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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

BASIC INSPECTION Α DIAGNOSIS AND REPAIR WORK FLOW Work Flow INFOID:0000000009945420 **DETAILED FLOW** 1. OBTAIN INFORMATION ABOUT SYMPTOM Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred) as much as possible when the customer brings the vehicle in. D >> GO TO 2. 2. CHECK FOR DTC Е Perform self diagnosis with CONSULT. Is any DTC detected? YES-1 >> BCM: Refer to BCS-82, "DTC Index" (With Intelligent Key System), BCS-150, "DTC Index" (Without Intelligent Key System). YES-2 >> IPDM E/R: Refer to PCS-32, "DTC Index" (With Intelligent Key System), PCS-62, "DTC Index" (Without Intelligent Key System). NO >> GO TO 3. 3 reproduce the malfunction information Check the malfunction on the vehicle that the customer describes. Inspect the relation of the symptoms and the condition when the symptoms occur. >> GO TO 4. f 4.IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS" Use "Symptom diagnosis" from the symptom inspection result in step 3. Then identify where to start performing the diagnosis based on possible causes and symptoms. >> GO TO 5. K ${f 5}.$ IDENTIFY MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS" Perform the diagnosis with "Component diagnosis" of the applicable system. DEF >> GO TO 6. $oldsymbol{6}$.REPAIR OR REPLACE THE MALFUNCTIONING PARTS M Repair or replace the specified malfunctioning parts. N >> GO TO 7. 7. FINAL CHECK Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 3. Are all malfunctions corrected? Р YES >> INSPECTION END NO >> GO TO 4.

SYSTEM DESCRIPTION

REAR WINDOW DEFOGGER SYSTEM

System Diagram

INFOID:0000000009945421 IPDM E/R CAN communication line **BCM** (REAR WINDOW Rear window defogger DEFOGGER RELAY) Rear window defogger switch signal control signal A/C AUTO AMP./ A/C CONTROL (REAR WINDOW DEFOGGER SWITCH) Rear window defogger feedback signal REAR WINDOW DEFOGGER JSLIA0323GE

System Description

INFOID:0000000009945422

OPERATION DESCRIPTION

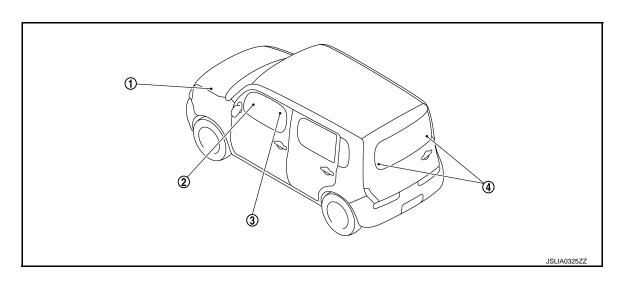
- BCM detects that the rear window defogger switch turns ON while the ignition switch is ON, and then transmits the rear window defogger control signal to IPDM E/R via CAN communication for approximately 15 minutes.
- IPDM E/R turns rear window defogger relay ON when it receives the rear window defogger control signal.
- The power is supplied to the rear window defogger when the rear window defogger relay turns ON.
- When rear window defogger is activated, indicator lamp on rear window defogger switch turns ON.

TIMER FUNCTION

- BCM transmits the rear window defogger control signal to IPDM E/R for approximately 15 minutes when the
 rear window defogger switch is turns ON while ignition switch is ON. Then, IPDM E/R activates rear window
 defogger.
- The timer is cancelled if the rear window defogger switch is pressed again during timer operation. BCM stops the output of rear window defogger control signal. The same action occurs during timer operation if the ignition switch is OFF.

Component Parts Location

INFOID:0000000009945423



< SYSTEM DESCRIPTION >

- IPDM E/R
 Refer to PCS-5, "Component Parts
 Location" (with Intelligent Key System) or PCS-36, "Component Parts
 Location" (without Intelligent Key System)

 System)
- 4. Rear window defogger connector
- *1: For models with auto A/C
- *2: For models with manual A/C

BCM Refer to BCS-10, "Component Parts Location" (with Intelligent Key Sys-

Location" (with Intelligent Key System) or BCS-95, "Component Parts
Location" (without Intelligent Key
System)

- A/C auto amp.*¹ (rear window defogger switch)
 - A/C control*² (rear window defogger switch)

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Component Description

ВСМ	 Transmits rear window defogger control signal to IPDM E/R via CAN communication. Performs the timer control of rear window defogger 		
Rear window defogger relay	Operates rear window defogger with IPDM E/R control		
IPDM E/R	Turns rear window defogger relay ON when rear window defogger control signal is received		
 A/C auto amp.*¹ A/C control*² 	The rear window defogger switch is installed Turns the indicator lamp ON when detecting the operation of rear window defogger er		
Rear window defogger	Heats the heating wire with the power supply from the rear window defogger relay to prevent the rear window from fogging up		

^{*1:} For models with auto A/C

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Revision: 2013 October DEF-5 2014 CUBE

^{*2:} For models with manual A/C

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010245769

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.

x: Applicable item

System	Sub system selection item	Diagnosis mode		
System		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 systemEngine 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.

