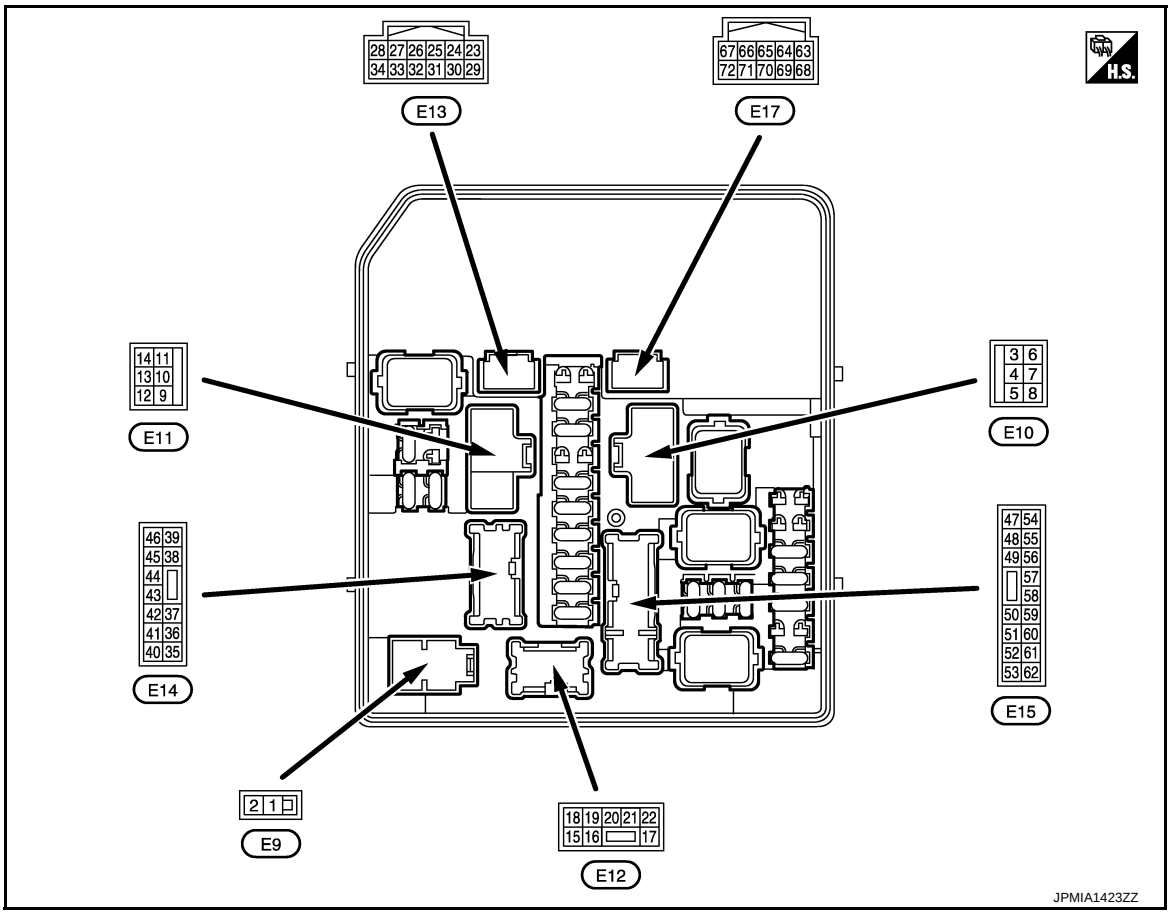
NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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

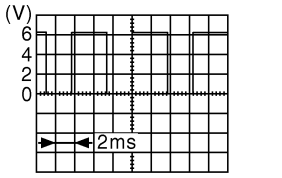
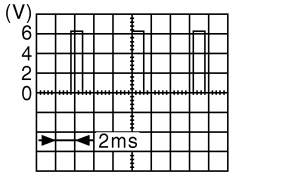
Monitor Item	Condition		Value/Status
INTER/NP SW	Ignition switch ON	• Selector lever in any position other than P or N (CVT models) • Release clutch pedal (M/T models)	Off
		• Selector lever in P or N position (CVT models) • Depress clutch pedal (M/T models)	On
ST RLY CONT	Ignition switch ON		Off
	At engine cranking		On
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	• 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	**NOTE:** The item is indicated, but not monitored.		Off
S/L STATE	**NOTE:** The item is indicated, but not monitored.		UNLOCK
DTRL REQ	**NOTE:** The item is indicated, but not monitored.		Off
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
	• 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

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

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
13 (W)	Ground	Rear window defogger	Output	Ignition switch ON	Rear window defogger switch OFF	0 V
					Rear window defogger 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	—		—
30 (SB)	Ground	Starter relay control	Output	At engine cranking		0 V
				Ignition switch ON		Battery voltage
31 (W)	Ground	Fuel pump relay control	Output	• 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
33 (O)	Ground	Power generation command signal	Output	Ignition switch ON		Battery voltage
				40 % is set on “ACTIVE TEST”, “ALTERNATOR DUTY” of “ENGINE”		 JPMIA0002GB 3.8 V
				80 % is set on “ACTIVE TEST”, “ALTERNATOR DUTY” of “ENGINE”		 JPMIA0003GB 1.4 V
34 (R)	Ground	Horn relay control	Output	The horn is deactivated		Battery voltage
				The horn is activated		0 V

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
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
				• 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
43 (G)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
				• 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
				• 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
47 (BR)	Ground	Transmission range switch*1	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*2		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
					• Lighting switch HI • Lighting switch PASS	Battery voltage
50 (GR)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					• Lighting switch HI • Lighting switch PASS	Battery voltage

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
51 (R)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
52 (P)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					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
				• 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
				• Approximately 1 second after turning 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 operating)	Battery voltage
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)	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
64*1 (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
66 (L)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0 V
				Release the push-button ignition switch		Battery voltage
69 (O)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage
				Ignition switch ON		0 V

*1: CVT models
*2: M/T models

Wiring Diagram — IPDM E/R —

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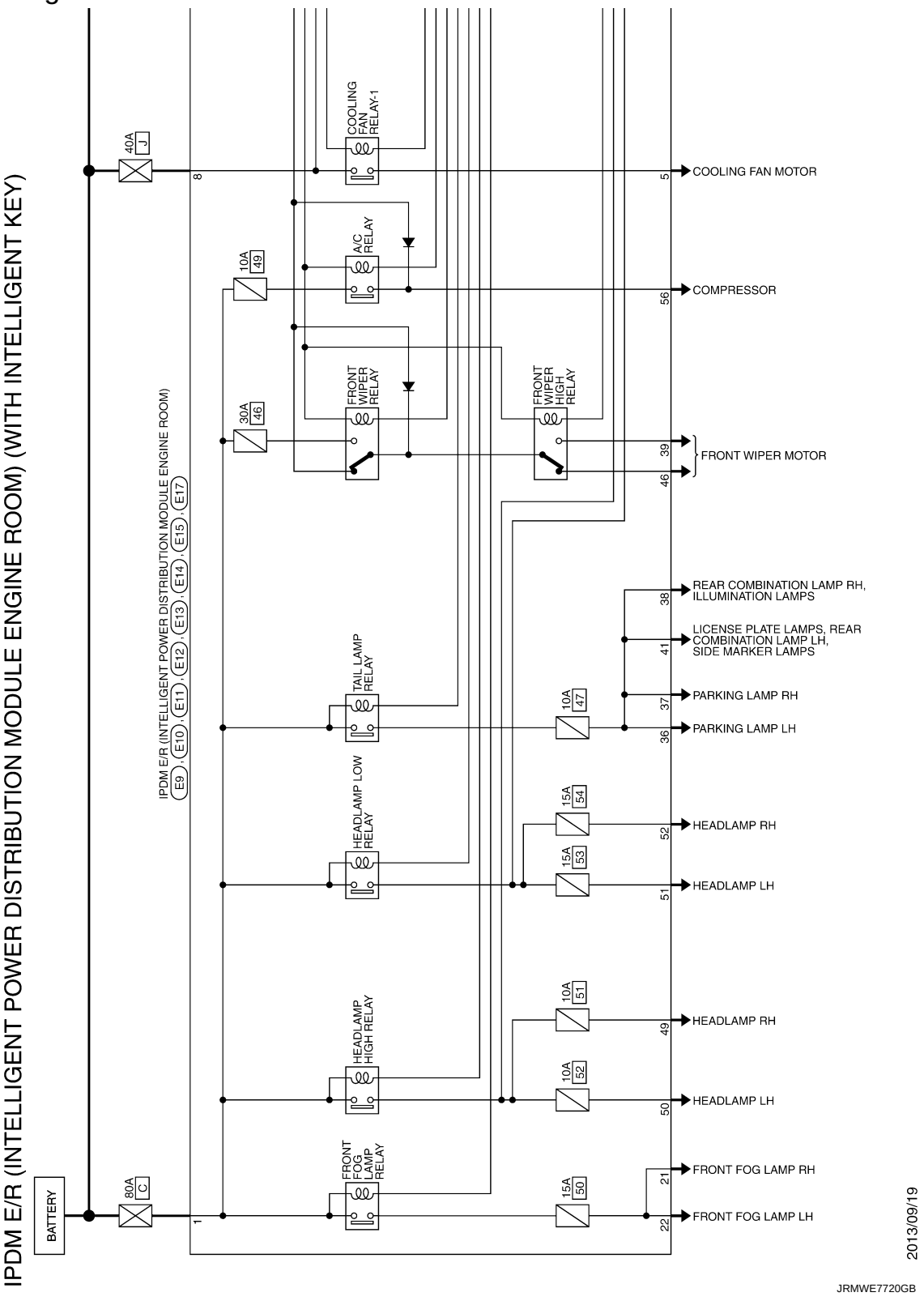
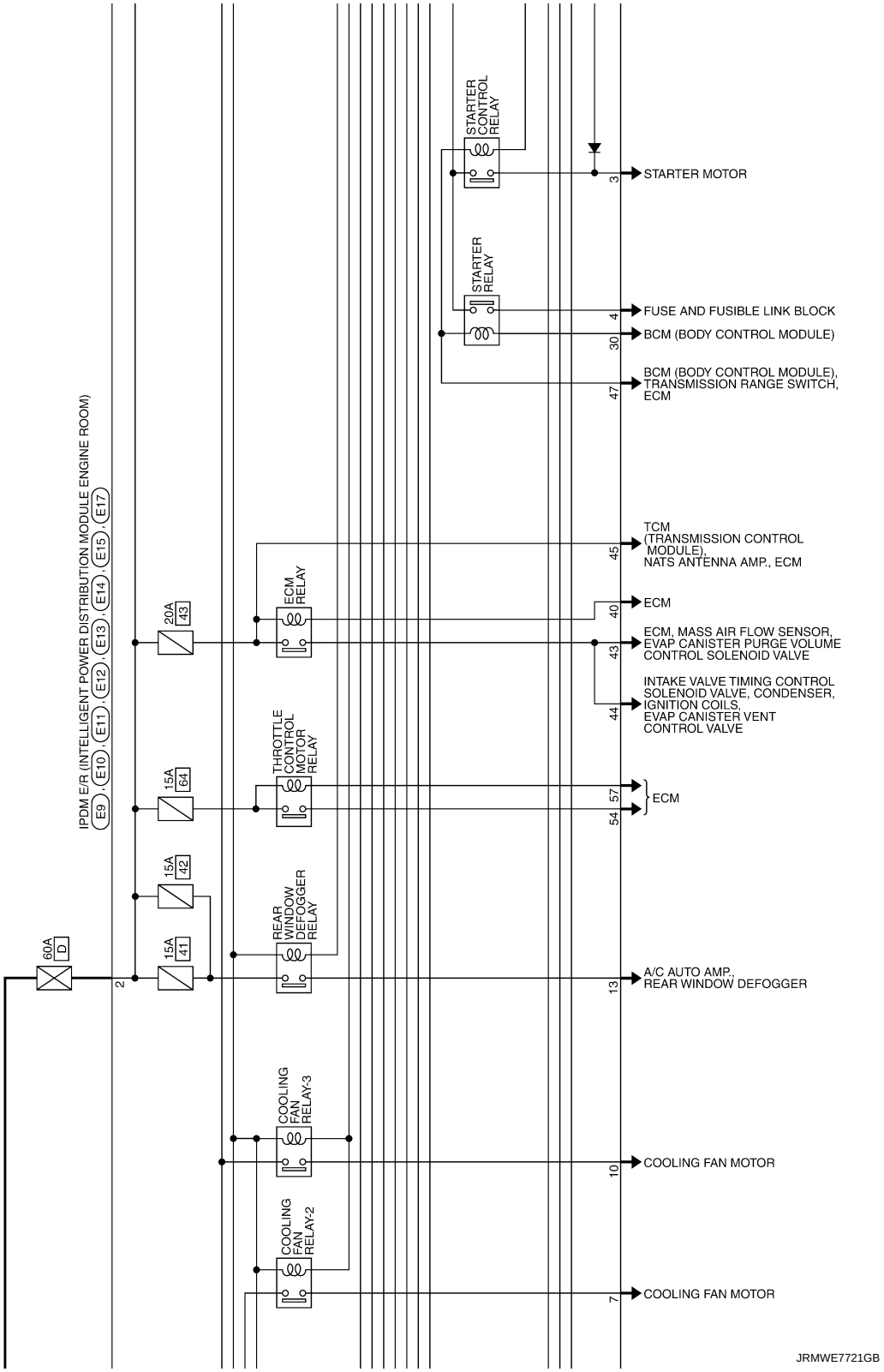
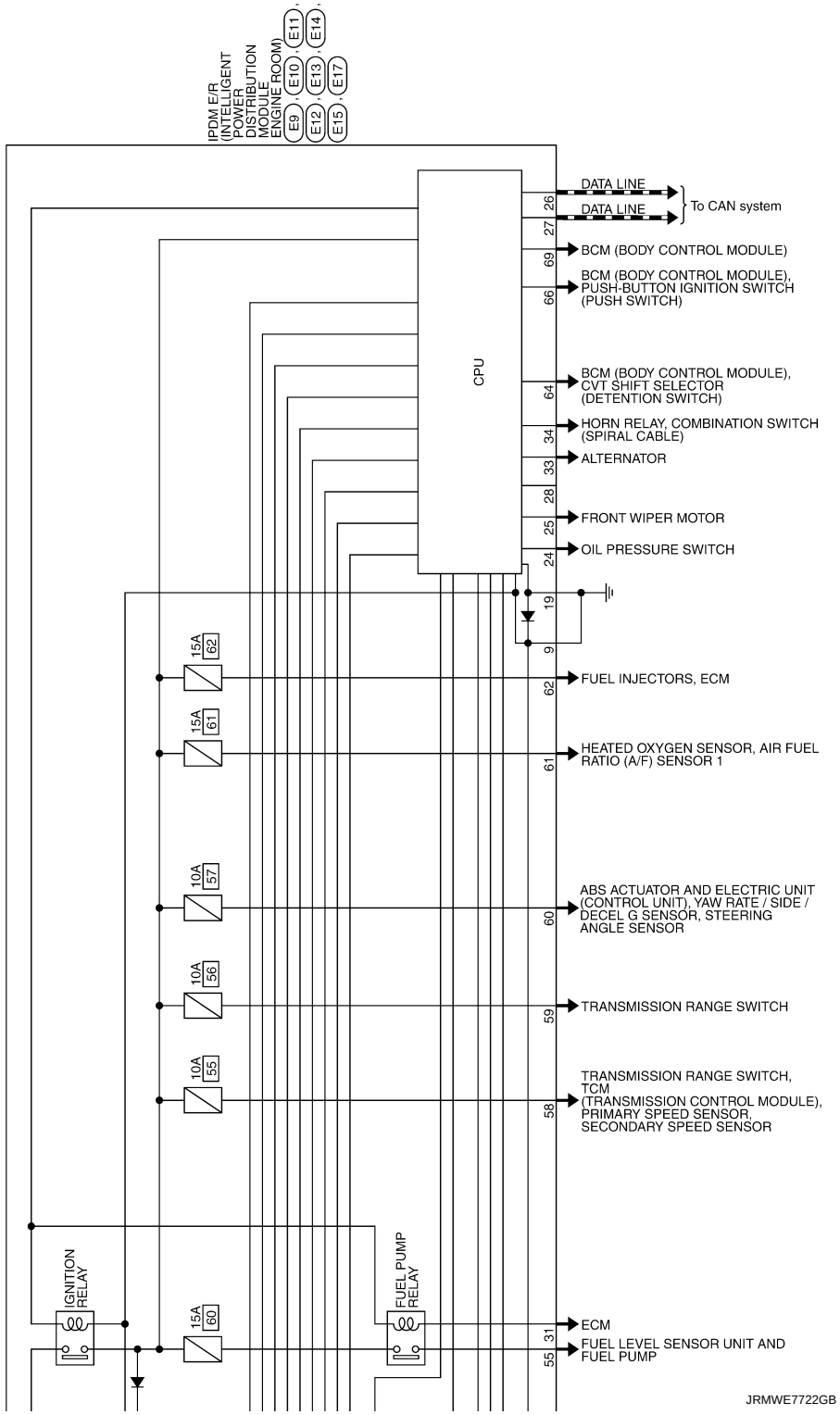
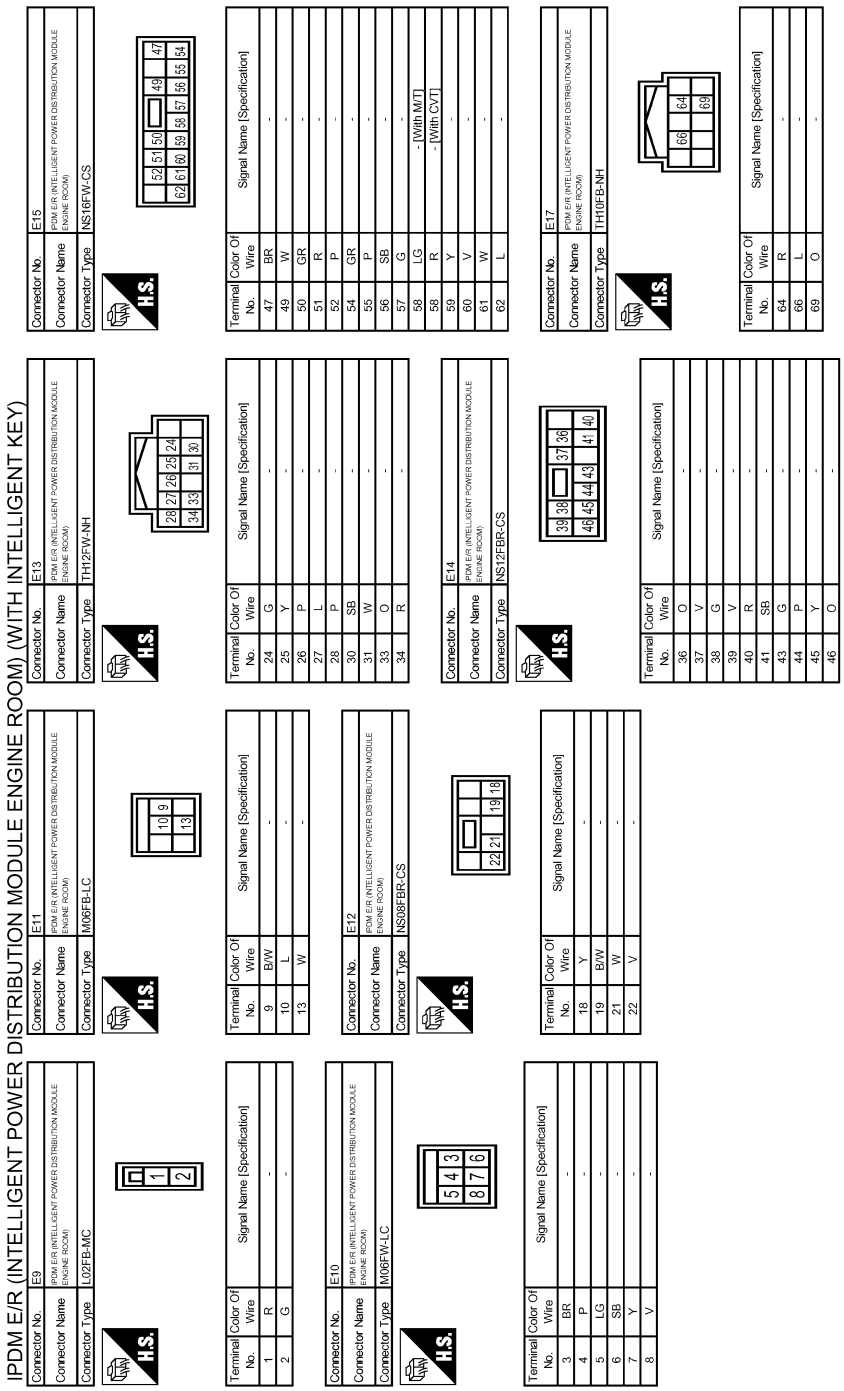



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E9, E10, E11, E12, E13, E14, E15, E17
60A D
2
20A 43
15A 64
15A 42
15A 41
ECM RELAY
THROTTLE CONTROL MOTOR RELAY
REAR WINDOW DEFOGGER RELAY
COOLING FAN RELAY-3
COOLING FAN RELAY-2
STARTER CONTROL RELAY
STARTER RELAY
3 STARTER MOTOR
4 FUSE AND FUSIBLE LINK BLOCK
30 BCM (BODY CONTROL MODULE)
47 BCM (BODY CONTROL MODULE), TRANSMISSION RANGE SWITCH, ECM
45 TCM (TRANSMISSION CONTROL MODULE), NATS ANTENNA AMP., ECM
40 ECM
43 ECM, MASS AIR FLOW SENSOR, EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE
44 INTAKE VALVE TIMING CONTROL SOLENOID VALVE, CONDENSER, IGNITION COILS, EVAP CANISTER VENT CONTROL VALVE
57, 54 ECM
13 A/C AUTO AMP., REAR WINDOW DEFOGGER
10 COOLING FAN MOTOR
7 COOLING FAN MOTOR
JRMWE7721GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E9, E10, E11, E12, E13, E14, E15, E17
CPU
DATA LINE
DATA LINE
To CAN system
BCM (BODY CONTROL MODULE)
BCM (BODY CONTROL MODULE), PUSH-BUTTON IGNITION SWITCH (PUSH SWITCH)
BCM (BODY CONTROL MODULE), CVT SHIFT SELECTOR (DETENTION SWITCH)
HORN RELAY, COMBINATION SWITCH (SPIRAL CABLE)
ALTERNATOR
FRONT WIPER MOTOR
OIL PRESSURE SWITCH
FUEL INJECTORS, ECM
HEATED OXYGEN SENSOR, AIR FUEL RATIO (A/F) SENSOR 1
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT), YAW RATE / SIDE / DECEL G SENSOR, STEERING ANGLE SENSOR
TRANSMISSION RANGE SWITCH
TRANSMISSION RANGE SWITCH, TCM (TRANSMISSION CONTROL MODULE), PRIMARY SPEED SENSOR, SECONDARY SPEED SENSOR
ECM
FUEL LEVEL SENSOR UNIT AND FUEL PUMP
IGNITION RELAY
FUEL PUMP RELAY
15A 62
15A 61
10A 57
10A 56
10A 55
15A 60
JRMWE7722GB



JRMWE7835GB

Fail-Safe

INFOID:0000000009945009

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

Control part	Fail-safe operation
Cooling fan	• 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	• 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
• Parking lamps • Side marker lamps • License plate lamps • Illuminations • Tail lamps	• 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	• 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

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	• 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.

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:0000000009945010

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.

×: Applicable

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—
U1000: CAN COMM CIRCUIT	×	PCS-15
B2098: IGN RELAY ON CIRC	×	PCS-16
B2099: IGN RELAY OFF CIRC	—	PCS-18
B210B: STR CONT RLY ON CIRC	—	SEC-76
B210C: STR CONT RLY OFF CIRC	—	SEC-77
B210D: STARTER RLY ON CIRC	—	SEC-78
B210E: STARTER RLY OFF CIRC	—	SEC-79
B210F: INTRLCK/PNP SW ON	—	SEC-81
B2110: INTRLCK/PNP SW OFF	—	SEC-83

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009945011

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

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

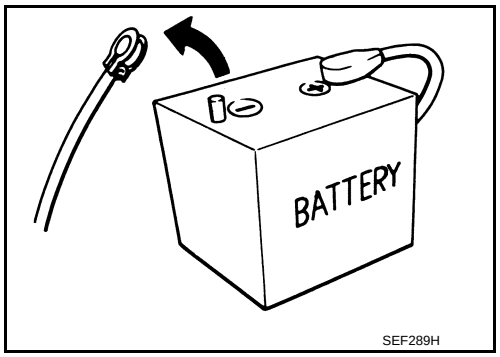
Always observe the following items for preventing accidental activation.

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

Precautions for Removing of Battery Terminal

INFOID:0000000010269415

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.



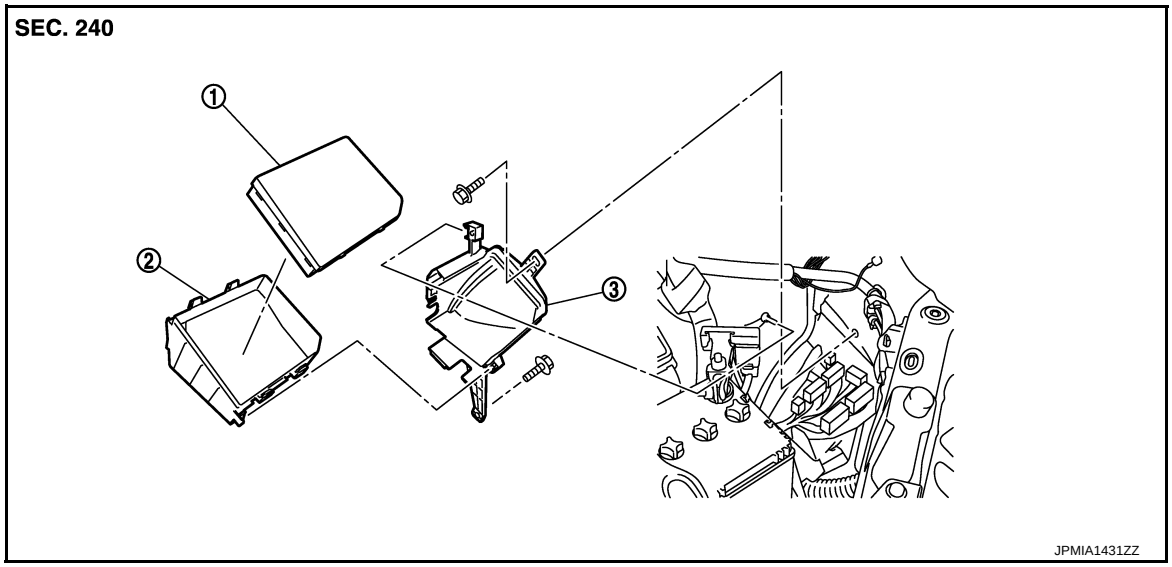
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

REMOVAL AND INSTALLATION

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

Exploded View

INFOID:0000000009945012



1. IPDM E/R cover A
2. IPDM E/R
3. IPDM E/R cover B

Removal and Installation

INFOID:0000000009945013

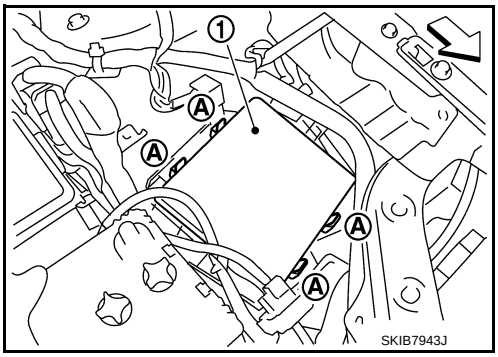
CAUTION:
IPDM E/R integrated relays are not serviceable parts, and must not be removed from the unit.

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.



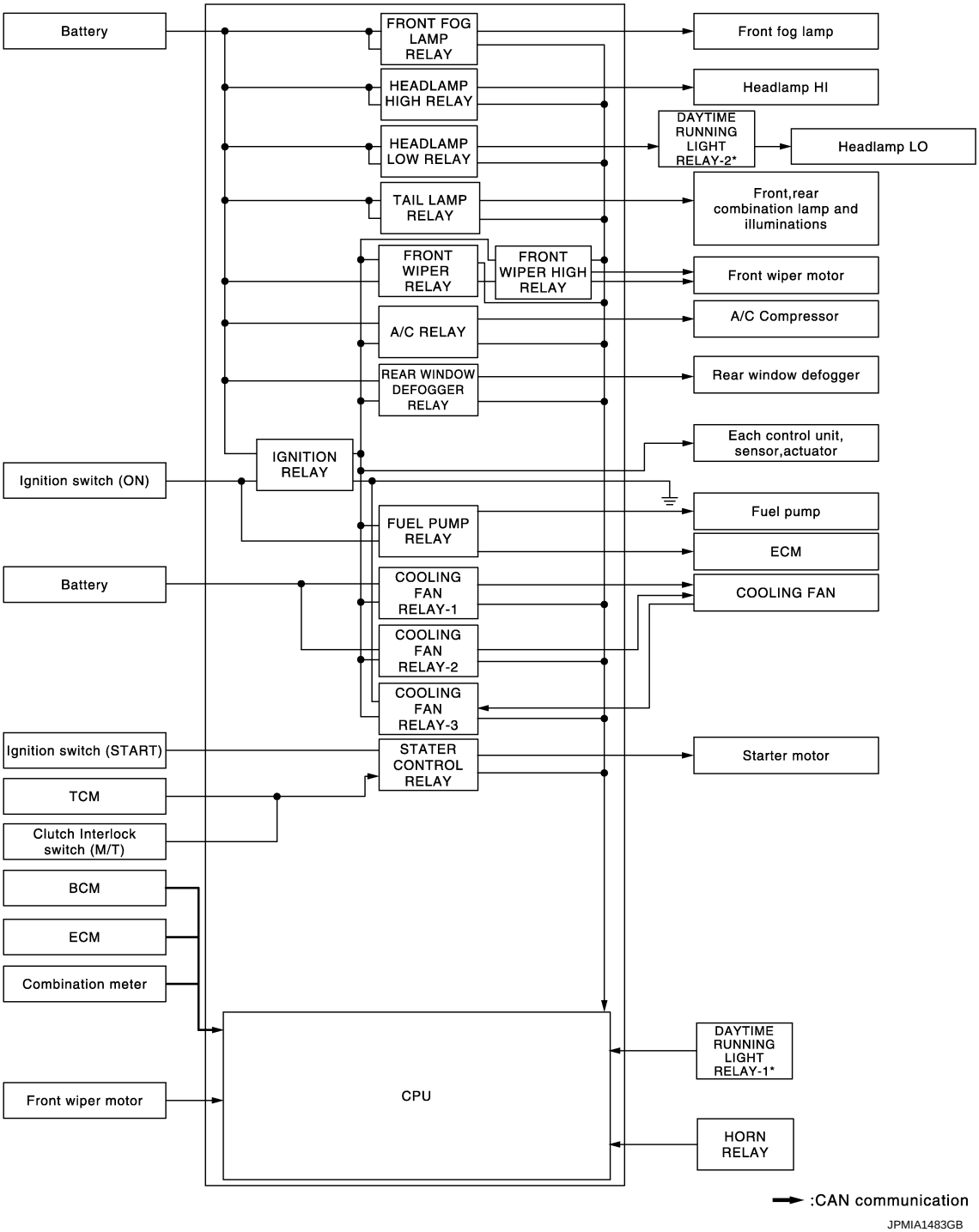
INSTALLATION
Install in the reverse order of removal.

SYSTEM DESCRIPTION

RELAY CONTROL SYSTEM

System Diagram

INFOID:0000000009945014



JPMIA1483GB

*: For this models, daytime running light relay is not applied.

System Description

INFOID:0000000009945015

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

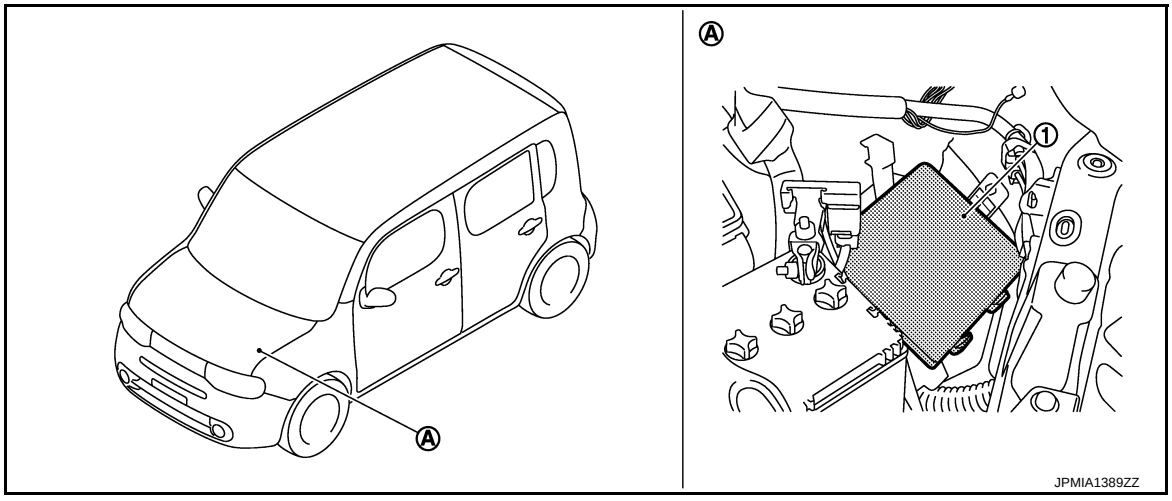
CAUTION:

IPDM E/R integrated relays cannot be removed.

Control relay	Input/output	Transmit unit	Control part	Reference page
• Headlamp low relay • Headlamp high relay	• Low beam request signal • High beam request signal	BCM (CAN)	• Headlamp low • Headlamp high	EXL-7
Front fog lamp relay	Front fog light request signal	BCM (CAN)	Front fog lamp	EXL-12
Tail lamp relay	Position light request signal	BCM (CAN)	• Parking lamp • Side marker lamp • License plate lamp • Tail lamp	EXL-16
			Illuminations	INL-11
• 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-4
Horn relay	• Theft warning horn request signal • Horn reminder signal	BCM (CAN)	Horn	SEC-182
Starter control relay	Ignition and starter request signal	BCM (CAN)	Starter motor	—
• Cooling fan relay-1 • Cooling fan relay-2 • Cooling fan relay-3	Cooling fan speed request signal	ECM (CAN)	Cooling fan	EC-74
A/C relay	A/C compressor request signal	ECM (CAN)	A/C compressor (Magnet clutch)	HAC-59
Ignition relay	Ignition switch ON signal	Ignition switch	Each control unit, sensor, actuator and relay (Ignition power supply)	PCS-46

Component Parts Location

INFOID:0000000009945016

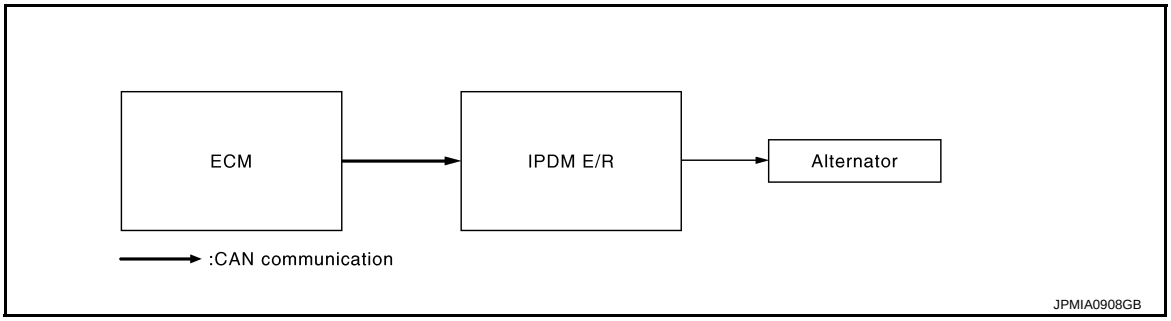


1. IPDM E/R
A. Engine room (LH)

POWER CONTROL SYSTEM

System Diagram

INFOID:0000000009945017



System Description

INFOID:0000000009945018

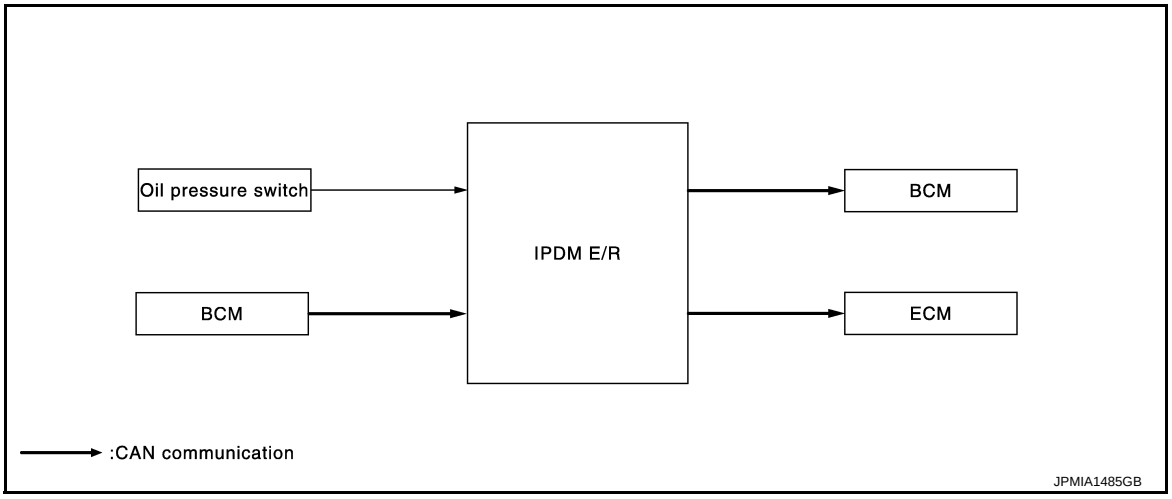
ALTERNATOR CONTROL

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-12, "System Diagram".

SIGNAL BUFFER SYSTEM

System Diagram

INFOID:0000000009945019



System Description

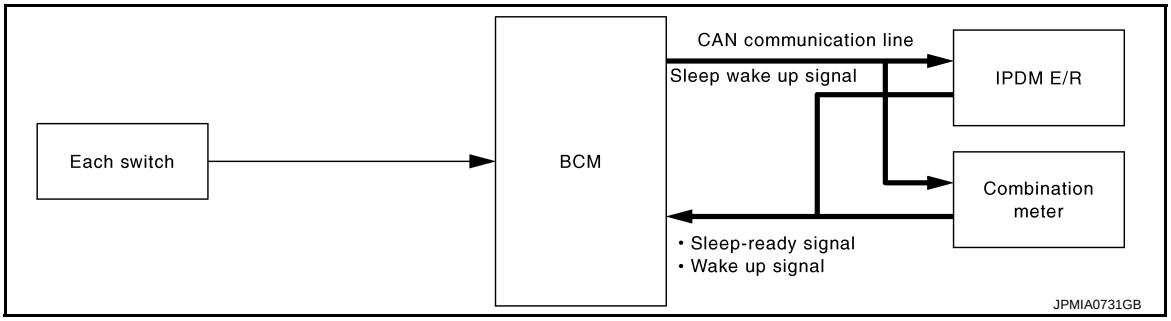
INFOID:0000000009945020

- 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-4, "System Diagram".

POWER CONSUMPTION CONTROL SYSTEM

System Diagram

INFOID:0000000010269399



System Description

INFOID:0000000009945022

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

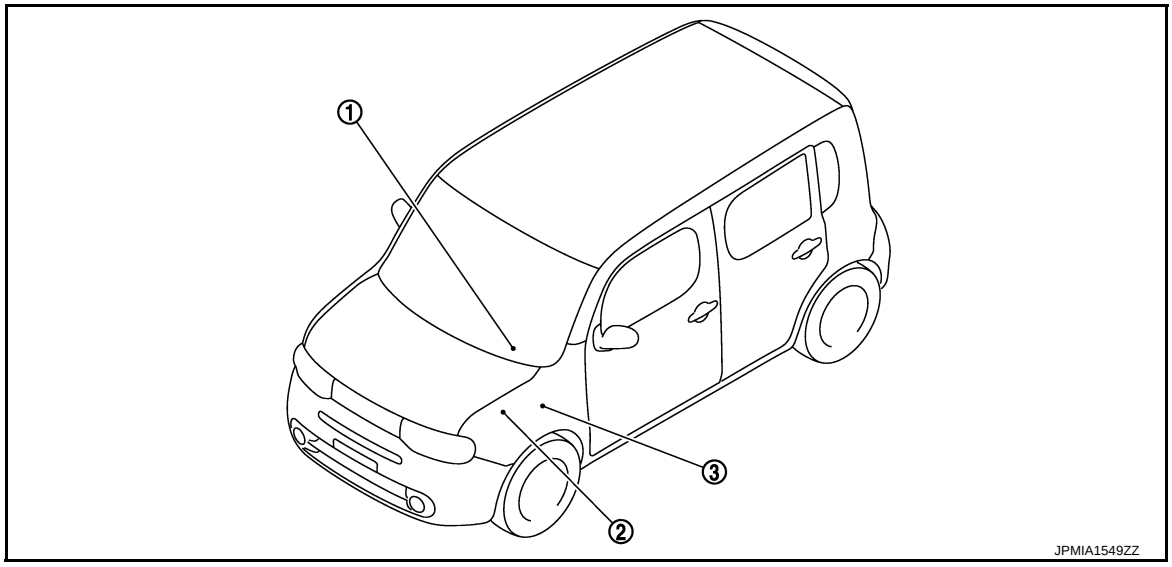
- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
  - Outputting signals to actuators
  - Switches or relays operating
  - Output requests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

Component Parts Location

INFOID:0000000010269400



1. Combination meter
2. IPDM E/R
   Refer to PCS-36, "Component Parts Location".
3. BCM
   Refer to BCS-95, "Component Parts Location".

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:0000000009945024

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:

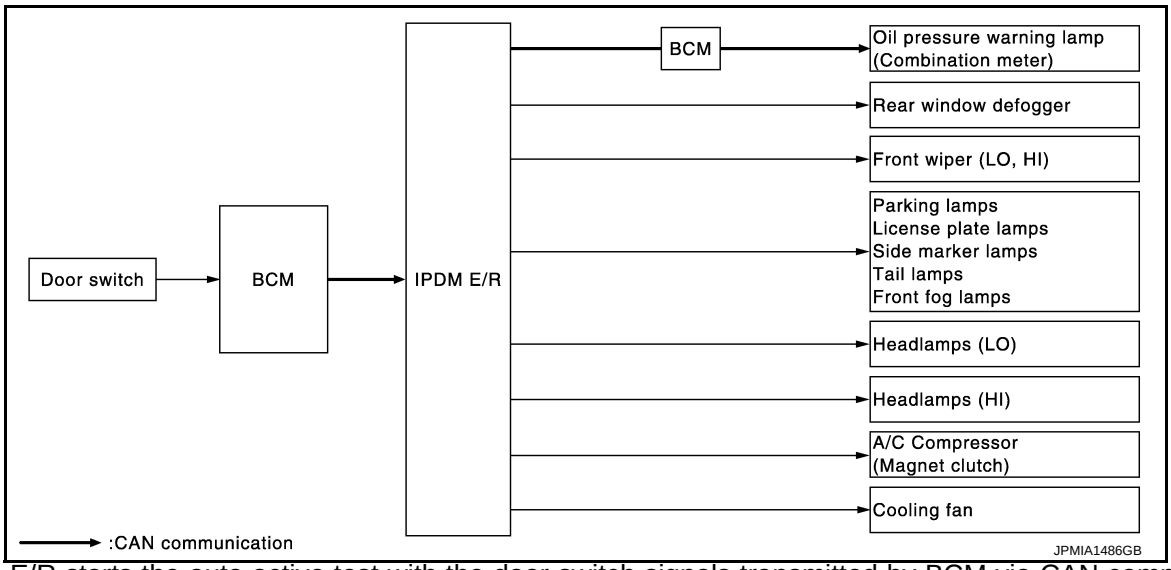
- **If auto active test mode cannot be actuated, check door switch system. Refer to DLK-55, "Component Function Check".**
- **Do not start the engine.**

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	• 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

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	• 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 • 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	• 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	• 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	• Magnet clutch • Harness or connector between IPDM E/R and magnet clutch • IPDM E/R

Symptom	Inspection contents		Possible cause
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES	• Harness or connector between IPDM E/R and oil pressure switch • Oil pressure switch • IPDM E/R
		NO	• 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	• ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO	• Cooling fan motor • Harness or connector between IPDM E/R and cooling fan motor • IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:0000000009945025

APPLICATION ITEM

CONSULT 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-62, "DTC Index".

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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.

Monitor Item [Unit]	MAIN SIGNALS	Description
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
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]		**NOTE:** The item is indicated, but not monitored.
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	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.

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000009945026

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-22, "CAN Communication Signal Chart".

DTC Logic

INFOID:0000000009945027

DTC DETECTION LOGIC

DTC	CONSULT 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:0000000009945028

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-13, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-40, "Intermittent Incident".

B2098 IGNITION RELAY ON STUCK

Description

INFOID:0000000009945029

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

DTC Logic

INFOID:0000000009945030

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible causes
B2098	IGN RELAY ON CIRC	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)	• IPDM E/R • BCM • Harness or connector (Ignition relay circuit)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to PCS-46, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000009945031

1.CHECK SELF DIAGNOSTIC RESULT

Check DTC using CONSULT.

What is the display history of DTC “B2098”?

“CRNT”>> GO TO 2.
“PAST” >> GO TO 3.

2.CHECK IGNITION RELAY CONTROL CIRCUIT VOLTAGE

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

(+)		(–)	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E12	18	Ground	0 V

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-64, "Removal and Installation".
NO >> Check the harness of the ignition relay control circuit for a short to power.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

B2099 IGNITION RELAY OFF STUCK

Description

INFOID:0000000009945032

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

DTC Logic

INFOID:0000000009945033

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible causes
B2099	IGN RELAY OFF CIRC	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)	• IPDM E/R • Harness or connector (Ignition relay circuit)

NOTE:

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to PCS-47, "Diagnosis Procedure".
NO >> INSPECTION END.

Diagnosis Procedure

INFOID:0000000009945034

1.CHECK FUSE

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

Is the inspection result normal?

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

2.CHECK IGNITION RELAY CONTACT POINT SIDE CIRCUIT VOLTAGE

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

(+)		(–)	Voltage
IPDM E/R			
Connector	Terminal		
E17	68	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to PCS-64, "Removal and Installation".

3.CHECK BATTERY VOLTAGE

Check battery voltage.

Which is the measurement result?

More than 12.4 V>>GO TO 4.
Less than 12.4 V>>Perform battery inspection. Refer to PG-3, "How to Handle Battery".

4.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000009945035

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			
Connector	Terminal	Ground	
E9	1		Battery voltage
	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		Ground	
Connector	Terminal		
E12	18		Battery voltage

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.

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

Does continuity exist?

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

ECU DIAGNOSIS INFORMATION

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

Reference Value

INFOID:0000000009945036

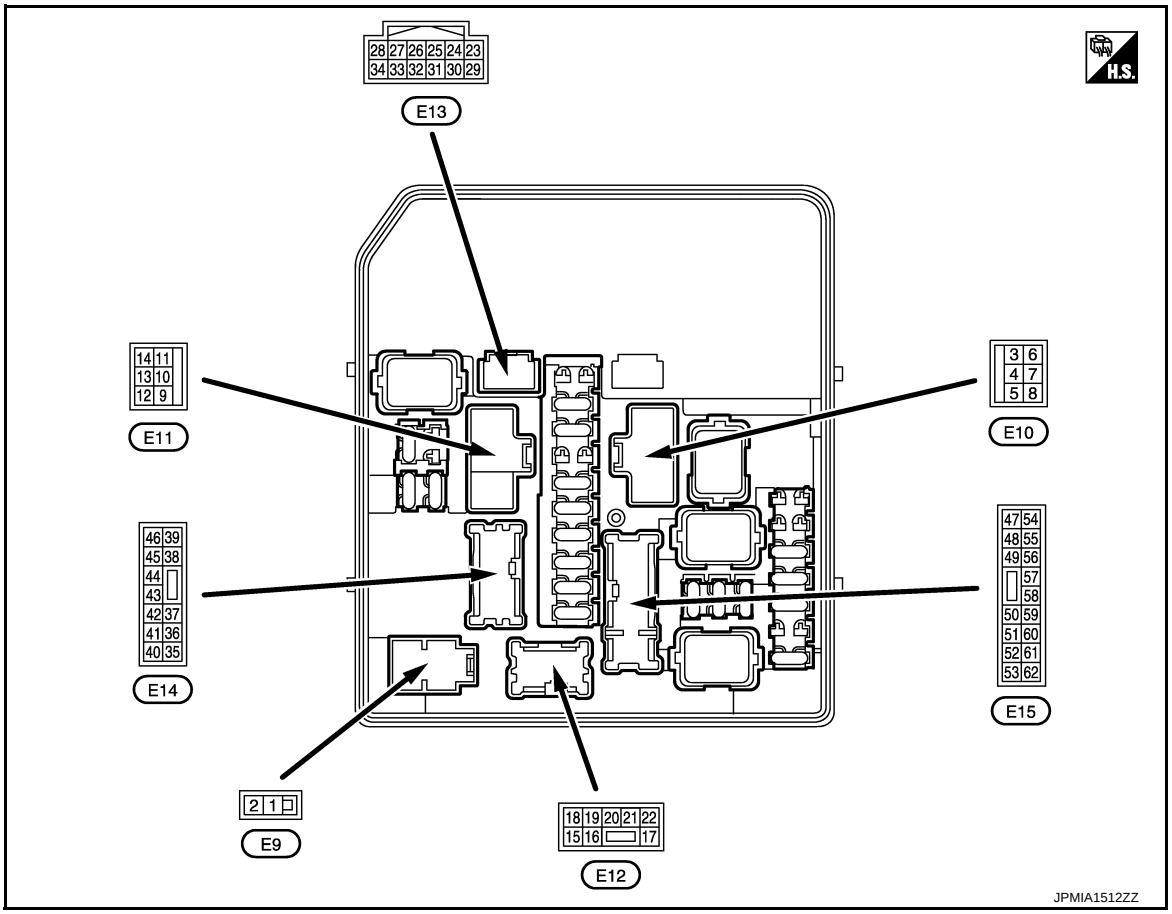
VALUES ON THE DIAGNOSIS TOOL

NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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:** The item is indicated, but not monitored.		Off
OIL P SW	Ignition switch OFF, ACC or engine running		Open
	Ignition switch ON		Close

Monitor Item	Condition	Value/Status
HOOD SW	**NOTE:** The item is indicated, but not monitored.	Off
THFT HRN REQ	Not operation	Off
	• 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

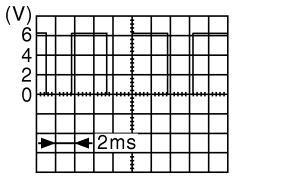
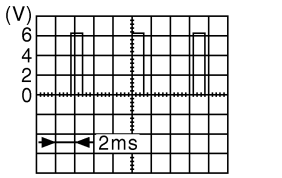
TERMINAL LAYOUT



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

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	—		—
31 (W)	Ground	Fuel pump relay control	Output	• 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

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”		 JPMIA0002GB 3.8 V
				80 % is set on “ACTIVE TEST”, “ALTERNATOR DUTY” of “ENGINE”		 JPMIA0003GB 1.4 V
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
				• 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
43 (G)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
				• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)		Battery voltage

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
				• 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
47 (BR)	Ground	Transmission range switch*1	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*2	Input	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
					• Lighting switch HI • Lighting switch PASS	Battery voltage
50 (GR)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					• Lighting switch HI • Lighting switch PASS	Battery voltage
51 (R)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
52 (P)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					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
				• 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
				• Approximately 1 second after turning 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 operating)	Battery voltage
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

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	–				
58 (R)	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

*2: CVT models
*3: M/T models

Wiring Diagram — IPDM E/R —

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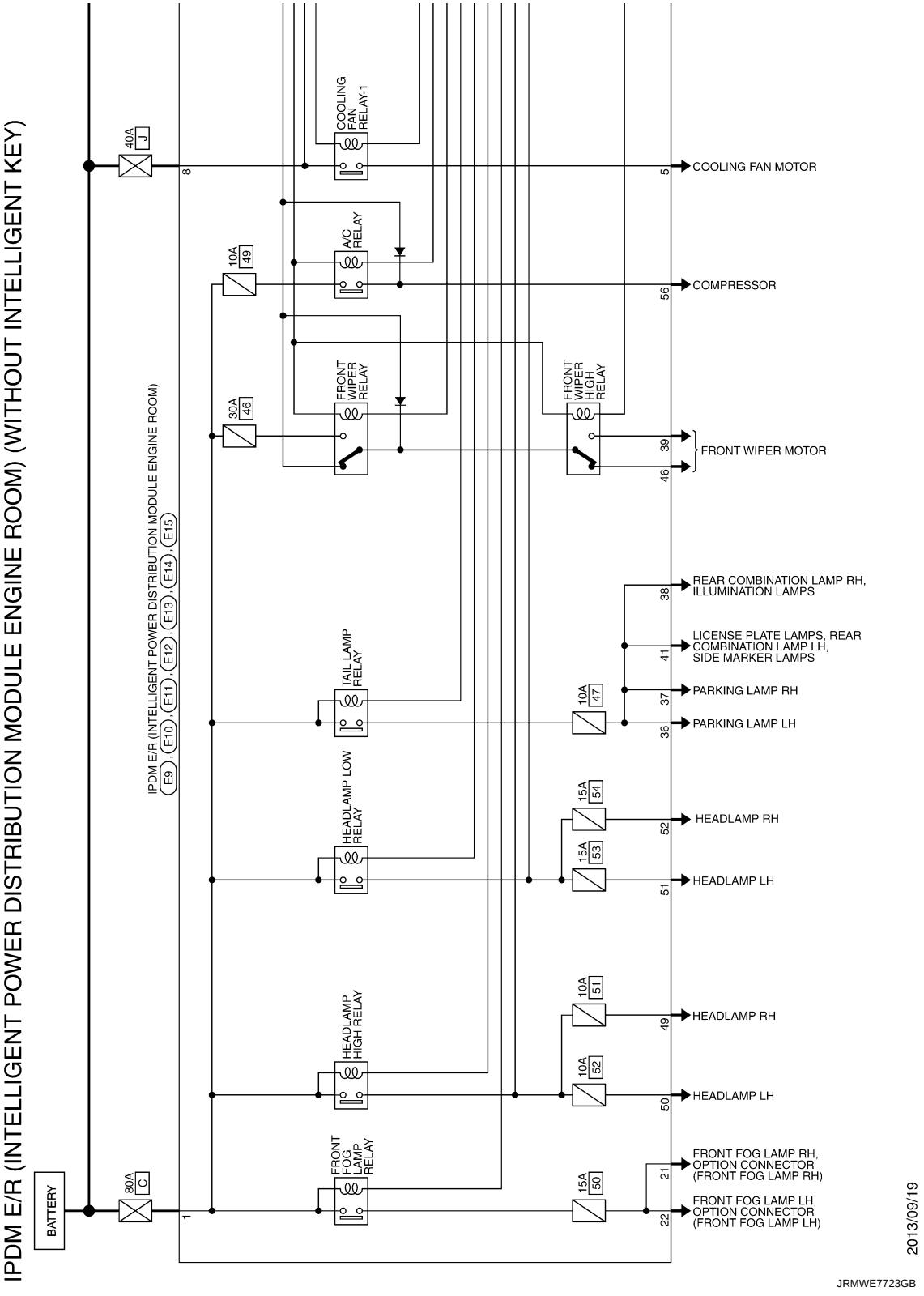
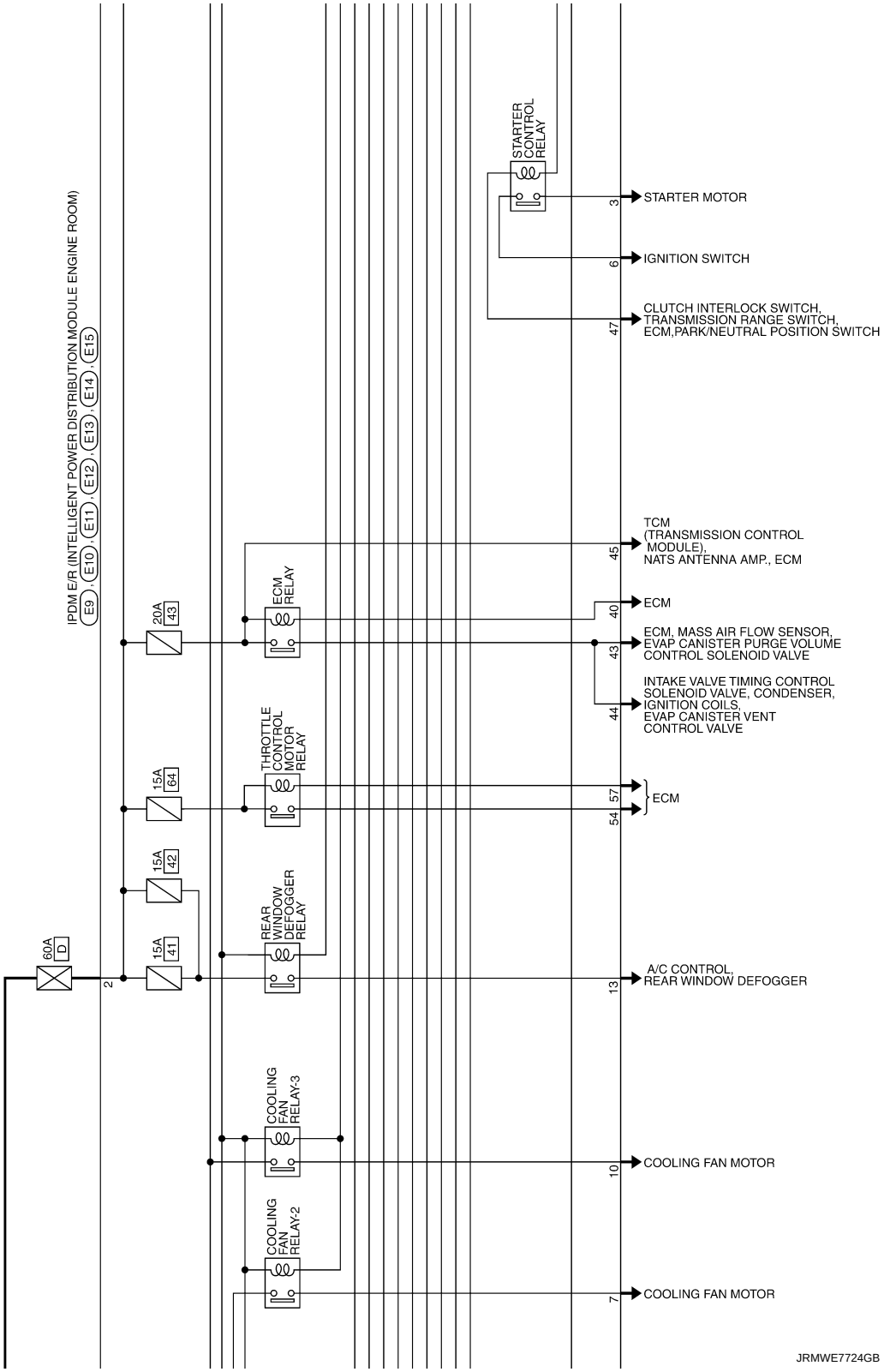
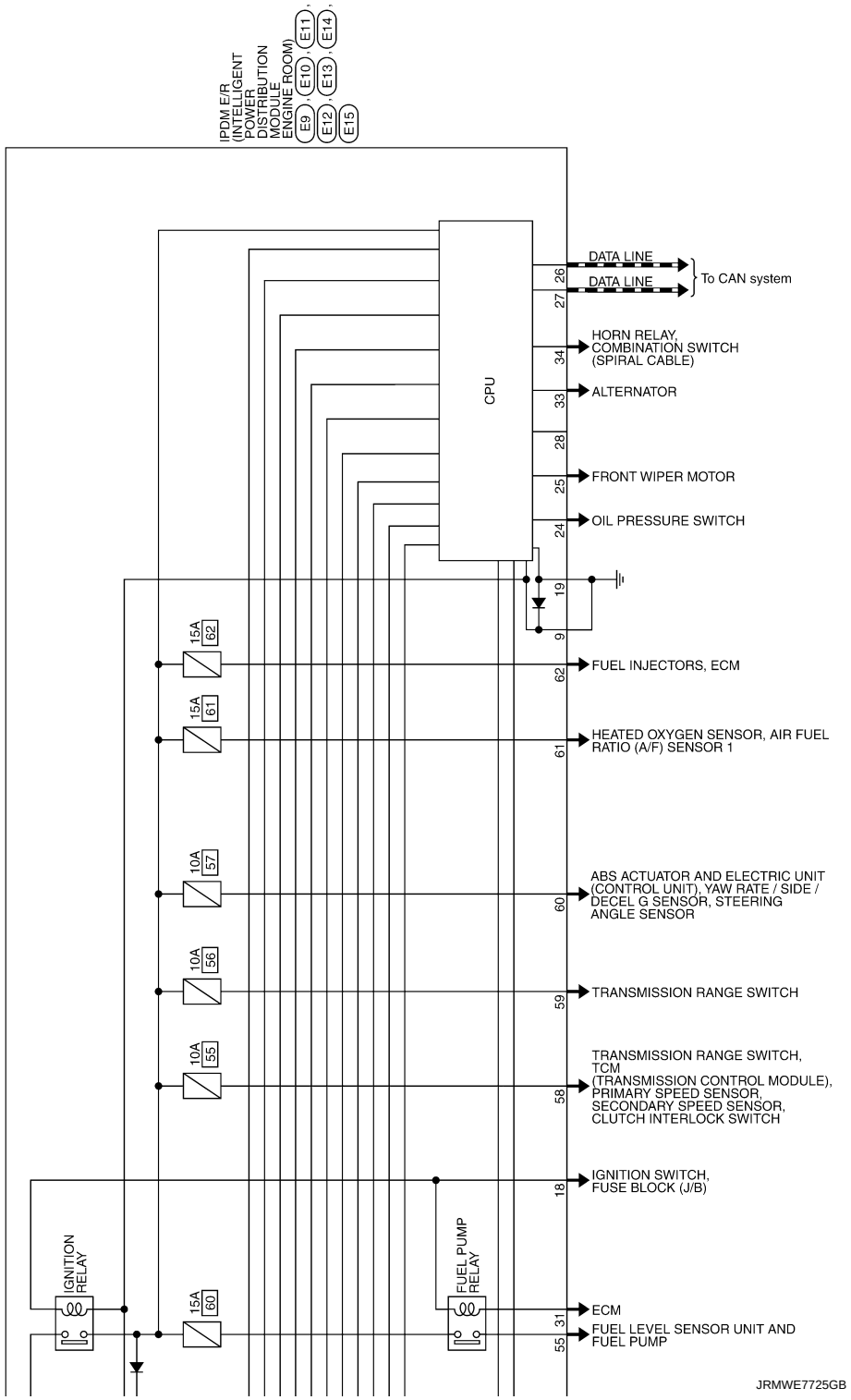
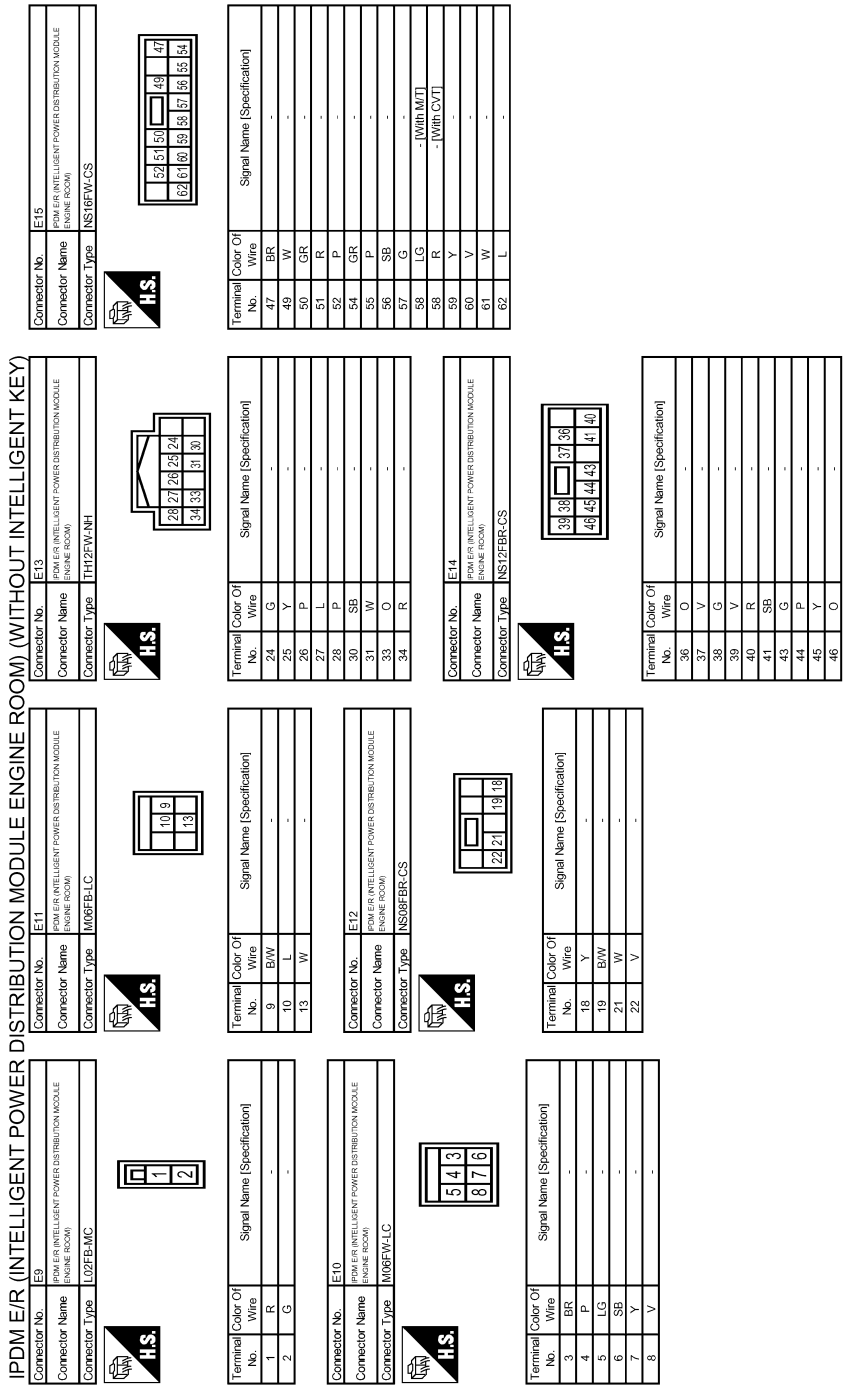



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E9, E10, E11, E12, E13, E14, E15
60A D
20A 43
15A 64
15A 42
15A 41
ECM RELAY
THROTTLE CONTROL MOTOR RELAY
REAR WINDOW DEFOGGER RELAY
COOLING FAN RELAY-3
COOLING FAN RELAY-2
STARTER CONTROL RELAY
2
3 STARTER MOTOR
6 IGNITION SWITCH
47 CLUTCH INTERLOCK SWITCH, TRANSMISSION RANGE SWITCH, ECM,PARK/NEUTRAL POSITION SWITCH
45 TCM (TRANSMISSION CONTROL MODULE), NATS ANTENNA AMP., ECM
40 ECM
43 ECM, MASS AIR FLOW SENSOR, EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE
44 INTAKE VALVE TIMING CONTROL SOLENOID VALVE, CONDENSER, IGNITION COILS, EVAP CANISTER VENT CONTROL VALVE
57, 54 ECM
13 A/C CONTROL, REAR WINDOW DEFOGGER
10 COOLING FAN MOTOR
7 COOLING FAN MOTOR
JRMWE7724GB


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E9, E10, E11, E12, E13, E14, E15
CPU
DATA LINE
DATA LINE
To CAN system
HORN RELAY, COMBINATION SWITCH (SPIRAL CABLE)
ALTERNATOR
FRONT WIPER MOTOR
OIL PRESSURE SWITCH
FUEL INJECTORS, ECM
HEATED OXYGEN SENSOR, AIR FUEL RATIO (A/F) SENSOR 1
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT), YAW RATE / SIDE / DECEL G SENSOR, STEERING ANGLE SENSOR
TRANSMISSION RANGE SWITCH
TRANSMISSION RANGE SWITCH, TCM (TRANSMISSION CONTROL MODULE), PRIMARY SPEED SENSOR, SECONDARY SPEED SENSOR, CLUTCH INTERLOCK SWITCH
IGNITION SWITCH, FUSE BLOCK (J/B)
ECM
FUEL LEVEL SENSOR UNIT AND FUEL PUMP
IGNITION RELAY
FUEL PUMP RELAY
15A 62
15A 61
10A 57
10A 56
10A 55
15A 60
JRMWE7725GB

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



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Fail-Safe

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CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

Control part	Fail-safe operation
Cooling fan	• 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	• 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
• Parking lamps • Side marker lamps • License plate lamps • Illuminations • Tail lamps	• 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	• 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

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	• 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.

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:0000000009945039

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.

×: Applicable

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—
U1000: CAN COMM CIRCUIT	×	PCS-15
B2098: IGN RELAY ON CIRC	×	PCS-16
B2099: IGN RELAY OFF CIRC	—	PCS-47

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009945040

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

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

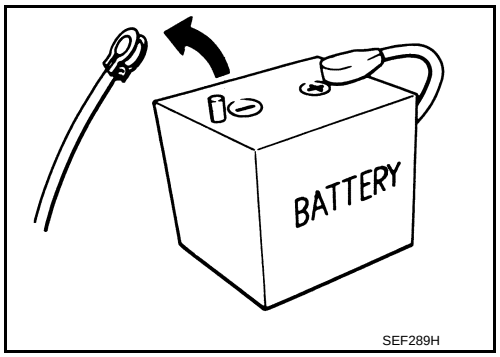
Always observe the following items for preventing accidental activation.

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

Precautions for Removing of Battery Terminal

INFOID:0000000010269416

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.



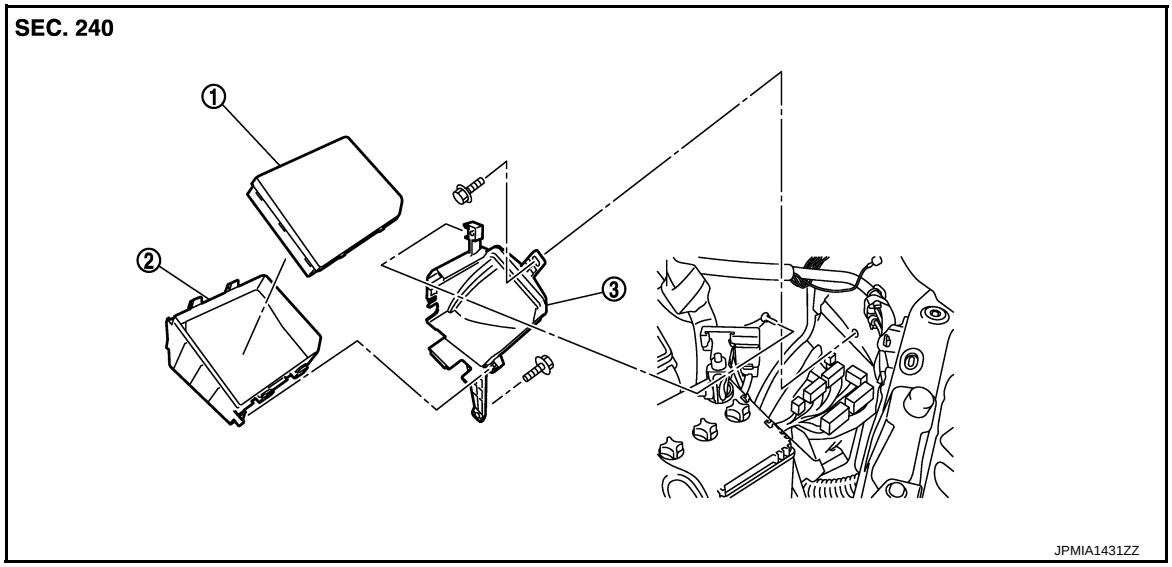
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

REMOVAL AND INSTALLATION

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

Exploded View

INFOID:0000000009945041



1. IPDM E/R cover A
2. IPDM E/R
3. IPDM E/R cover B

Removal and Installation

INFOID:0000000009945042

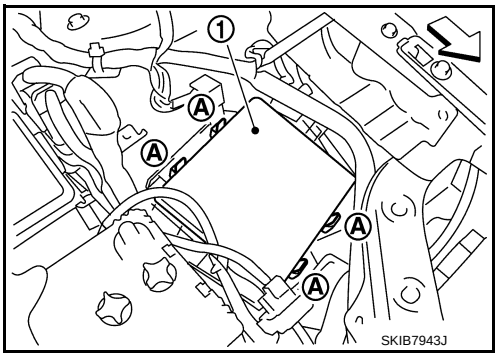
CAUTION:
IPDM E/R integrated relays are not serviceable parts, and must not be removed from the unit.

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.

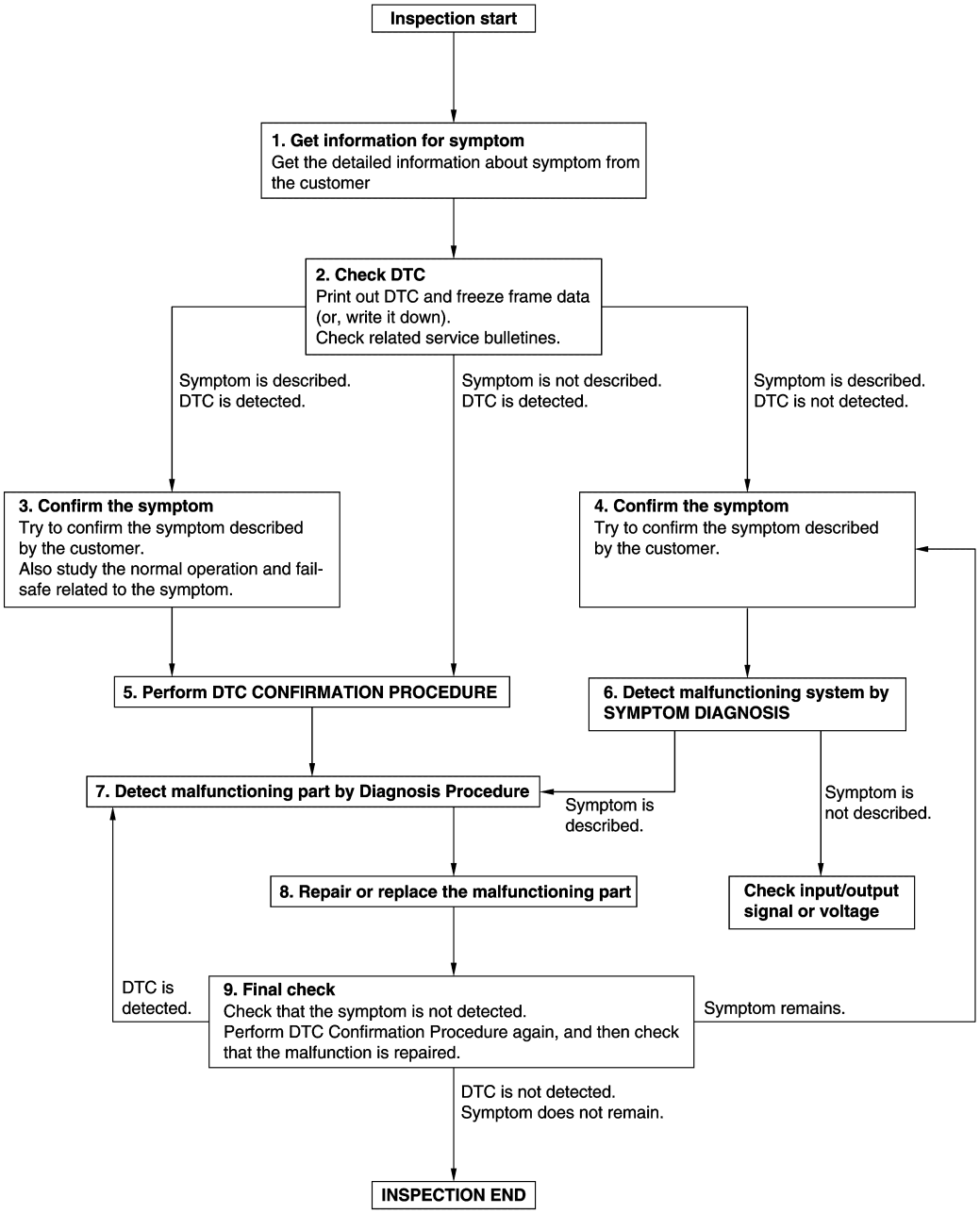
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000009945043

OVERALL SEQUENCE



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DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

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

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.
If two or more DTCs are detected, refer to BCS-81, "DTC Inspection Priority Chart", and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIRMATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.
NO >> Check according to GI-40, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

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

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-40, "Intermittent Incident".

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

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

Is DTC detected and does symptom remain?

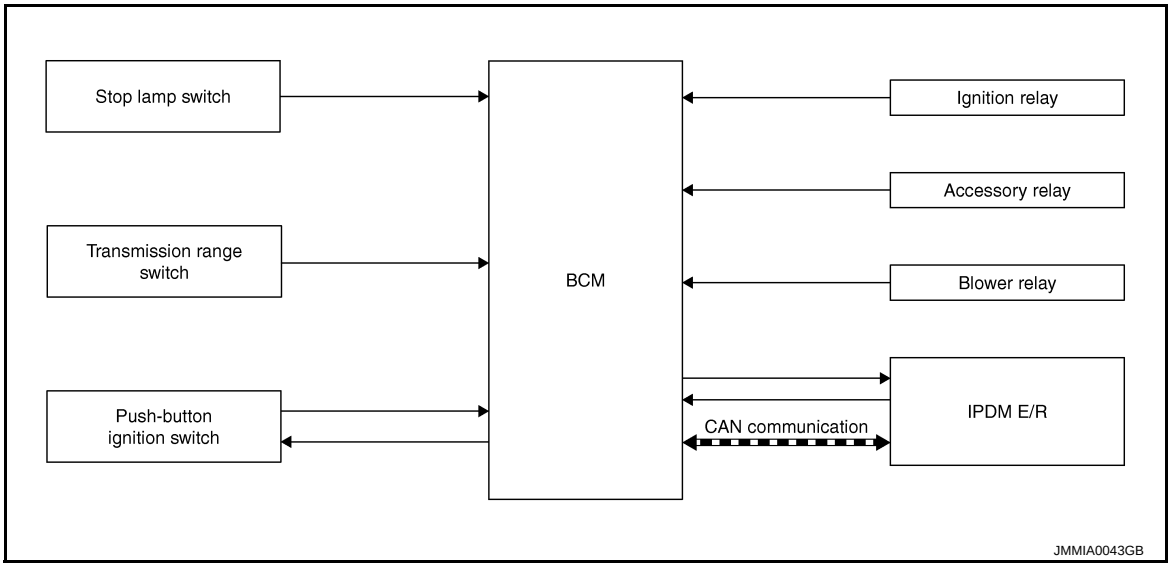
YES-1 >> DTC is detected: GO TO 7.
YES-2 >> Symptom remains: GO TO 4.
NO >> Before returning the vehicle to the customer, always erase DTC.

SYSTEM DESCRIPTION

POWER DISTRIBUTION SYSTEM

System Diagram

INFOID:0000000009945044



System Description

INFOID:0000000009945045

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
- Intelligent Key backside is contacted to push-button ignition switch.

- The push-button ignition switch operation is input to BCM as a signal. BCM changes the power supply position according to the status and operates the following relays to supply power to each power circuit.

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

NOTE:
The push-button ignition 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 60 minutes. 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 request switch on door lock

• Operating with Intelligent Key on door lock
Press push-button ignition switch and ignition switch will change to ACC position from OFF position.

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
	CVT models		M/T models	
	Selector lever position	Brake pedal operation condition	Clutch pedal operation condition	
OFF → ACC	—	Not depressed	Not depressed	1
OFF → ACC → ON	—	Not depressed	Not depressed	2
OFF → ACC → ON → OFF	—	Not depressed	Not depressed	3
OFF → START ACC → START ON → START	P or N position	Depressed	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
	CVT models		M/T models	
	Selector lever position	Brake pedal operation condition	Clutch pedal operation condition	
Engine is running → ACC	—	—	—	Emergency stop operation
Engine stall return operation while driving	N position	Not depressed	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.

Component Parts Location

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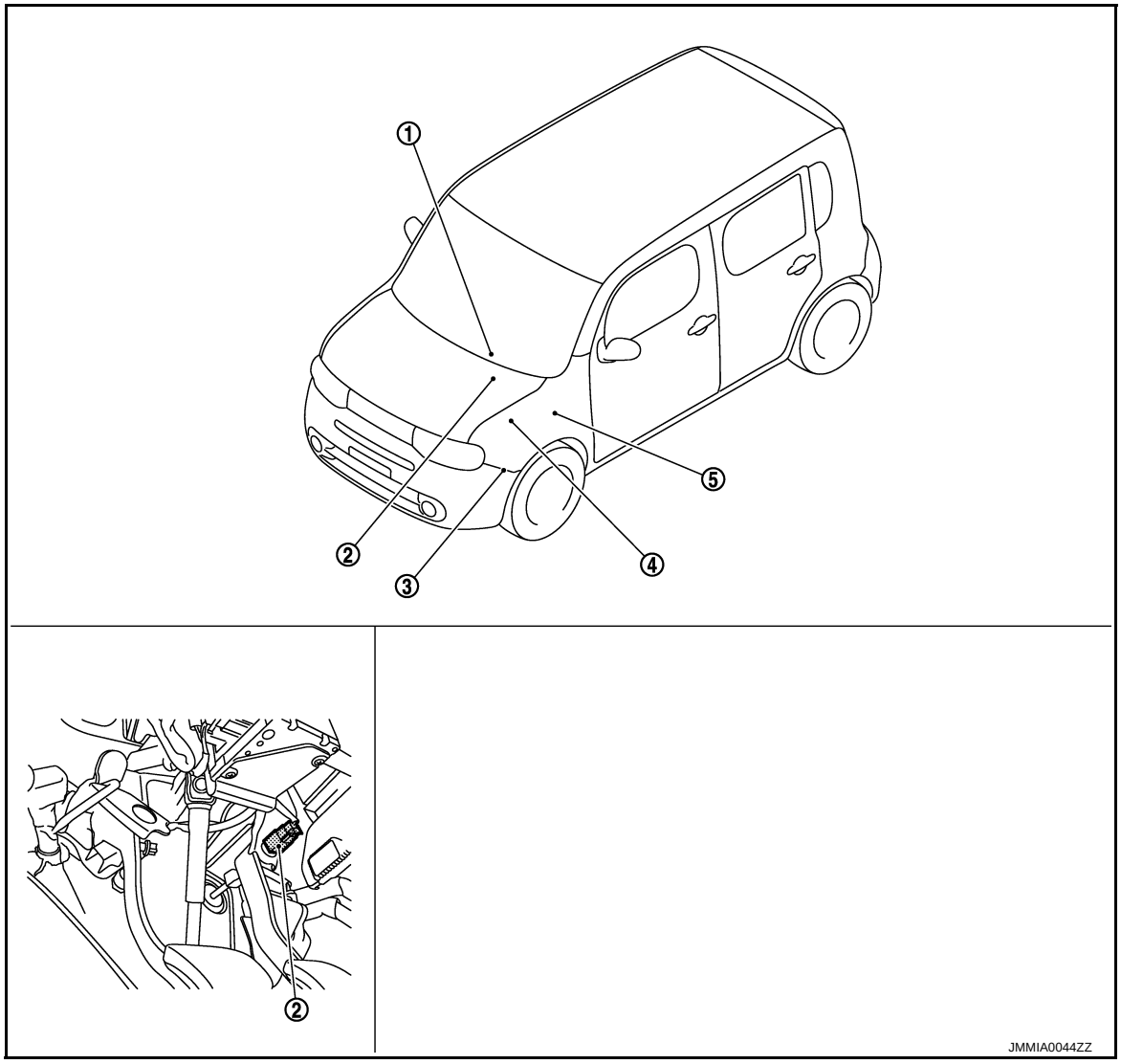


1. Push-button ignition switch M101
2. Stop lamp switch E115
3. Transmission range switch F21
   Refer to TM-71, "Component Parts Location"
4. IPDM E/R E10, E11, E12, E13, E15, E17
   Refer to PCS-5, "Component Parts Location"
5. BCM M68, M70, M71
   Refer to BCS-10, "Component Parts Location"

Component Description

INFOID:0000000009945047

BCM	Reference
IPDM E/R	PCS-6
Ignition relay (Built-in IPDM E/R)	PCS-83
Ignition relay	PCS-83
Accessory relay	PCS-77
Blower relay	PCS-80
Stop lamp switch	SEC-46

BCM	Reference
Transmission range switch	SEC-62
Push-button ignition switch	PCS-87

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

INFOID:0000000010269401

APPLICATION ITEM
CONSULT 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.
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	• 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.

×: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Automatic air conditioner	AIR CONDITONER		×	
• Intelligent Key system • Engine start system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×

FREEZE FRAME DATA (FFD)
The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

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”*
	OFF		Power supply position is “OFF” (Ignition switch OFF)
	ACC		Power supply position is “ACC” (Ignition switch ACC)
	ON		Power supply position is “IGN” (Ignition switch ON with engine stopped)
	ENGINE RUN		Power supply position is “RUN” (Ignition switch ON with engine running)
	CRANKING		Power supply position is “CRANKING” (At engine cranking)
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.	

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

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

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000010269402

WORK SUPPORT

Monitor item	Description
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode
AUTO LOCK SET	Auto door lock time can be changed in this mode • 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
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operation in this mode • On: Operate • Off: Non-operation
ENGINE START BY I-KEY	Engine start function mode can be changed to operation with this mode • On: Operate • Off: Non-operation
TRUNK/GLASS HATCH OPEN	**NOTE:** This item is displayed, but cannot be monitored
PANIC ALARM SET	Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode • MODE 1: 0.5 sec • MODE 2: Non-operation • MODE 3: 1.5 sec
TRUNK OPEN DELAY	**NOTE:** This item is displayed, but cannot be monitored
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operation with this mode • On: Operate • Off: Non-operation
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operation with this mode • On: Operate • Off: Non-operation
HAZARD ANSWER BACK	Hazard reminder function mode by door request switch and Intelligent Key button can be selected from the following with this mode • Lock Only: Door lock operation only • Unlock Only: Door unlock operation only • Lock/Unlock: Lock/unlock operation • Off: Non-operation
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 • Horn Chirp: Sound horn • Buzzer: Sound Intelligent Key warning buzzer • Off: Non-operation
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operation with this mode • On: Operate • Off: Non-operation
SHORT CRANKING OUTPUT	Starter motor can operate during the times below
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 • On: Operate • Off: Non-operation

SELF-DIAG RESULT

Refer to PCS-138, "DTC Index".

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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	**NOTE:** This item is displayed, but cannot be monitored
S/L -UNLOCK	**NOTE:** This item is displayed, but cannot be monitored
S/L RELAY -F/B	**NOTE:** This item is displayed, but cannot be monitored
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	**NOTE:** This item is displayed, but cannot be monitored
S/L UNLK-IPDM	**NOTE:** This item is displayed, but cannot be monitored
S/L RELAY-REQ	**NOTE:** This item is displayed, but cannot be monitored
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

Monitor Item	Condition
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.

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operation • On: Operate • Off: Non-operation
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation • On: Operate • Off: Non-operation
INSIDE BUZZER	This test is able to check warning chime in combination meter operation • Take out: Take away warning chime sounds when CONSULT screen is touched • Key: Key warning chime sounds when CONSULT screen is touched • Knob: OFF position warning chime sounds when CONSULT screen is touched
INDICATOR	This test is able to check warning lamp operation • KEY ON: “KEY” Warning lamp illuminates when CONSULT screen is touched • “KEY” Warning lamp blinks when CONSULT screen is touched
INT LAMP	This test is able to check interior room lamp operation • On: Operate • Off: Non-operation
LCD	This test is able to check meter display information • BP N: Engine start operation indicator lamp indicate when CONSULT screen is touched • BP I: Engine start operation indicator lamp indicate when CONSULT 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 screen is touched • INSRT: This item is displayed, but cannot be monitored • BATT: Key warning lamp indicator when CONSULT screen is touched • NO KY: This item is displayed, but cannot be monitored • OUTKEY: Engine start operation indicator lamp indicate when CONSULT screen is touched • LK WN: Engine start operation indicator lamp indicate when CONSULT 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 screen is touched
HORN	This test is able to check horn operation The horn is activated after “ON” on CONSULT screen is touched
P RANGE	This test is able to check CVT shift selector power supply • 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 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 screen is touched
TRUNK/BACK DOOR	**NOTE:** This item is displayed, but cannot be monitored

DTC/CIRCUIT DIAGNOSIS

B2614 ACC RELAY CIRCUIT

Description

INFOID:0000000009945050

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:0000000009945051

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2614	BCM	An immediate operation of accessory relay is requested by BCM, but there is no response for more than 2 second.	• Harness or connectors (Accessory relay circuit is open or shorted) • BCM • Accessory 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” of BCM with CONSULT.

Is DTC detected?

YES >> Go to PCS-77, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009945052

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.

(+) Accessory relay Terminal	(–)	Condition		Voltage (V) (Approx.)
1	Ground	Ignition switch	OFF	0
			ACC or ON	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.

Accessory relay	Ground	Continuity
Terminal		
1		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-89, "Removal and Installation".
NO >> Repair or replace harness.

3.CHECK ACCESSORY RELAY GROUND CIRCUIT

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

Accessory relay	Ground	Continuity
Terminal		
2		Existed

Is the inspection result normal?

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

4.CHECK ACCESSORY RELAY POWER SUPPLY CIRCUIT-2

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

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

Is the inspection result normal?

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

5.CHECK ACCESSORY RELAY

Refer to PCS-78, "Component Inspection".

Is the inspection result normal?

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

6.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

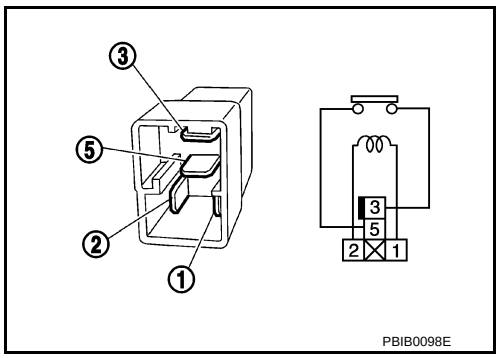
INFOID:0000000009945053

1.CHECK ACCESSORY RELAY

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

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

Description

INFOID:0000000009945054

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:0000000009945055

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. • Blower relay ON/OFF request • Blower relay feedback	• 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” of BCM with CONSULT.

Is DTC detected?

YES >> Go to PCS-80, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009945056

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.

(+) Blower relay Terminal	(–)	Condition		Voltage (V) (Approx.)
1	Ground	Ignition switch	OFF or ACC	0
			ON	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.

Blower relay	BCM		Continuity
Terminal	Connector	Terminal	
1	M71	106	Existed

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

Blower relay	Ground	Continuity
Terminal		
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	Ground	Continuity
Terminal		
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.

(+)	(–)	Voltage (V) (Approx.)
Blower relay		
Terminal		
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-81, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace blower relay.

6.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

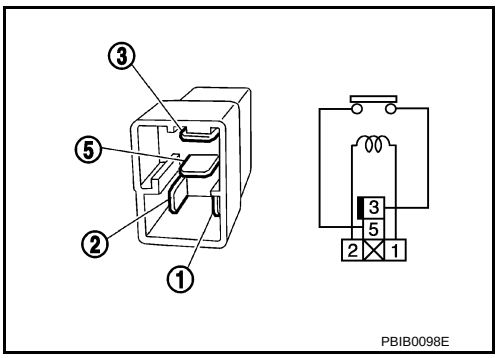
INFOID:0000000009945057

1.CHECK BLOWER RELAY

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

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

B2616 IGNITION RELAY CIRCUIT

Description

INFOID:0000000009945058

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:0000000009945059

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	• 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.

Is DTC detected?

YES >> Go to PCS-83, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009945060

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.

(+) Ignition relay Terminal	(–)	Condition		Voltage (V) (Approx.)
2	Ground	Ignition switch	OFF or ACC	0
			ON	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.

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-88, "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-84, "Component Inspection".

Is the inspection result normal?

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

6.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

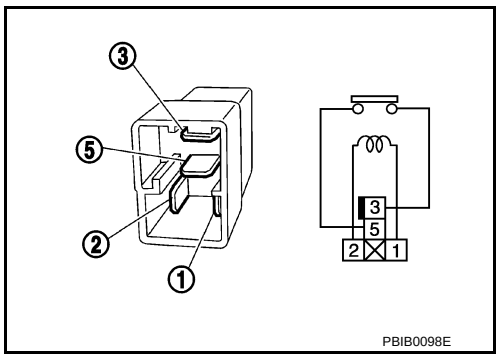
INFOID:0000000009945061

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

B2618 BCM

Description

INFOID:0000000009945062

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:0000000009945063

DTC DETECTION LOGIC

NOTE:

- If DTC B2618 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-40, "DTC Logic".
- If DTC B2618 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-41, "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” of BCM with CONSULT.

Is DTC detected?

YES >> Go to PCS-86, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009945064

1. INSPECTION START

1. Turn ignition switch ON.
2. Select “Self-diagnosis result” of BCM with CONSULT.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure.
   See PCS-86, "DTC Logic".

Is the 1st trip DTC B2618 displayed again?

YES >> Replace BCM. Refer to BCS-88, "Removal and Installation"
NO >> INSPECTION END

B261A PUSH-BUTTON IGNITION SWITCH

Description

INFOID:0000000009945065

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:0000000009945066

DTC DETECTION LOGIC

NOTE:

- If DTC B261A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-40, "DTC Logic".
- If DTC B261A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-41, "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. • Push-button ignition switch signal • Push-button ignition switch status signal (CAN)	• 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” of BCM with CONSULT.

Is DTC detected?

YES >> Go to PCS-87, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009945067

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		
M101	8	Ground	12

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	76	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 >> Replace BCM. Refer to BCS-88, "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-34, "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-40, "Intermittent Incident".

>> INSPECTION END

B26F1 IGNITION RELAY

DTC Logic

INFOID:0000000009945068

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F1	IGN RELAY OFF	BCM transmits the ignition relay control signal (ON: 0 V) or ignition switch ON signal (ON) (CAN), but does not receives ignition switch ON signal (ON) (CAN) from IPDM E/R.	• Harness or connectors (Ignition relay circuit is open) • BCM • IPDM E/R

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.

Is DTC detected?

YES >> Go to PCS-89, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009945069

1.CHECK IPDM E/R SELF-DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Erase the DTC of IPDM E/R.
3. Turn ignition switch OFF.
4. Turn ignition switch ON and check the DTC again.

Is DTC detected?

YES >> Repair or replace the malfunctioning part. Refer to PCS-32, "DTC Index".
NO >> GO TO 2.

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

Check voltage between BCM harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
M71	98	Ground	Ignition switch	ON	0

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-88, "Removal and Installation".

3.CHECK IGNITION RELAY (IPDM E/R) CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM and IPDM connectors.
3. Check continuity between BCM harness connector and IPDM E/R harness connector.

BCM		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
M71	98	E17	69	Existed

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace harness.

B26F2 IGNITION RELAY

DTC Logic

INFOID:0000000009945070

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F2	IGN RELAY ON	BCM transmits the ignition relay control signal (OFF: 12 V) or ignition switch ON signal (OFF) (CAN), but does not receives ignition switch ON signal (OFF) (CAN) from IPDM E/R.	• Harness or connectors (Ignition relay circuit is short) • BCM • IPDM E/R

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.

Is DTC detected?

YES >> Go to PCS-91, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009945071

1.CHECK IPDM E/R SELF-DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Erase the DTC of IPDM E/R.
3. Turn ignition switch OFF.
4. Turn ignition switch ON and check the DTC again.

Is DTC detected?

YES >> Repair or replace the malfunctioning part. Refer to PCS-32, "DTC Index".
NO >> GO TO 2.

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

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

(+)		(–)	Condition		Voltage (V) (Approx.)
IPDM E/R					
Connector	Terminal				
E17	69	Ground	Ignition switch	OFF or ACC	12

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> GO TO 3.

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

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E17	69		Not existed

Is the inspection result normal?

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

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

1. Connect IPDM E/R connectors.
2. Check voltage between IPDM E/R harness connector and ground.

(+)		(–)	Condition		Voltage (V) (Approx.)
IPDM E/R					
Connector	Terminal				
E17	69	Ground	Ignition switch	OFF or ACC	12

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-88, "Removal and Installation".
NO >> Replace IPDM E/R.

B26F6 BCM

Description

INFOID:0000000009945072

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:0000000009945073

DTC DETECTION LOGIC

NOTE:

- If DTC B26F6 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-40, "DTC Logic".
- If DTC B26F6 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-41, "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” of BCM with CONSULT.

Is DTC detected?

YES >> Go to PCS-93, "Diagnosis Procedure".
NO >> INSPECTION END

Diagnosis Procedure

INFOID:0000000009945074

1.INSPECTION START

1. Turn ignition switch ON.
2. Select “Self-diagnosis result” of BCM with CONSULT.
3. Touch “ERASE”.
4. Perform DTC Confirmation Procedure.
   See PCS-93, "DTC Logic".

Is DTC detected?

YES >> Replace BCM. Refer to BCS-88, "Removal and Installation"
NO >> INSPECTION END

PUSH-BUTTON IGNITION SWITCH

Description

INFOID:0000000009945076

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:0000000009945077

1.CHECK FUNCTION

1. Select “PUSH SW” in “Data Monitor” mode with CONSULT.
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-94, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009945078

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		
M101	8	Ground	Battery voltage

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	76	M101	8	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M71	76		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-88, "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.

(+)		(–)	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-34, "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-95, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace push-button ignition switch. Refer to PCS-144, "Removal and Installation".

7. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:0000000009945079

1. CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector.
3. Check continuity between push-button ignition switch terminals.

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

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace push-button ignition switch. Refer to PCS-144, "Removal and Installation".

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

Description

INFOID:0000000009945080

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:0000000009945081

1.CHECK FUNCTION

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

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-97, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009945082

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		
M101	3	Ground	Battery voltage

Is the inspection normal?

YES >> GO TO 2.
NO-1 >> Check 10 A fuse [No.13, 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		
M71	91	Ground	Battery voltage

Is the inspection normal?

YES >> Replace BCM. Refer to BCS-88, "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.

BCM		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	
M71	91	M101	7	Existed

3. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M71	91		Not existed

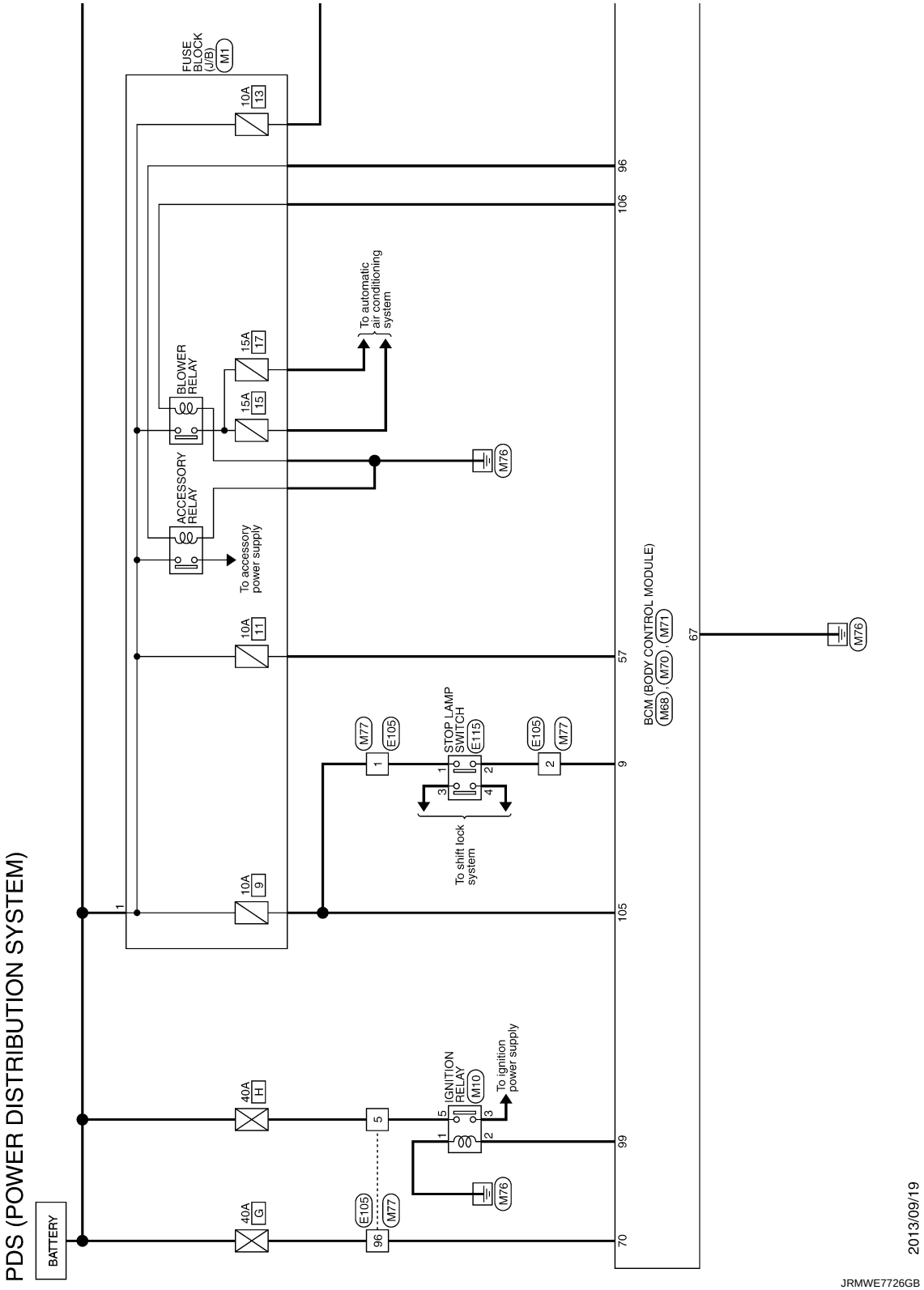
Is the inspection normal?

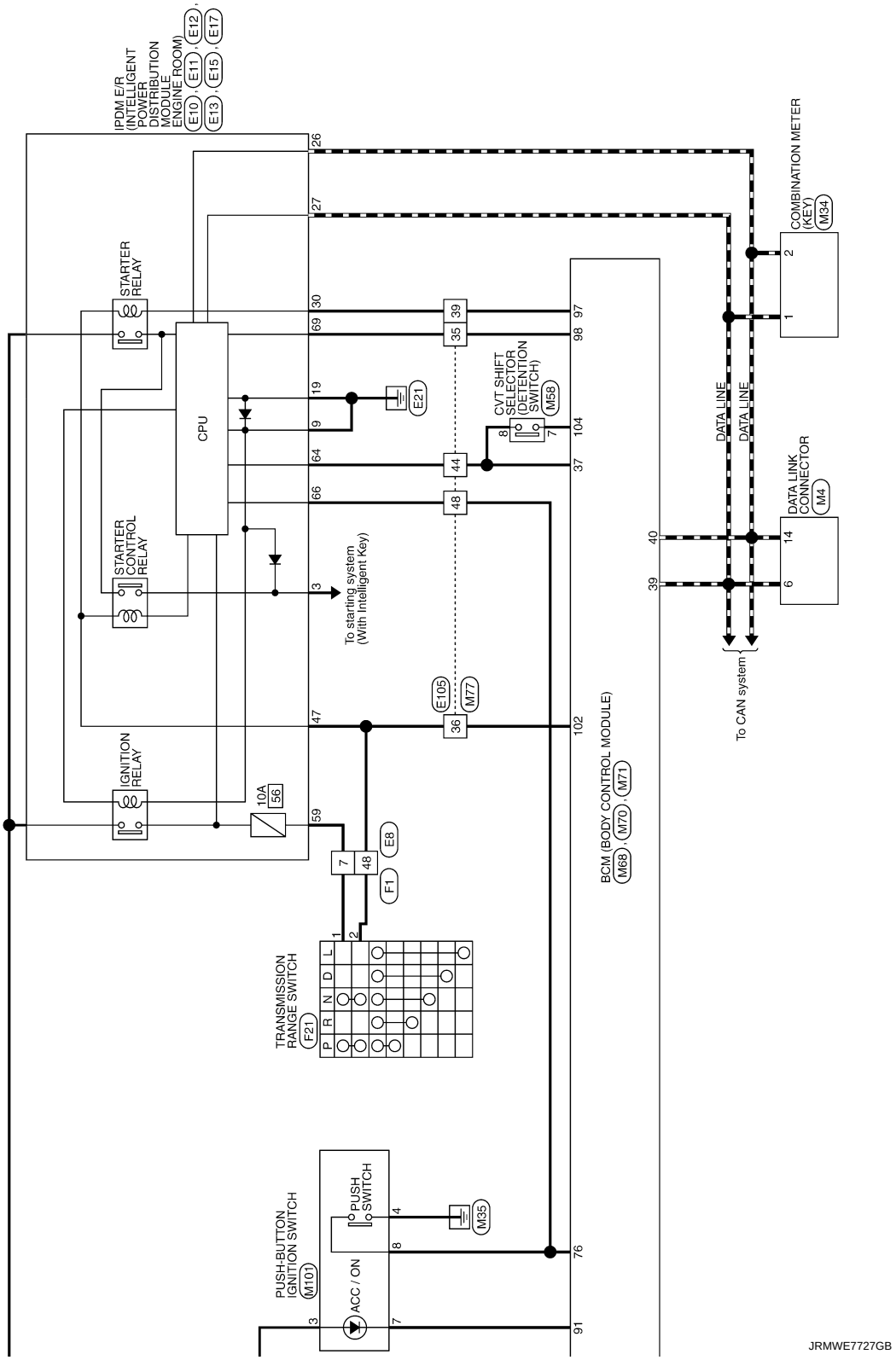
YES >> Replace push-button ignition switch. Refer to PCS-144, "Removal and Installation".
NO >> Repair or replace harness.

POWER DISTRIBUTION SYSTEM

Wiring Diagram - PDS (POWER DISTRIBUTION SYSTEM) -

INFOID:0000000009945083




IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E10, E11, E12, E13, E15, E17
STARTER RELAY
CPU
STARTER CONTROL RELAY
IGNITION RELAY
10A 56
To starting system (With Intelligent Key)
E21
CVT SHIFT SELECTOR (DETENTION SWITCH) M58
E105 M77
E8 F1
TRANSMISSION RANGE SWITCH F21
P R N D L
PUSH-BUTTON IGNITION SWITCH M101
PUSH SWITCH
ACC / ON
M35
BCM (BODY CONTROL MODULE) M68, M70, M71
COMBINATION METER (KEY) M34
DATA LINE
DATA LINK CONNECTOR M4
To CAN system
JRMWE7727GB

PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	E8
Connector Name	WIRE TO WIRE
Connector Type	SAA36MB-RS10-SJZ2

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	LG	-
3	Y	-
4	W	-
7	Y	-
8	SB	-
9	L	-
10	V	-
11	P	-
12	BR	-
13	LG	-
14	Y	-
15	SB	-
16	L	-
17	W	-
18	O	-
21	G	-
22	Y	-
23	SB	-
24	W	-
25	BR	-
26	B/Y	-
27	GR	-
28	P	-
29	V	-
30	G	-
31	G	-
32	O	-
33	W	-
34	Y	-
35	V	-
36	P	-
37	LG	-
39	SB	-
40	GR	-
41	O	-
42	V	-
43	LG	- [With M/T] - [With CVT]
43	R	-
44	R	-
46	W	-
47	G	-
48	BR	-

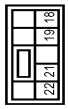
Connector No.	E10
Connector Name	PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	M06FW-LC

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

Connector No.	E11
Connector Name	PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	M06FB-LC

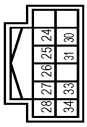
Terminal No.	Color Of Wire	Signal Name [Specification]
9	B/W	-
10	L	-
13	W	-

Connector No.	E12
Connector Name	PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS08FBR-CS



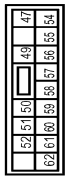
Terminal No.	Color Of Wire	Signal Name [Specification]
18	Y	-
19	B/W	-
21	W	-
22	V	-

Connector No.	E13
Connector Name	PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH12FW-NH



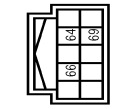
Terminal No.	Color Of Wire	Signal Name [Specification]
24	G	-
25	Y	-
26	P	-
27	L	-
28	P	-
30	SB	-
31	W	-
33	O	-
34	R	-

Connector No.	E15
Connector Name	PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS16FW-CS



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	LG	- [With M/T] - [With CVT]
58	R	-
59	Y	-
60	V	-
61	W	-
62	L	-

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



Terminal No.	Color Of Wire	Signal Name [Specification]
64	R	-
66	L	-
69	O	-

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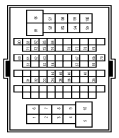
PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	W	-
3	SB	-
4	G	-
5	P	-
6	L	- [With NAVI]
6	R	- [Without NAVI]
7	Y	-
8	O	-
9	W	-
10	SB	-
31	V	-
32	R	-
33	GR	-
34	P	-
35	Y	-
36	BR	-
39	SB	-
44	R	-
45	V	-
46	P	-
48	L	-
51	B	- [With M/T]
51	BR	- [With CVT]
53	SB	-
54	O	- [With M/T]
54	W	- [With CVT]
57	LG	-
59	L	-
60	O	-
61	G	-
62	W	-
63	L	-
67	GR	- [With CVT]
67	V	- [With M/T]
69	P	-
70	SHIELD	-
71	GR	-
72	LG	-
73	P	-
74	V	-
76	Y	-
77	LG	-
78	O	-
79	G	-
80	P	-
81	L	-
82	W	-
83	BR	-
84	B	-
91	W	-
92	Y	-
93	Y	-
94	R	-
95	V	-
96	LG	-
97	R	-
98	SB	-
99	G	-
100	P	-

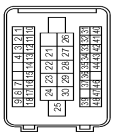
Connector No.	E115
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC

H.S.

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

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	LG	-
3	R	-
4	Y	-
7	V	-
8	G	-
9	SB	-
10	L	-
11	Y	-
12	GR	-
13	BR	-
14	G	-
15	W	-
16	Y	-
17	P	-
18	BR	-
21	G	-
22	L	-
23	W	-
24	R	-
25	R	-
26	B	-
27	SB	-
28	V	-
29	V	-
30	BR	-
31	GR	-
32	BR	-
33	W	-
34	LG	-
35	V	-
36	Y	-
37	W	-
39	G	-
40	P	-
41	O	-
42	G	-
43	R	-
44	P	-
46	GR	-
47	Y	-
48	BR	-

Connector No.	F21
Connector Name	TRANSMISSION RANGE SWITCH
Connector Type	RK08FG

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	R	-
4	GR	-
5	SB	-
6	W	-
7	Y	-
8	G	-

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	24311_ED000

H.S.

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

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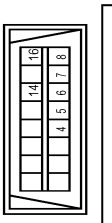
PDS (POWER DISTRIBUTION SYSTEM)

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

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	B	-
5	B	-
6	L	-
7	GR/R	-
8	O	-
14	P	-
16	LG/R	-

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

H.S.

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

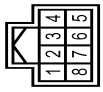
Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	V	VEHICLE SPEED SIGNAL (2-PULSE)
4	L	VEHICLE SPEED SIGNAL (8-PULSE) [Without NAVI]
4	V/R	VEHICLE SPEED SIGNAL (8-PULSE) [With NAVI]
6	BR/Y	FUEL LEVEL SENSOR SIGNAL
7	R/G	AIR BAG SIGNAL
8	P	OVERDRIVE CONTROL SWITCH SIGNAL
9	O	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
10	SB	PARKING BRAKE SWITCH SIGNAL
11	G/R	BRAKE FLUID LEVEL SWITCH SIGNAL
13	B/R	ILLUMINATION CONTROL SIGNAL
15	L/Y	ACC POWER SUPPLY
18	R/Y	SECURITY SIGNAL
19	PU/W	AMBIENT SENSOR SIGNAL
20	R/W	AMBIENT SENSOR GROUND
21	B	GROUND
22	B	GROUND
23	B	GROUND
24	PU	FUEL LEVEL SENSOR GROUND
25	B	VDC GROUND
27	LG/R	BATTERY POWER SUPPLY
28	GR	IGNITION SIGNAL
29	BR	PASSENGER SEAT BELT WARNING SIGNAL
31	R	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL
35	BR	ENGINE COOLANT TEMPERATURE SIGNAL
38	GR	ALTERNATOR SIGNAL

Connector No.	M58
Connector Name	CVT SHIFT SELECTOR
Connector Type	TH40FW-NH

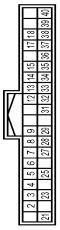
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	B	-
3	W	-
4	B/R	-
5	LG	-
6	B	-
7	Y/R	-
8	G/Y	-

Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

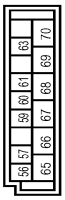
H.S.



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
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
14	L/G	OPTICAL SENSOR
15	W/L	REAR WINDOW DEFOGGER SW
17	R/G	OPTICAL SENSOR POWER SUPPLY
18	V	SENSOR GND
21	P/L	NATS ANTENNA AMP.
23	R/Y	SECURITY INDICATOR LAMP
25	LG	NATS ANTENNA AMP.
27	O	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	G/Y	RECEIVER COMM
39	L	CAN-H
40	P	CAN-L

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

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
56	L	INTERIOR ROOM LAMP POWER SUPPLY
57	Y	BAT (FUSE)
59	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 UNLOCK OUTPUT
67	B	GROUND
68	L	POWER WINDOW POWER SUPPLY (IGN)
69	P	POWER WINDOW POWER SUPPLY (BAT)
70	Y	BAT (F/L)

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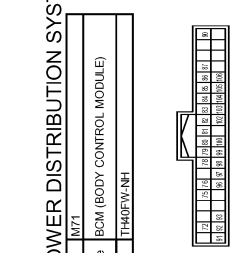
PDS (POWER DISTRIBUTION SYSTEM)

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

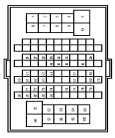
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
72	SB	A/C INDICATOR OUTPUT
75	SB	DRIVER DOOR REQUEST SW
76	L/O	PUSH 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-
84	Y/G	ROOM ANT+
85	Y/L	ROOM ANT-
86	P	LUGGAGE ROOM ANT+
87	L	LUGGAGE ROOM ANT-
90	W/L	PUSH-BUTTON IGNITION SW ILL POWER
91	Y	ACC/ON IND
92	BR/R	PUSH-BUTTON IGNITION SW ILL GND
93	GR/W	I-KEY WARN BUZZER
96	BR/W	ACC RELAY CONT
97	L/R	STARTER RELAY CONT
98	BR	IGN RELAY (IPDM E/R) CONT
99	W/R	IGN RELAY CONT
100	G	PASSENGER DOOR REQUEST SW
102	G	SHIFT N/P
103	G/Y	FR DEFROSTER SW
104	Y/R	CVT SHIFT SELECTOR POWER SUPPLY
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-CS16-TM4

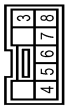
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/O	-
2	R	-
3	G/R	-
4	G/B	-
5	L	-
6	L	-
7	W/R	-
8	G/W	-
9	Y/L	-
10	W	-
31	GR/L	-
32	L/B	-
33	R/Y	-
34	SB	-
35	BR	-
36	G	-
39	L/R	-
44	G/O	-
45	LG/R	-
46	GR/W	-
48	L/O	-
51	B/W	-
53	R/L	-
54	O	-
57	GR	-
59	V	-
60	R/W	-
61	PU/W	-
62	W/L	-
63	W/B	-
67	Y/R	-
69	LG	-
70	SHIELD	-
71	P/B	-
72	R/G	-
73	R	-
74	L/Y	-
76	W/G	-
77	GR/R	-
78	O	-
79	LG	-
80	P	-
81	L	-
82	GR	-
83	C/R	-
84	B	-
91	R	-
92	O	-
93	Y	-
94	R/B	-
95	L/W	-
96	Y	-
97	L	-
98	BR/W	-
99	W	-
100	C/R	-

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

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	-
4	B	-
5	W/L	-
6	BR/R	-
7	Y	-
8	L/O	-

JRMWE7840GB

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000010269404

VALUES ON THE DIAGNOSIS TOOL

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT 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	Off
	Front wiper switch INT	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

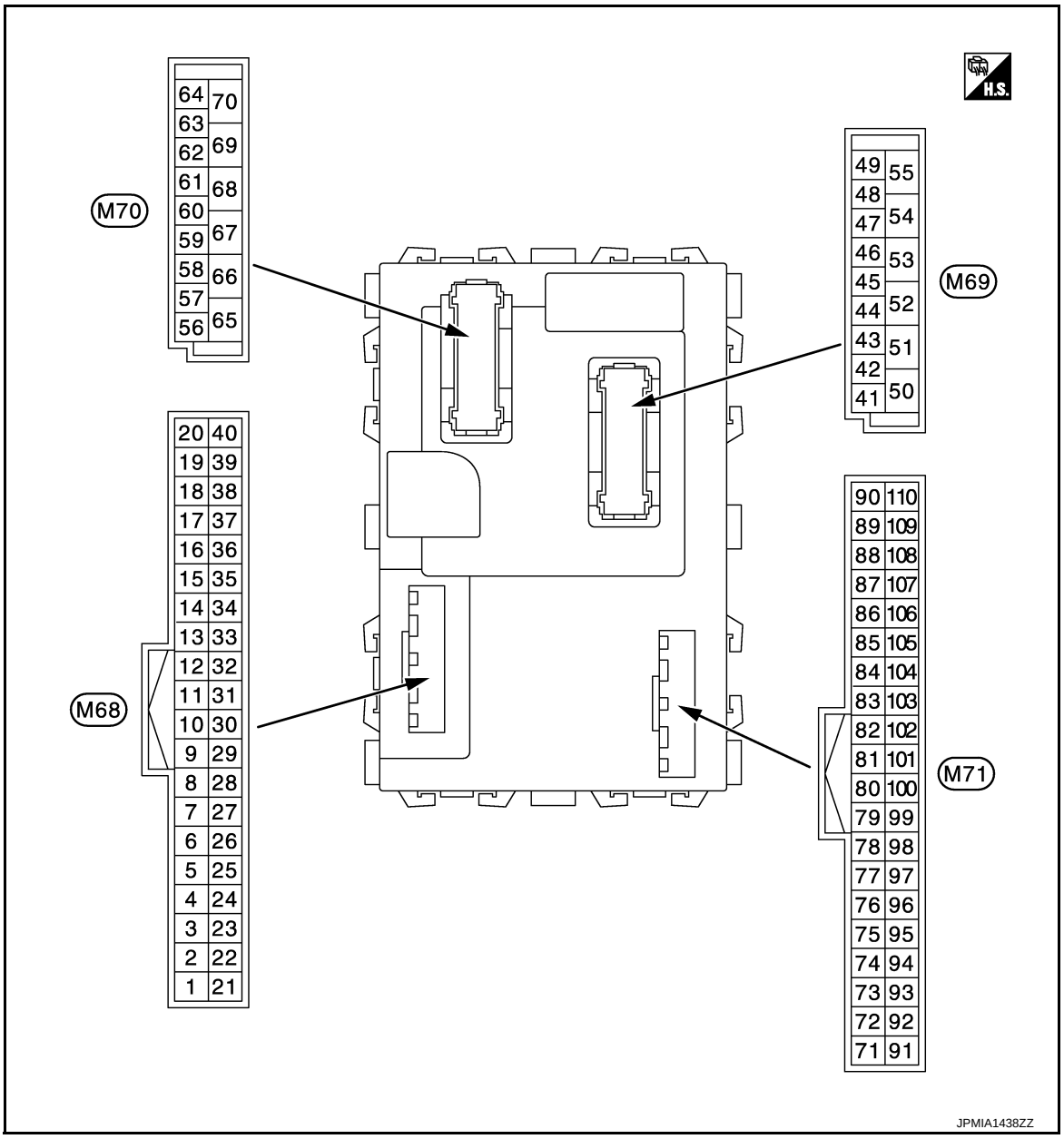
Monitor Item	Condition	Value/Status
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
	Rear LH door opened	On
DOOR SW-BK	Back door closed	Off
	Back door opened	On
CDL LOCK SW	Other than power door lock switch LOCK	Off
	Power door lock switch LOCK	On
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off
	Power door lock switch UNLOCK	On
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
	Driver door key cylinder LOCK position	On
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
	Driver door key cylinder UNLOCK position	On
HAZARD SW	Hazard switch is OFF	Off
	Hazard switch is ON	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
TR/BD OPEN SW	**NOTE:** The item is indicated, but not monitored.	Off
TRNK/HAT MNTR	**NOTE:** The item is indicated, but not monitored.	Off
FAN ON SIG	Blower fan OFF	Off
	Blower fan ON	On
AIR COND SW	Air conditioner OFF (A/C switch indicator OFF)	Off
	Air conditioner ON (A/C switch indicator ON)	On
RKE-LOCK	LOCK button of the key is not pressed	Off
	LOCK button of the key is pressed	On
RKE-UNLOCK	UNLOCK button of the key is not pressed	Off
	UNLOCK button of the key is pressed	On
RKE-TR/BD	BACK DOOR OPEN button of the key is not pressed	Off
	BACK DOOR OPEN button of the key is pressed	On
RKE-PANIC	PANIC button of the key is not pressed	Off
	PANIC button of the key is pressed	On
RKE-MODE CHG	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off
	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

Monitor Item	Condition	Value/Status
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
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	The clutch pedal is not depressed.	Off
	The clutch pedal is depressed	On
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. 9 fuse is blown	Off
	The brake pedal is not depressed when No. 9 fuse is blown, or No. 9 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	**NOTE:** The item is indicated, but not monitored.	Off
S/L -UNLOCK	**NOTE:** The item is indicated, but not monitored.	Off
S/L RELAY-F/B	**NOTE:** The item is indicated, but not monitored.	Off
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

Monitor Item	Condition	Value/Status
SFT N -MET	Selector lever in any position other than N	Off
	Selector lever in N position	On
ENGINE STATE	Engine stopped	Stop
	While the engine stalls	Stall
	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	**NOTE:** The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	**NOTE:** The item is indicated, but not monitored.	Off
S/L RELAY-REQ	**NOTE:** The item is indicated, but not monitored.	Off
VEH SPEED 1	While driving	Equivalent to speed-ometer reading
VEH SPEED 2	While driving	Equivalent to speed-ometer reading
DOOR STAT-DR	Driver door is locked	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
DOOR STAT-AS	Passenger door is locked	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Selector lever is in the P position except for M/T models)	Reset
	Ignition switch ON	Set
PRMT ENG STRT	The engine start is prohibited	Reset
	The engine start is permitted	Set
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
RKE OPE COUN2	**NOTE:** The item is indicated, but not monitored.	—
CONFRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done
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
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
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

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

TERMINAL LAYOUT

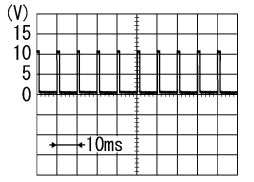
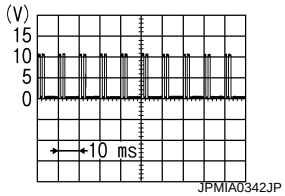
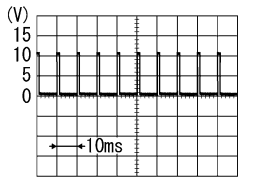
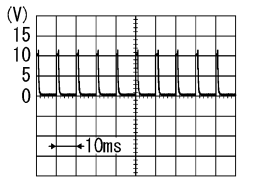
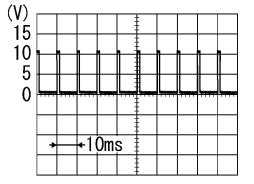


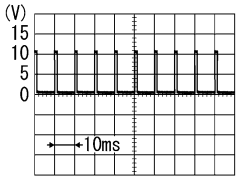
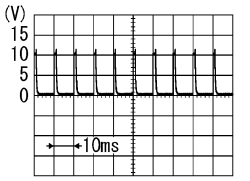
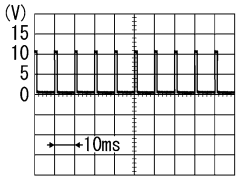
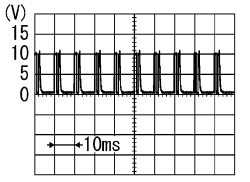
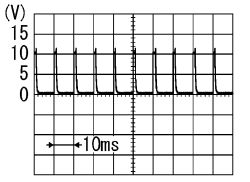
NOTE:

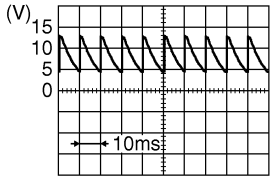
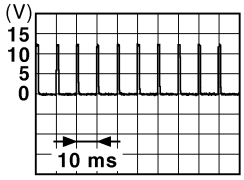
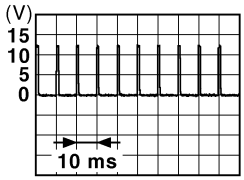
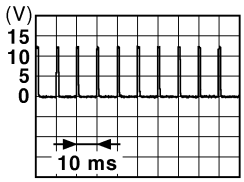
Connector color

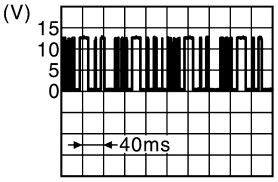
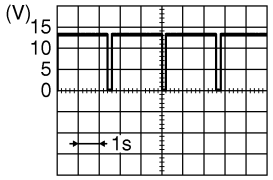
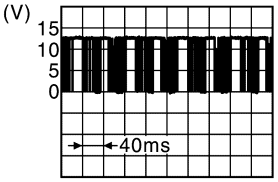
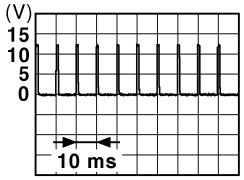
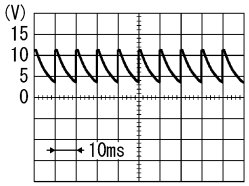
- M68, M70: Black
- M69, M71: White

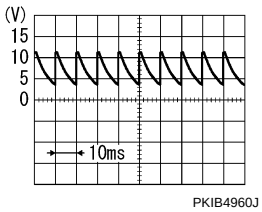
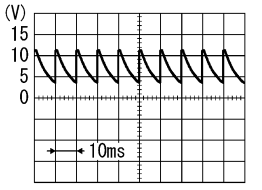
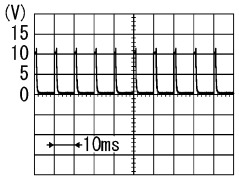
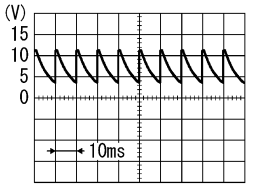
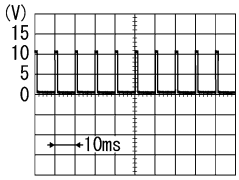
PHYSICAL VALUES

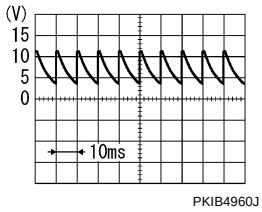
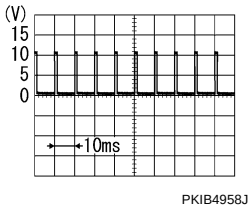
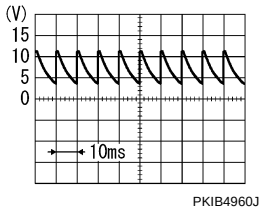
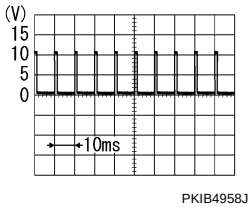
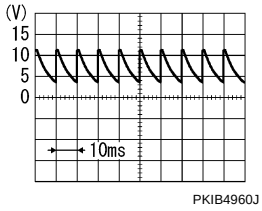
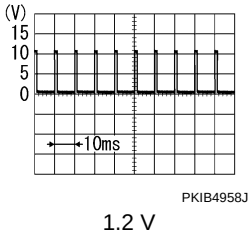
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	–					
2 (BR/W)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Turn signal switch RH Lighting switch HI Lighting switch 1ST	 PKIB4958J 1.0 V
					Lighting switch 2ND	 JPMIA0342JP 2.0 V
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Turn signal switch LH Lighting switch PASS Lighting switch 2ND	 PKIB4958J 1.0 V
					Front fog lamp switch ON	 PKIB4956J 0.8 V
4 (L/Y)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0 V
					Front wiper switch LO Front wiper switch MIST Front wiper switch INT Lighting switch AUTO	 PKIB4958J 1.0 V

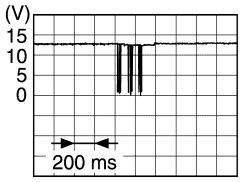
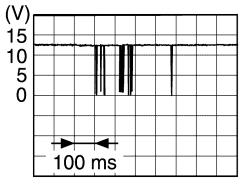
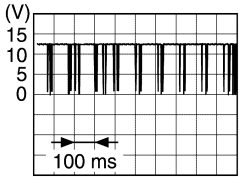
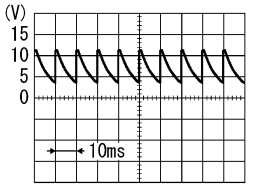
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch (Wiper intermittent dial 4)	 PKIB4958J 1.0 V
					Rear washer ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	
					Rear wiper switch ON (Wiper intermittent dial 4)	 PKIB4956J 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)	 PKIB4958J 1.0 V
					Rear wiper switch INT (Wiper intermittent dial 4)	
					Wiper intermittent dial 3 (All switch OFF)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	 PKIB4952J 1.9 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	 PKIB4956J 0.8 V

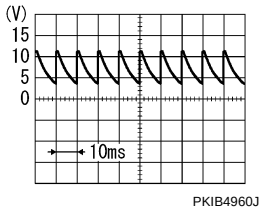
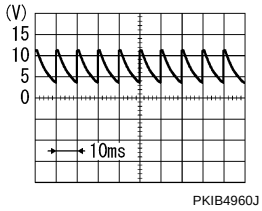
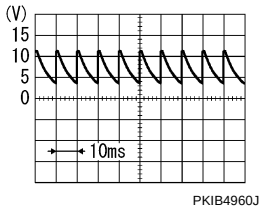
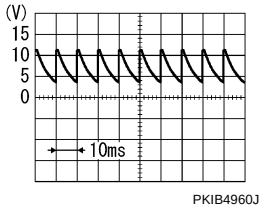
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylinder switch	NEUTRAL position	 JPMIA0587GB 8.0 - 8.5 V
					UNLOCK position	0 V
8 (W/B)	Ground	Door key cylinder switch LOCK	Input	Door key cylinder 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 depressed)	Battery voltage
12 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	 JPMIA0012GB 1.0 - 1.5 V
					LOCK position	0 V
13 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	 JPMIA0012GB 1.0 - 1.5 V
					UNLOCK position	0 V
14 (L/G)	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
15 (W/L)	Ground	Rear window defogger switch	Input	Rear window defogger switch	Not pressed	 JPMIA0012GB 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

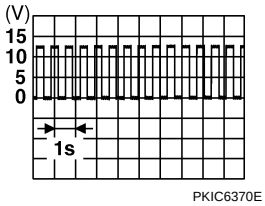
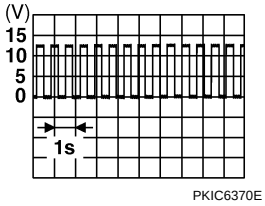
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
18 (V)	Ground	Sensor ground	Input	Ignition switch ON		0 V
21 (P/L)	Ground	NATS antenna amp.	Input/ Output	Intelligent Key: Intelligent Key battery is removed	Brake pedal: Depressed **NOTE:** Waveform varies each time when brake pedal is depressed	 JMKIA6232JP
					Brake pedal: Not depressed	12 V
23 (R/Y)	Ground	Security indicator lamp	Output	Security indicator	ON	0 V
					Blinking (Ignition switch OFF)	 JPMIA0590GB 12.0 V
					OFF	Battery voltage
25 (LG)	Ground	NATS antenna amp.	Input/ Output	During waiting	Brake pedal: Depressed **NOTE:** Waveform varies each time when brake pedal is depressed	 JMKIA6233JP
					Brake pedal: Not depressed	12 V
27 (O)	Ground	A/C ON	Input	A/C	OFF (A/C switch indicator: OFF)	 JPMIA0012GB 1.0 - 1.5 V
					ON (A/C switch indicator: ON)	0 V
28 (G/W)	Ground	Blower fan switch	Input	Fan switch	Blower fan switch OFF	0 V
					Blower fan switch ON	 PKIB4960J 7.0 - 8.0 V

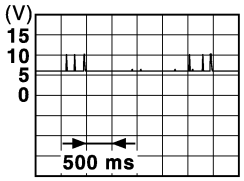
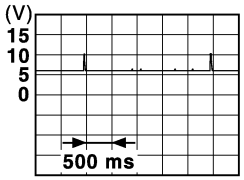
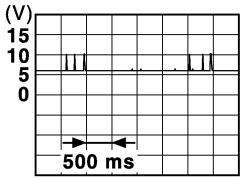
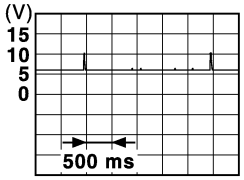
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF	12 V
					ON	0 V
31 (G/B)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	 PKIB4960J 7.0 - 8.0 V
					UNLOCK status (Unlock sensor switch ON)	0 V
32 (LG)	Ground	Combination switch OUTPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 PKIB4960J 7.0 - 8.0 V
					Front fog lamp switch ON (Wiper intermittent dial 4)	 PKIB4956J 1.0 V
					Rear wiper switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 PKIB4960J 7.0 - 8.0 V
					Lighting switch 1ST (Wiper intermittent dial 4)	 PKIB4958J 1.2 V
					Lighting switch AUTO (Wiper intermittent dial 4)	
					Rear wiper switch INT (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	

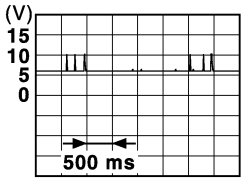
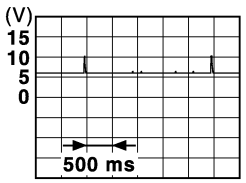
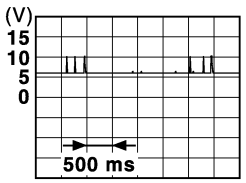
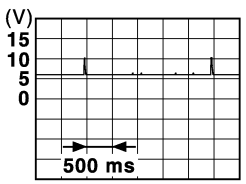
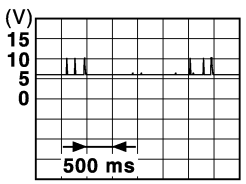
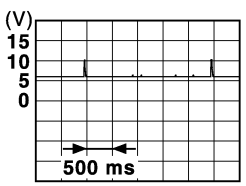
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 PKIB4960J 7.0 - 8.0 V
					Lighting switch 2ND (Wiper intermittent dial 4) Lighting switch HI (Wiper intermittent dial 4) Rear washer switch ON (Wiper intermittent dial 4) Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	 PKIB4958J 1.2 V
35 (R/L)	Ground	Combination switch OUTPUT 2	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 PKIB4960J 7.0 - 8.0 V
					Lighting switch 2ND Lighting switch PASS Front wiper switch INT Front wiper switch HI	 PKIB4958J 1.2 V
36 (L/O)	Ground	Combination switch OUTPUT 1	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 PKIB4960J 7.0 - 8.0 V
					Turn signal switch RH Turn signal switch LH Front wiper switch LO (Front wiper switch MIST) Front washer switch ON	 PKIB4958J 1.2 V

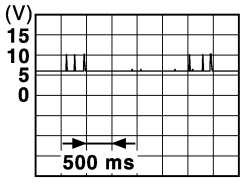
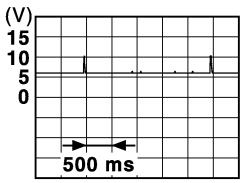
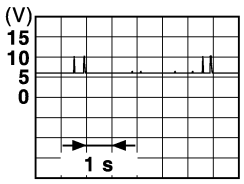
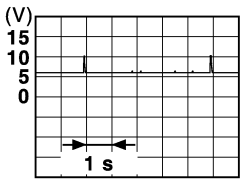
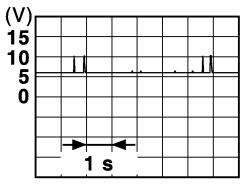
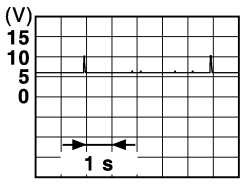
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
37 (G/O)	Ground	Selector lever P position switch	Input	Selector lever	P position	0 V
					Any position other than P	12 V
38 (G/Y)	Ground	Receiver communication	Input/ Output	Ignition switch OFF (Remote keyless entry communication)	Waiting	12 V
					When operating either button on Intelligent Key	 JMMIA0572GB
				Ignition switch ON (TPMS communication)	Waiting	 JMMIA0573GB
					When receiving signal from tire pressure sensor	 JMMIA0574GB
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)	 PKIB4960J 9.5 - 10.0 V
					ON (When back door opened)	0 V
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	0 V

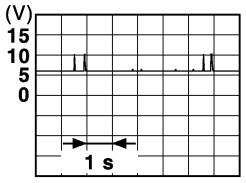
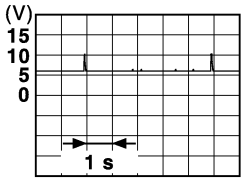
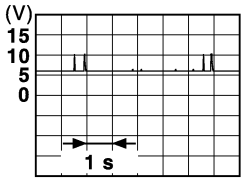
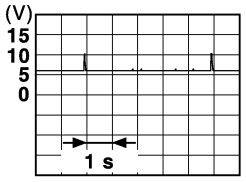
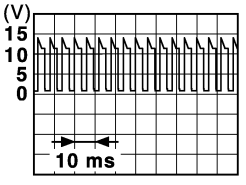
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
45 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (When passenger door opened)	0 V
46 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (When rear RH door opened)	0 V
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (When driver door opened)	0 V
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	 PKIB4960J 7.0 - 8.0 V
					ON (When rear door LH opened)	0 V
50 (R/W)	Ground	Back door lock actuator relay control	Output	Back door	LOCK (Actuator is activated)	0 V
					Other than LOCK (Actuator is not activated)	Battery voltage
51 (W)	Ground	Back door request switch	Input	Back door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	12 V
54 (LG)	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V
					ON (Activated)	12 V

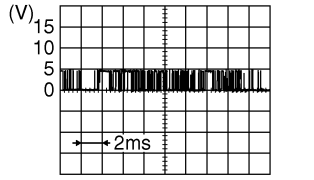
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
55 (G)	Ground	Rear door UNLOCK	Output	Rear door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Actuator is not activated)	0 V
56 (L)	Ground	Interior room lamp power supply	Output	Interior 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	 PKIC6370E 6.0 V
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 PKIC6370E 6.0 V
63 (BR)	Ground	Interior room lamp control signal	Output	Interior room lamp	OFF	12 V
					ON	0 V
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	12 V
					Other than LOCK (Actuator is not activated)	0 V
66 (L/B)	Ground	Driver door UNLOCK	Output	Driver door	UNLOCK (Actuator is activated)	12 V
					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 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		12 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	–					
70 (Y)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
72 (SB)	Ground	A/C indicator	Output	A/C indicator	OFF	12 V
					ON	0 V
75 (SB)	Ground	Driver door request switch	Input	Driver door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	12 V
76 (L/O)	Ground	Push-button ignition switch (push switch)	Input	Push-button ignition switch (push switch)	Pressed	0 V
					Not pressed	12 V
78 (LG)	Ground	Driver door antenna (+)	Output	When the driver door request switch is operated with ignition switch ON	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	 JMKIA5954GB
					When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	 JMKIA5955GB
79 (V)	Ground	Driver door antenna (-)	Output	When the driver door request switch is operated with ignition switch ON	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	 JMKIA5954GB
					When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	 JMKIA5955GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	–					
80 (BR/Y)	Ground	Passenger door antenna (+)	Output	When the passenger door request switch is operated with ignition switch ON	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	 JMKIA5954GB
					When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	 JMKIA5955GB
81 (L/Y)	Ground	Passenger door antenna (-)	Output	When the passenger door request switch is operated with ignition switch ON	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	 JMKIA5954GB
					When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	 JMKIA5955GB
82 (W/B)	Ground	Back door antenna (+)	Output	When the back door request switch is operated with ignition switch ON	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	 JMKIA5954GB
					When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	 JMKIA5955GB

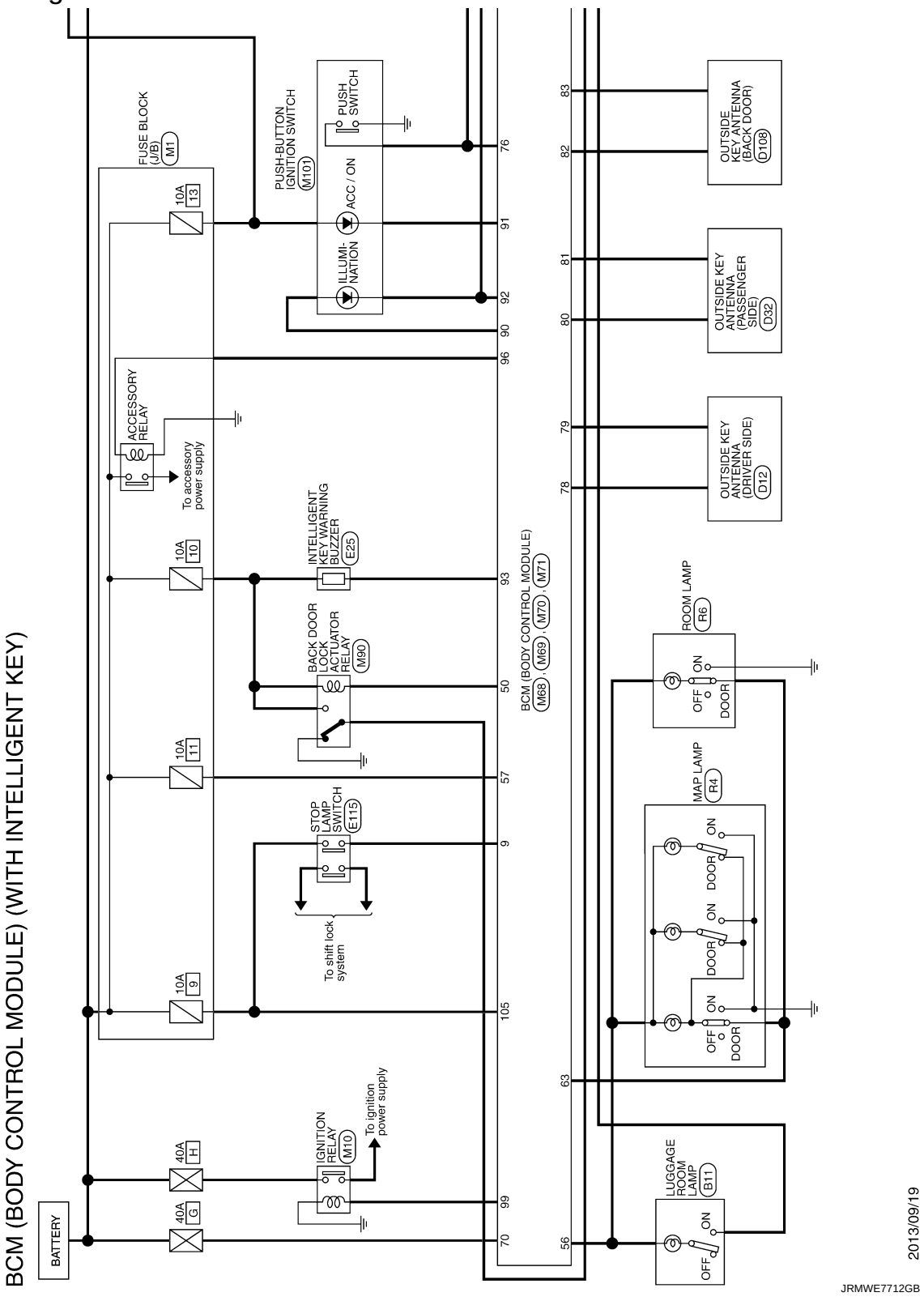
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
83 (B/W)	Ground	Back door antenna (-)	Output	When the back door request switch is operated with ignition switch ON	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	 JMKIA5954GB
					When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	 JMKIA5955GB
84 (Y/G)	Ground	Room antenna (+) (Instrument center)	Output	Ignition switch ON	When Intelligent Key is not in the antenna detection area	 JMKIA5951GB
					When Intelligent Key is in the antenna detection area	 JMKIA3839GB
85 (Y/L)	Ground	Room antenna (-) (Instrument center)	Output	Ignition switch ON	When Intelligent Key is not in the antenna detection area	 JMKIA5951GB
					When Intelligent Key is in the antenna detection area	 JMKIA3839GB

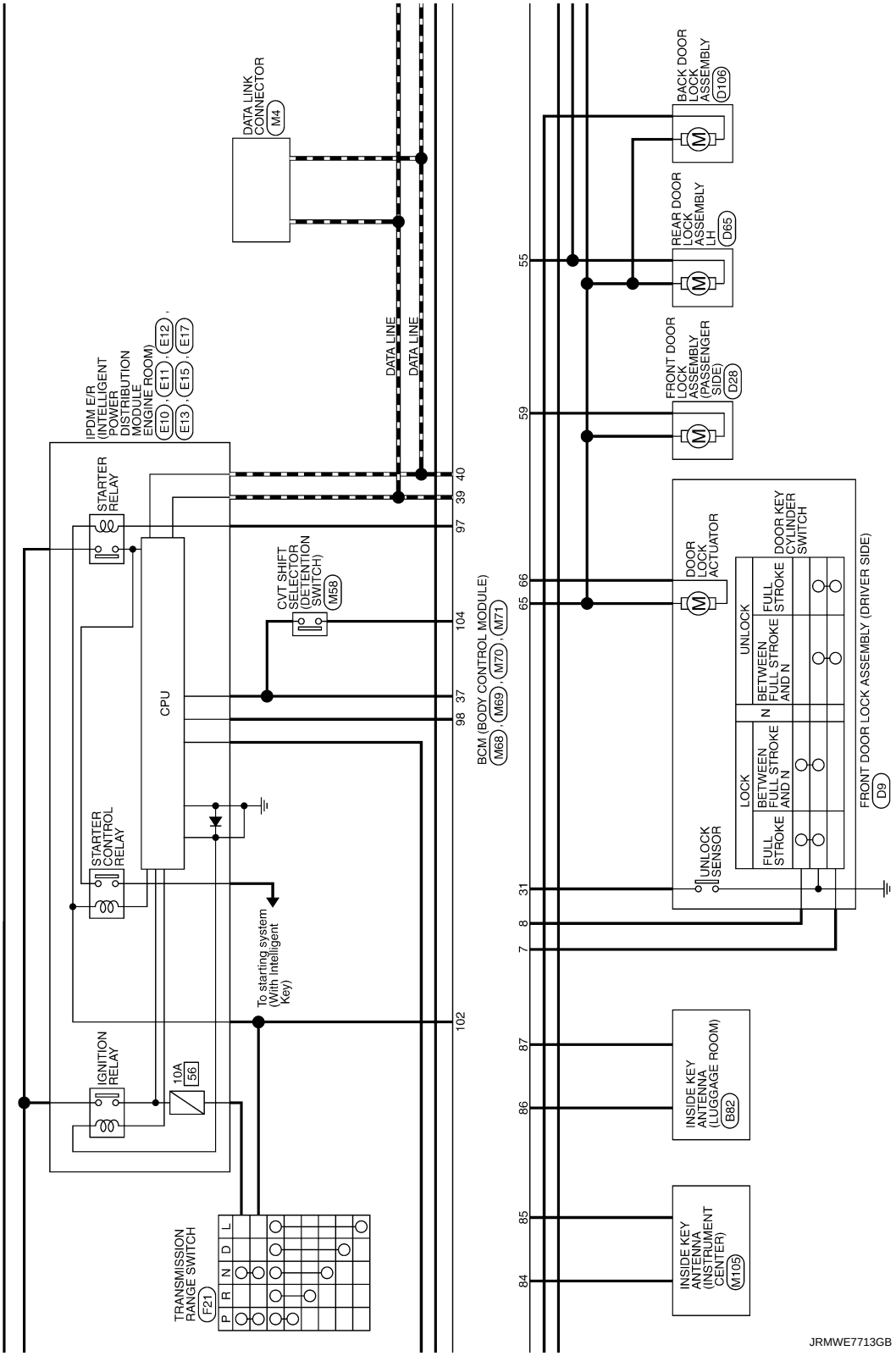
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
86 (P)	Ground	Luggage room antenna (+)	Output	Ignition switch ON	When Intelligent Key is not in the antenna detection area	 JMKIA5951GB
					When Intelligent Key is in the antenna detection area	 JMKIA3839GB
87 (L)	Ground	Luggage room antenna (-)	Output	Ignition switch ON	When Intelligent Key is not in the antenna detection area	 JMKIA5951GB
					When Intelligent Key is in the antenna detection area	 JMKIA3839GB
90 (W/L)	Ground	Push-button ignition switch illumination	Output	Push-button ignition switch illumination	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	**NOTE:** When the illumination brightening/dimming level is in the neutral position  JPMIA1554GB 6.0 - 7.0 V

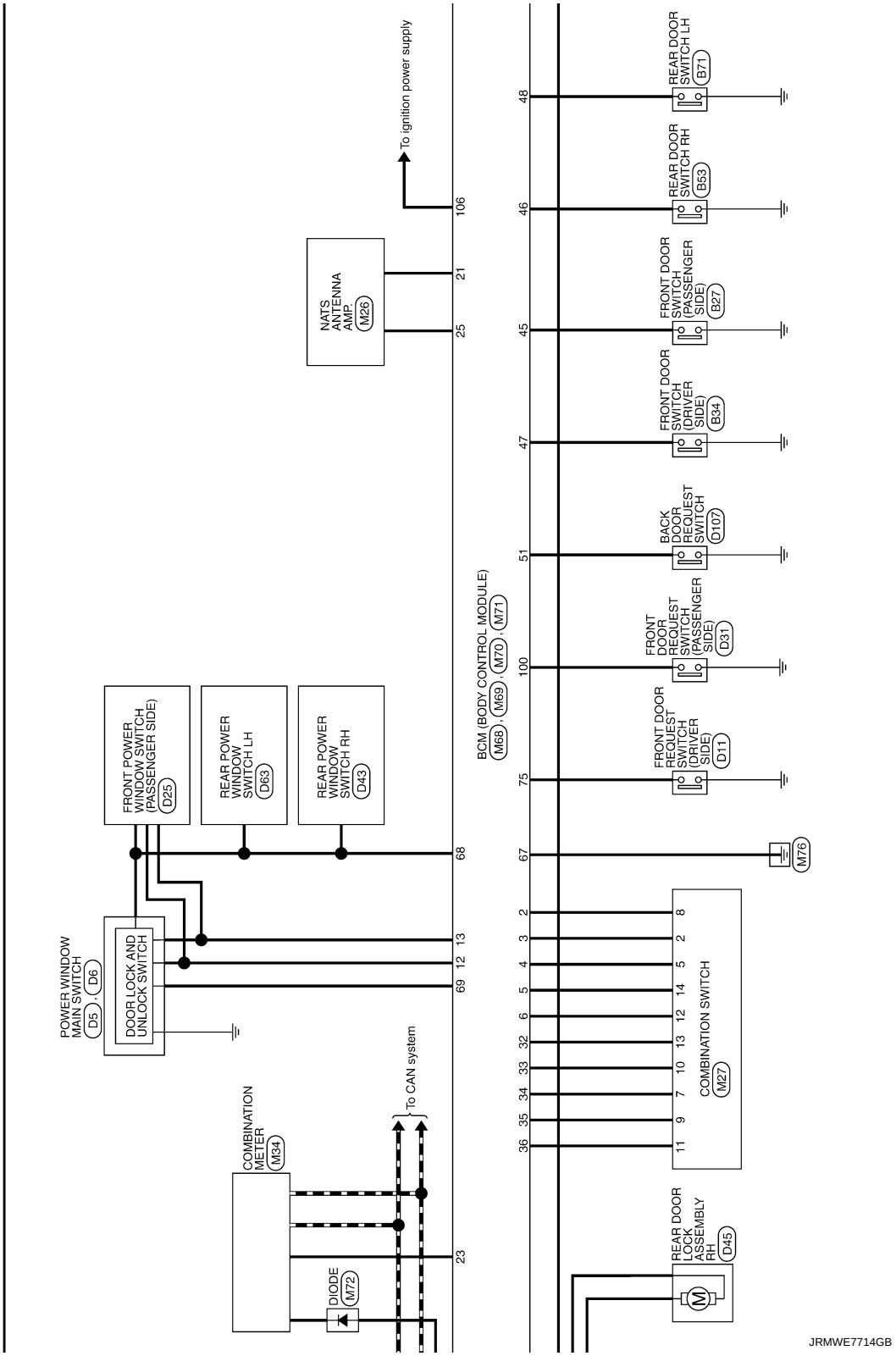
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
93 (GR/W)	Ground	Intelligent Key warning buzzer	Output	Intelligent Key warning buzzer	Sounding	0 V
					Not sounding	12 V
96 (BR/W)	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
					ACC or ON	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 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)	0 V
					OFF (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
103 (G/Y)	Ground	Front defroster switch	Input	Ignition switch ON	A/C mode defroster ON position	0 V
					Other than A/C mode defroster ON position	 JPMIA0589GB 8.0 - 9.0 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 relay control	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V

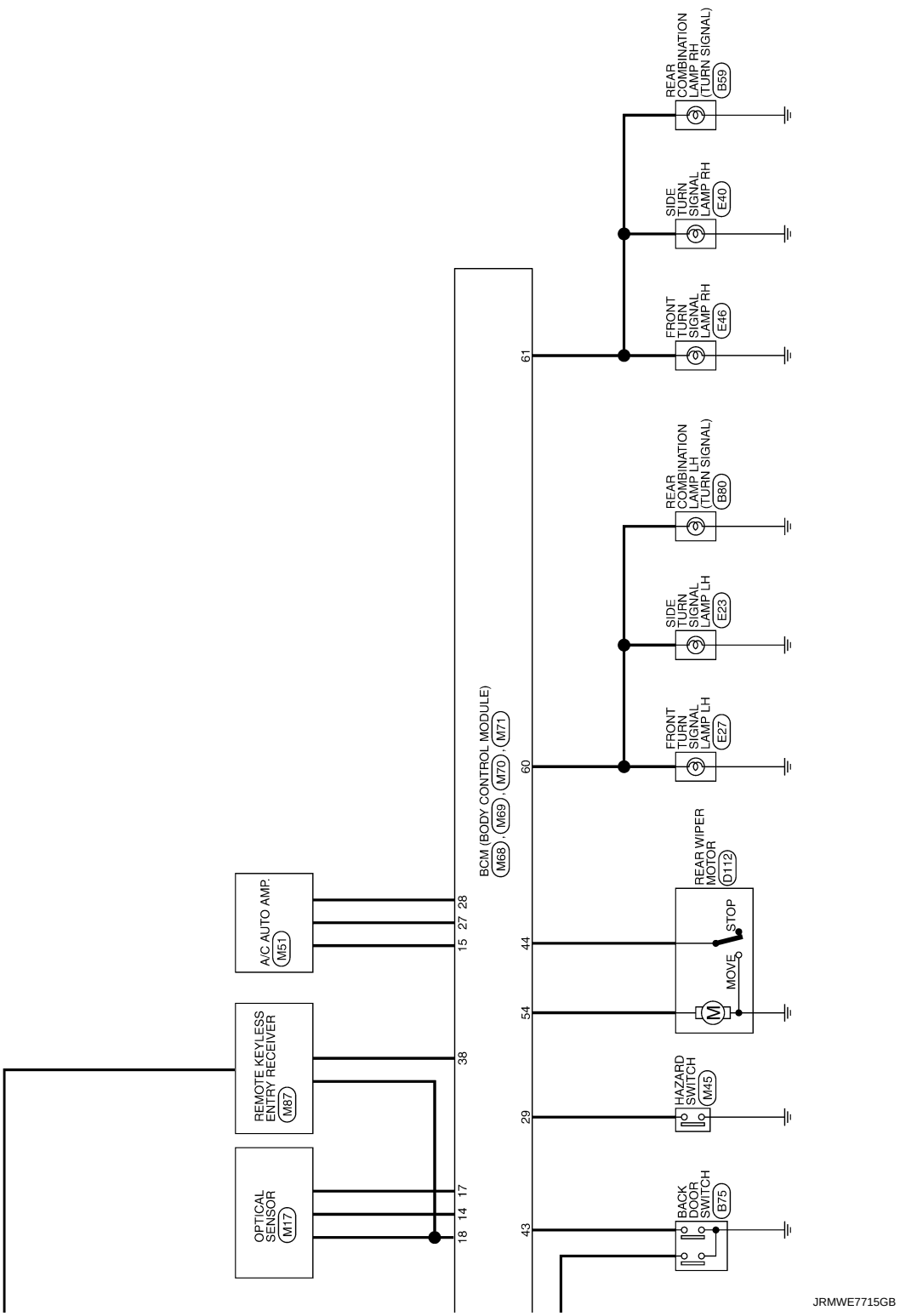
Wiring Diagram - BCM -

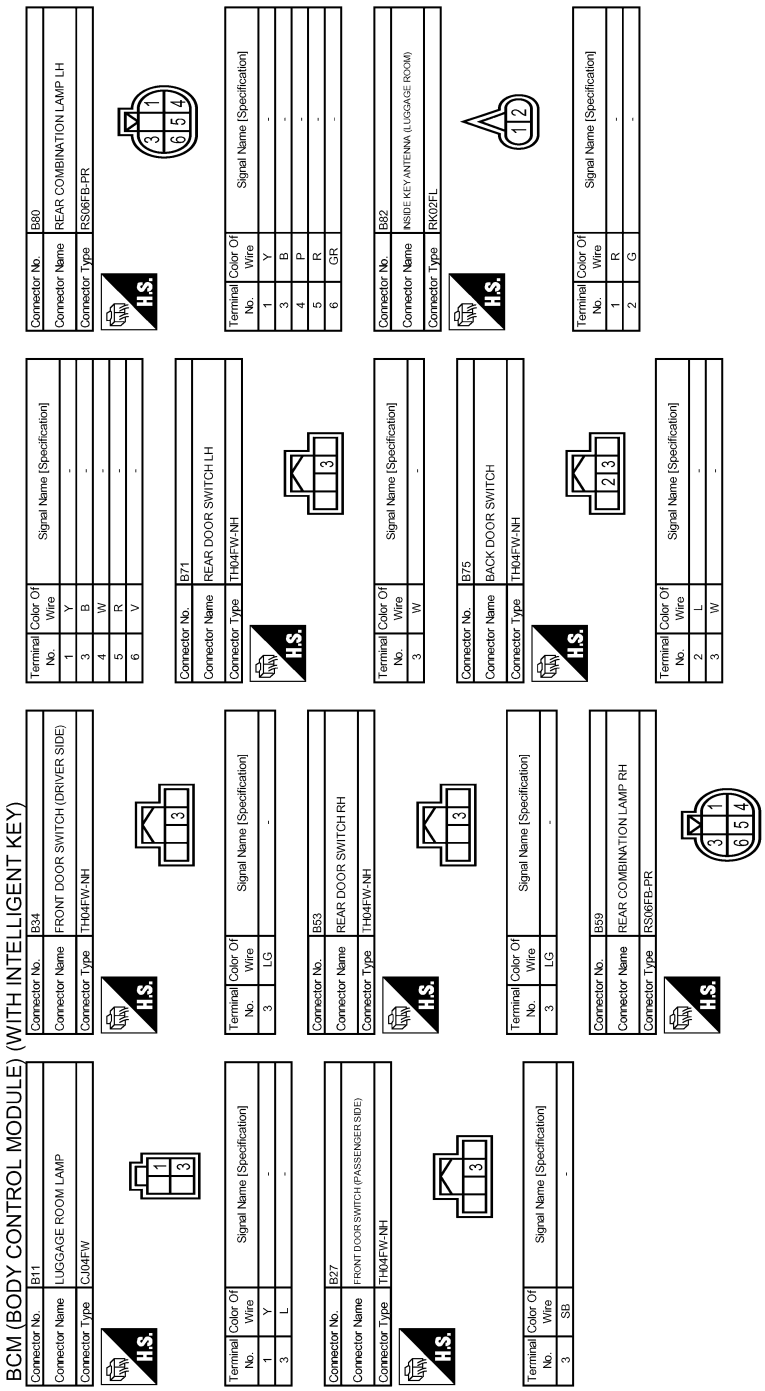
INFOID:0000000010269405




DATA LINK CONNECTOR M4
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) E10, E11, E12, E13, E15, E17
DATA LINE
DATA LINE
STARTER RELAY
CPU
CVT SHIFT SELECTOR (DETENTION SWITCH) M58
BCM (BODY CONTROL MODULE) M68, M69, M70, M71
STARTER CONTROL RELAY
To starting system (With intelligent Key)
IGNITION RELAY
10A 56
TRANSMISSION RANGE SWITCH F21
P R N D L
BACK DOOR LOCK ASSEMBLY D106
REAR DOOR LOCK ASSEMBLY LH D65
FRONT DOOR LOCK ASSEMBLY (PASSENGER SIDE) D28
DOOR LOCK ACTUATOR
UNLOCK SENSOR
DOOR KEY CYLINDER SWITCH
LOCK
UNLOCK
FULL STROKE
BETWEEN FULL STROKE AND N
N
FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE) D9
INSIDE KEY ANTENNA (LUGGAGE ROOM) B82
INSIDE KEY ANTENNA (INSTRUMENT CENTER) M105
JRMWE7713GB

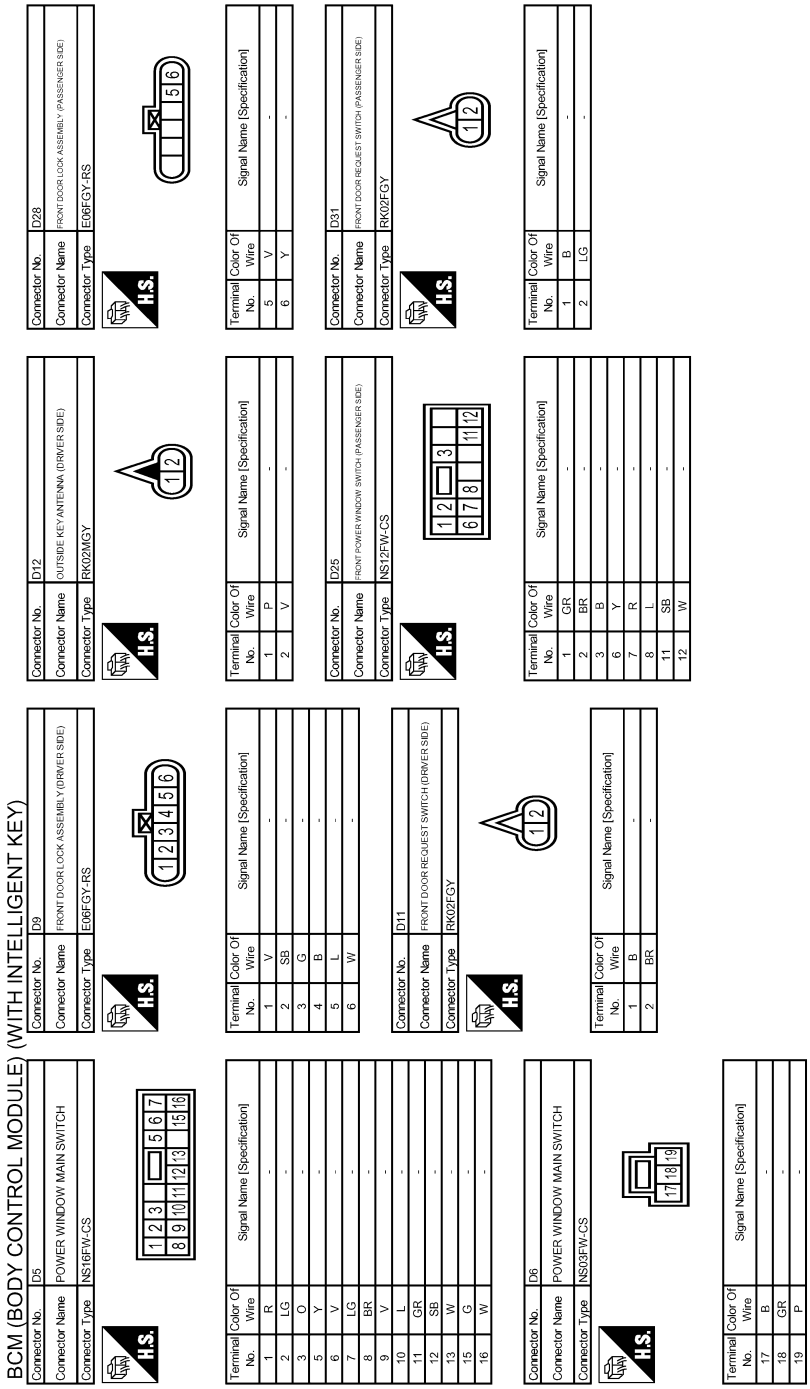

To ignition power supply
NATS ANTENNA AMP. (M26)
106
21
25
BCM (BODY CONTROL MODULE) (M68), (M69), (M70), (M71)
48
46
45
47
51
100
75
67
REAR DOOR SWITCH LH (B71)
REAR DOOR SWITCH RH (B53)
FRONT DOOR SWITCH (PASSENGER SIDE) (B27)
FRONT DOOR SWITCH (DRIVER SIDE) (B34)
BACK DOOR REQUEST SWITCH (D107)
FRONT DOOR REQUEST SWITCH (PASSENGER SIDE) (D31)
FRONT DOOR REQUEST SWITCH (DRIVER SIDE) (D11)
M76
FRONT POWER WINDOW SWITCH (PASSENGER SIDE) (D25)
REAR POWER WINDOW SWITCH LH (D63)
REAR POWER WINDOW SWITCH RH (D43)
68
POWER WINDOW MAIN SWITCH (D5), (D6)
DOOR LOCK AND UNLOCK SWITCH
13
12
69
2
3
4
5
6
32
33
34
35
36
8
2
5
14
12
13
10
7
9
11
COMBINATION SWITCH (M27)
COMBINATION METER (M34)
To CAN system
23
DIODE (M72)
REAR DOOR LOCK ASSEMBLY RH (D45)
JRMWE7714GB


REAR COMBINATION LAMP RH (TURN SIGNAL) B59
SIDE TURN SIGNAL LAMP RH E40
FRONT TURN SIGNAL LAMP RH E46
REAR COMBINATION LAMP LH (TURN SIGNAL) B80
SIDE TURN SIGNAL LAMP LH E23
FRONT TURN SIGNAL LAMP LH E27
REAR WIPER MOTOR D112
STOP
MOVE
HAZARD SWITCH M45
BACK DOOR SWITCH B75
BCM (BODY CONTROL MODULE) (M68), (M69), (M70), (M71)
61
60
44
54
29
43
A/C AUTO AMP. M51
REMOTE KEYLESS ENTRY RECEIVER M87
OPTICAL SENSOR M17
15 27 28
38
18 14 17
JRMWE7715GB



JRMWE7818GB

BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)



JRMWE7819GB

BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

Connector No.	D32
Connector Name	OUTSIDE KEY ANTENNA (PASSENGER SIDE)
Connector Type	RK02MGY

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	V	-

Connector No.	D43
Connector Name	REAR POWER WINDOW SWITCH RH
Connector Type	NS08FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	BR	-
3	O	-
4	G	-
5	R	-

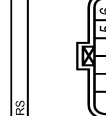
Connector No.	D45
Connector Name	REAR DOOR LOCK ASSEMBLY RH
Connector Type	E06FGY-RS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
5	W	-
6	P	-

Connector No.	D63
Connector Name	REAR POWER WINDOW SWITCH LH
Connector Type	NS08FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	BR	-
3	O	-
4	G	-
5	R	-

Connector No.	D65
Connector Name	REAR DOOR LOCK ASSEMBLY LH
Connector Type	E06FGY-RS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	G	-

Connector No.	D106
Connector Name	BACK DOOR LOCK ASSEMBLY
Connector Type	FEA04FB-FHA2-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	Y	-

Connector No.	D107
Connector Name	BACK DOOR REQUEST SWITCH
Connector Type	RK02FGY

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	B	-

Connector No.	D108
Connector Name	OUTSIDE KEY ANTENNA (BACK DOOR)
Connector Type	RK02MGY

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	R	-

JRMWE7820GB

BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

Connector No.	D112
Connector Name	REAR WIPER MOTOR
Connector Type	CJ04FW-1V

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
3	BR	-
4	LG	-

Connector No.	E10
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	M06FW-LC

H.S.

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

Connector No.	E11
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	M06FB-LC

H.S.

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

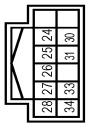
Connector No.	E12
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS08FBR-CS

H.S.

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

Connector No.	E13
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH12FW-NH

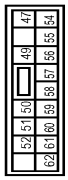
H.S.



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.	E15
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS16FW-CS

H.S.



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	LG	- [With M/T]
58	R	- [With CVT]

59	Y	-
60	V	-
61	W	-
62	L	-

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

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
64	R	-
66	L	-
69	O	-

Connector No.	E23
Connector Name	SIDE TURN SIGNAL LAMP LH
Connector Type	STL02FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	B/R	-

JRMWE7821GB

BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

Connector No.	E25
Connector Name	INTELLIGENT KEY WARNING BUZZER
Connector Type	RK03FBR

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
3	P	-

Connector No.	E27
Connector Name	FRONT TURN SIGNAL LAMP LH
Connector Type	RS02FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	B/W	-

Connector No.	E40
Connector Name	SIDE TURN SIGNAL LAMP RH
Connector Type	STL02FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	B/Y	-

Connector No.	E46
Connector Name	FRONT TURN SIGNAL LAMP RH
Connector Type	RS02FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	B/Y	-

Connector No.	E115
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC

H.S.

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

Connector No.	F21
Connector Name	TRANSMISSION RANGE SWITCH
Connector Type	RK08FG

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	W	-
3	R	-
4	GR	-
5	SB	-
6	W	-
7	Y	-
8	G	-

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	24311_ED000

H.S.

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

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

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
4	B	-
5	B	-
6	L	-
7	GR/R	-
8	O	-
14	P	-
16	LG/R	-

JRMWE7822GB

BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

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.	M17
Connector Name	OPTICAL SENSOR
Connector Type	TK03FW

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R/G	POWER
2	L/B	OUTPUT
3	V	GROUND

Connector No.	M26
Connector Name	NATS ANTENNA AMP.
Connector Type	TH04FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BAT
2	P/L	CLK
3	B	GND [Without Intelligent Key]
3	LG	DATA [With Intelligent Key]
4	B	GND [With Intelligent Key]
4	LG	DATA [Without Intelligent Key]

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	O/B	WASHER (RR)
2	GR	OUTPUT 4
3	R/G	WASHER (FR)
4	W	IGN
5	L/Y	OUTPUT 3
6	B	GROUND
7	W	INPUT 3
8	BR/W	OUTPUT 5
9	R/L	INPUT 2
10	Y/L	INPUT 4
11	L/O	INPUT 1
12	L/R	OUTPUT 1
13	LG	INPUT 5
14	G	OUTPUT 2

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	V	VEHICLE SPEED SIGNAL (2-PULSE)
4	L	VEHICLE SPEED SIGNAL (8-PULSE) [Without NAVI]
4	V/R	VEHICLE SPEED SIGNAL (8-PULSE) [With NAVI]
6	BR/Y	FUEL LEVEL SENSOR SIGNAL
7	R/G	AIR BAG SIGNAL
8	P	OVERDRIVE CONTROL SWITCH SIGNAL
9	O	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
10	SB	PARKING BRAKE SWITCH SIGNAL
11	G/R	BRAKE FLUID LEVEL SWITCH SIGNAL
13	B/R	ILLUMINATION CONTROL SIGNAL
15	L/Y	ACC POWER SUPPLY
18	R/Y	SECURITY SIGNAL
19	PU/W	AMBIENT SENSOR SIGNAL
20	R/W	AMBIENT SENSOR GROUND
21	B	GROUND
22	B	GROUND
23	B	GROUND
24	PU	FUEL LEVEL SENSOR GROUND
25	B	VDC GROUND
27	LG/R	BATTERY POWER SUPPLY
28	GR	IGNITION SIGNAL
29	BR	PASSENGER SEAT BELT WARNING SIGNAL
31	R	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL
35	BR	ENGINE COOLANT TEMPERATURE SIGNAL
38	GR	ALTERNATOR SIGNAL

Connector No.	M45
Connector Name	HAZARD SWITCH
Connector Type	TK04FW

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

Connector No.	M51
Connector Name	A/C AUTO AMP.
Connector Type	TK16FGY

Terminal No.	Color Of Wire	Signal Name [Specification]
21	BR	WATER TEMPERATURE SIGNAL
22	PU/W	AMBIENT SENSOR SIGNAL
23	O	INTAKE SENSOR SIGNAL
24	G	IN-VEHICLE SENSOR SIGNAL
25	P	SUNLOAD SENSOR SIGNAL
26	SB	INTAKE DOOR MOTOR PBR F/B SIGNAL
27	R	REAR WINDOW DEFOGGER F/B SIGNAL
29	GR	MODE DRIVE SIGNAL 4
30	W	MODE DRIVE SIGNAL 3
31	Y	MODE DRIVE SIGNAL 2
32	V	MODE DRIVE SIGNAL 1
33	W/L	REAR WINDOW DEFOGGER ON SIGNAL
34	Y/G	A/C ON SIGNAL
35	G/W	BLOWER FAN ON SIGNAL
36	GR/R	POWER TRANSISTOR CONTROL SIGNAL

JRMWE7823GB

BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

Connector No.	M58
Connector Name	CVT SHIFT SELECTOR
Connector Type	TH08FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	B	-
3	W	-
4	B/R	-
5	LG	-
6	B	-
7	Y/R	-
8	G/Y	-

Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

H.S.

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
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
14	L/G	OPTICAL SENSOR
15	W/L	REAR WINDOW DEFOGGER SW
17	R/G	OPTICAL SENSOR POWER SUPPLY
18	V	SENSOR GND
21	P/L	NATS ANTENNA AMP.
23	R/Y	SECURITY INDICATOR LAMP
25	LG	NATS ANTENNA AMP.
27	O	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	G/Y	RECEIVER COMM
39	L	CAN-H
40	P	CAN-L

Connector No.	M69
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA09FB-FHA6-SA

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
43	W	BACK DOOR SW
44	LG	REAR WIPER STOP POSITION
45	SB	PASSENGER DOOR SW
46	GR/L	REAR RH DOOR SW
47	BR/Y	DRIVER DOOR SW
48	W/G	REAR LH DOOR SW
50	R/W	BK DR LOCK ACT RELAY CONT
51	W	BACK DOOR REQUEST SW
54	LG	REAR WIPER OUTPUT
55	G	REAR DOOR UNLOCK OUTPUT

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

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
56	L	INTERIOR ROOM LAMP POWER SUPPLY
57	Y	BAT (FUSE)
59	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 UNLOCK OUTPUT
67	B	GROUND
68	L	POWER WINDOW POWER SUPPLY (IGN)
69	P	POWER WINDOW POWER SUPPLY (BAT)
70	Y	BAT (F/L)

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

H.S.

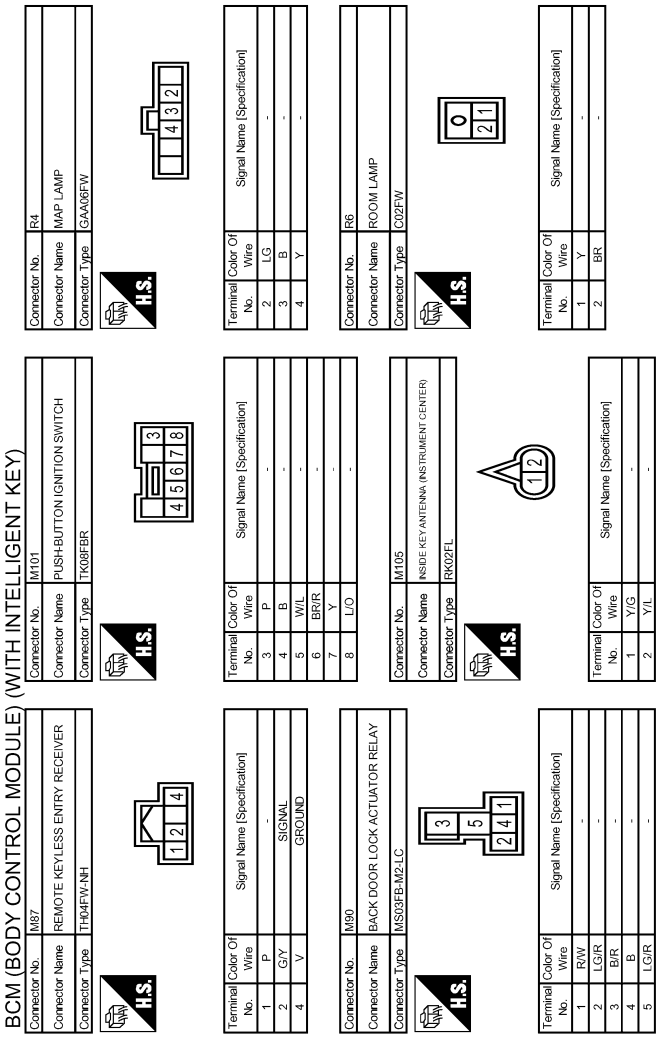
Terminal No.	Color Of Wire	Signal Name [Specification]
72	SB	A/C INDICATOR OUTPUT
75	SB	DRIVER DOOR REQUEST SW
76	L/O	PUSH SW
78	LG	DRIVER DOOR ANT+
79	V	DRIVER DOOR ANT-
80	BR/Y	PASSENGER DOOR ANT+
81	L/Y	PASSENGER DOOR ANT-
82	W/B	BACK DOOR ANT+
83	B/W	BACK DOOR ANT-
84	Y/G	ROOM ANT+
85	Y/L	ROOM ANT-
86	P	LUGGAGE ROOM ANT+
87	L	LUGGAGE ROOM ANT-
90	W/L	PUSH-BUTTON IGNITION SW ILL POWER
91	Y	ACC/ON IND
92	BR/R	PUSH-BUTTON IGNITION SW ILL GND
93	GR/W	I-KEY WARN BUZZER
96	BR/W	ACC RELAY CONT
97	L/R	STARTER RELAY CONT
98	BR	IGN RELAY (IPDM E/R) CONT
99	W/R	IGN RELAY CONT
100	G	PASSENGER DOOR REQUEST SW
102	G	SHIFT N/P
103	G/Y	FR DEFROSTER SW
104	Y/R	CVT SHIFT SELECTOR POWER SUPPLY
105	B/O	STOP LAMP SW 2
106	Y/B	BLOWER FAN MOTOR RELAY CONT

Connector No.	M72
Connector Name	DIODE
Connector Type	24335_C9900

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/R	-
2	BR/R	-

JRMWE7824GB



JRMWE7825GB

Fail-safe

INFOID:0000000010269406

FAIL-SAFE CONTROL BY DTC

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

Display contents of CONSULT	Fail-safe	Cancellation
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
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent • Starter relay control signal • Starter relay status signal (CAN)
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)
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

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.

FAIL-SAFE CONTROL OF COMBINATION SWITCH READING FUNCTION CAUSED BY LOW POWER SUPPLY VOLTAGE

If voltage of battery power supply lower, BCM maintains combination switch reading to the status when input voltage is less than approximately 9 V.

NOTE:
When voltage of battery power supply is approximately 9 V or more, combination switch reading function returns to normal operation.

DTC Inspection Priority Chart

INFOID:0000000010269407

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

Priority	DTC
1	B2562: LOW VOLTAGE
2	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)

Priority	DTC
3	• B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM • B2195: ANTI-SCANNING • B2198: NATS ANTENNA AMP
4	• 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 • B260F: ENG STATE SIG LOST • B2614: BCM • B2615: BCM • B2616: BCM • B2618: BCM • B261A: PUSH-BTN IGN SW • B26F1: IGN RELAY OFF • B26F2: IGN RELAY ON • B26F3: START CONT RLY ON • B26F4: START CONT RLY OFF • B26F6: BCM • B26F7: BCM • B26F8: BCM • B26FC: KEY REGISTRATION • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED
5	• 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 • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL
6	• B2621: INSIDE ANTENNA • B2622: INSIDE ANTENNA
7	• B2626: OUTSIDE ANTENNA • B2627: OUTSIDE ANTENNA • B2628: OUTSIDE ANTENNA

DTC Index

INFOID:0000000010269408

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 PCS-72, "COMMON ITEM : CONSULT 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-40
U1010: CONTROL UNIT (CAN)	—	—	—	—	BCS-41
U0415: VEHICLE SPEED	—	—	×	—	BCS-42
B2192: ID DISCORD BCM-ECM	×	—	—	—	SEC-38
B2193: CHAIN OF BCM-ECM	×	—	—	—	SEC-40
B2195: ANTI-SCANNING	×	—	—	—	SEC-41
B2198: NATS ANTENNA AMP	×	—	—	—	SEC-42
B2555: STOP LAMP	—	×	×	—	SEC-46
B2556: PUSH-BTN IGN SW	—	×	×	—	SEC-48
B2557: VEHICLE SPEED	—	×	×	—	SEC-50
B2562: LOW VOLTAGE	—	×	—	—	BCS-43
B2601: SHIFT POSITION	—	×	×	—	SEC-51
B2602: SHIFT POSITION	—	×	×	—	SEC-54
B2603: SHIFT POSI STATUS	—	×	×	—	SEC-57
B2604: PNP/CLUTCH SW	—	×	×	—	SEC-62
B2605: PNP/CLUTCH SW	—	×	×	—	SEC-65
B2608: STARTER RELAY	×	×	×	—	SEC-67
B260F: ENG STATE SIG LOST	×	×	×	—	SEC-69
B2614: BCM	—	×	×	—	PCS-77
B2615: BCM	—	×	×	—	PCS-80
B2616: BCM	—	×	×	—	PCS-83
B2618: BCM	—	×	×	—	PCS-86
B261A: PUSH-BTN IGN SW	—	×	×	—	PCS-87
B2621: INSIDE ANTENNA	—	×	—	—	DLK-44
B2622: INSIDE ANTENNA	—	×	—	—	DLK-46
B2626: OUTSIDE ANTENNA	—	×	—	—	DLK-50
B2627: OUTSIDE ANTENNA	—	×	—	—	DLK-48
B2628: OUTSIDE ANTENNA	—	×	—	—	DLK-52
B26F1: IGN RELAY OFF	×	×	×	—	PCS-89
B26F2: IGN RELAY ON	×	×	×	—	PCS-91
B26F3: START CONT RLY ON	×	×	×	—	SEC-70
B26F4: START CONT RLY OFF	×	×	×	—	SEC-71
B26F6: BCM	—	×	×	—	PCS-93
B26F7: BCM	×	×	×	—	SEC-73
B26F8: BCM	—	×	×	—	SEC-74
B26FC: KEY REGISTRATION	—	×	×	—	SEC-75

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
C1704: LOW PRESSURE FL	—	—	—	×	WT-26
C1705: LOW PRESSURE FR	—	—	—	×	
C1706: LOW PRESSURE RR	—	—	—	×	
C1707: LOW PRESSURE RL	—	—	—	×	
C1708: [NO DATA] FL	—	—	—	×	WT-28
C1709: [NO DATA] FR	—	—	—	×	
C1710: [NO DATA] RR	—	—	—	×	
C1711: [NO DATA] RL	—	—	—	×	
C1716: [PRESSDATA ERR] FL	—	—	—	×	WT-31
C1717: [PRESSDATA ERR] FR	—	—	—	×	
C1718: [PRESSDATA ERR] RR	—	—	—	×	
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	WT-33

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009945089

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

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

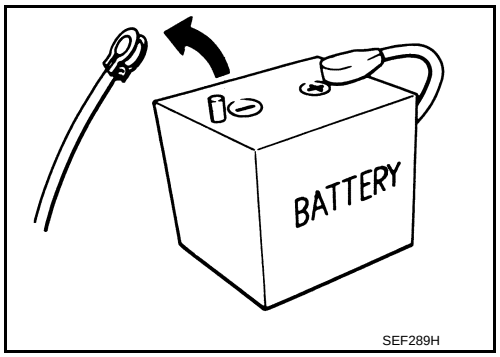
Always observe the following items for preventing accidental activation.

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

Precautions for Removing of Battery Terminal

INFOID:0000000010269417

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.



- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

SYMPTOM DIAGNOSIS

PUSH-BUTTON IGNITION SWITCH DOES NOT OPERATE

Description

INFOID:0000000009945090

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.
- 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:0000000009945091

1.PERFORM WORK SUPPORT

Perform “INSIDE ANT DIAGNOSIS” on Work Support of “INTELLIGENT KEY”.
Refer to DLK-40, "INTELLIGENT KEY : CONSULT 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-94, "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-40, "Intermittent Incident".
NO >> GO TO 1.

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR DOES NOT ILLUMINATE

Description

INFOID:0000000009945092

- Before performing the diagnosis in the following table, check “Work Flow”. Refer to PCS-65, "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.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:0000000009945093

1.CHECK PUSH-BUTTON IGNITION SWITCH INDICATOR

Check push-button ignition switch indicator.
Refer to PCS-97, "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-40, "Intermittent Incident".
NO >> GO TO 1.

REMOVAL AND INSTALLATION

PUSH-BUTTON IGNITION SWITCH

Exploded View

INFOID:0000000009945094

Refer to IP-13, "Exploded View".

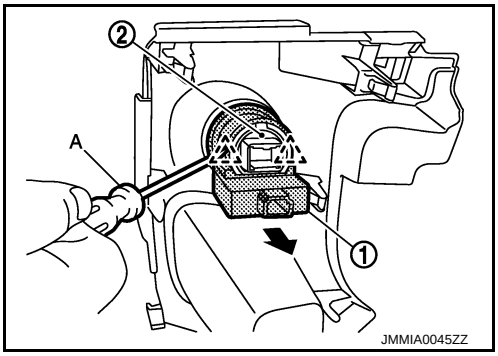
Removal and Installation

INFOID:0000000009945095

REMOVAL

1. Remove the switch panel finisher. Refer to IP-14, "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.