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description			
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected			
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected			
SLEEP>LOCK SLEEP>OFF	While turning BCM status from low power consumption mode 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	Power position status of the moment a particular DTC is detected	While turning power supply position from "ACC" to "OFF"		
	OFF>LOCK		While turning power supply position from "OFF" to "LOCK"*		
Vehicle Condition	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 → 338 → 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".

REAR WINDOW DEFOGGER

REAR WINDOW DEFOGGER: CONSULT Function (BCM - REAR DEFOGGER)

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DATA MONITOR **NOTE**:

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

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

Monitor Item	Description	
PUSH SW	Indicates [ON/OFF] condition of push switch.	
REAR DEF SW	R DEF SW This is displayed even when it is not equipped.	

ACTIVE TEST

Test Item	Description
REAR DEFOGGER	Rear window defogger operates when "ON" on CONSULT screen is touched.

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010245773

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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 control	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Manual air conditioner	AIR CONDITONER		×	×
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)	×	×	×
Panic alarm system	PANIC ALARM			×

REAR WINDOW DEFOGGER

REAR WINDOW DEFOGGER: CONSULT Function (BCM - REAR DEFOGGER)

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DATA MONITOR

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DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

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	Description		
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.		
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.		
REAR DEF SW	Displays "Press (ON)/other (OFF)" status determined with the rear window defogger switch.		

ACTIVE TEST

Test Item	Description
REAR DEFOGGER	Rear window defogger operates when "ON" on CONSULT screen is touched.

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R) WITH INTELLIGENT KEY

WITH INTELLIGENT KEY: Diagnosis Description

INFOID:0000000010246423

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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

 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 <u>DLK-55</u>, "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
А	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

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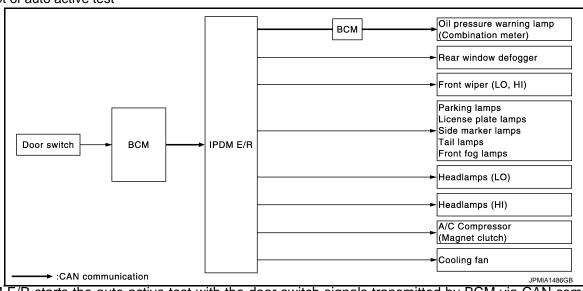
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Revision: 2013 October DEF-11 2014 CUBE

< SYSTEM DESCRIPTION >

Operation sequence	Inspection location	Operation
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
		YES	BCM signal input circuit
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	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		YES	BCM signal input circuit
 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?		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
	ale?		Magnet clutch Harness or connector between IPDM E/R and magnet clutch IPDM E/R

< SYSTEM DESCRIPTION >

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

WITH INTELLIGENT KEY: CONSULT Function (IPDM E/R)

INFOID:0000000010246424

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 SIG- NALS	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.

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< SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	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.	
	Off	OFF	
FRONT WIPER	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	
	1	OFF	
MOTOR FAN	2	Operates the cooling fan relay (LO operation).	
	3	Operates the cooling fan relay (HI operation).	
	4	— Operates the cooling fair relay (Fit operation).	

< SYSTEM DESCRIPTION >

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.	

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY: Diagnosis Description

INFOID:0000000010246426

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.
- 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 <u>DLK-55</u>, <u>"Component Function Check"</u>.
- 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
Α	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

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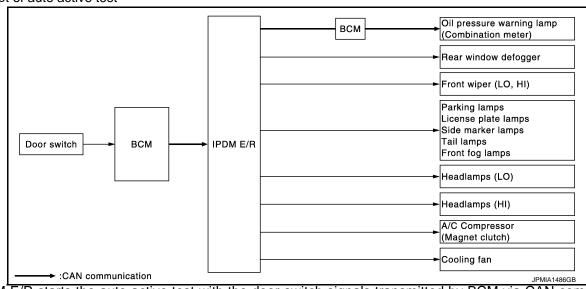
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< SYSTEM DESCRIPTION >

Operation sequence	Inspection location	Operation
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
		YES	BCM signal input circuit
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	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		YES	BCM signal input circuit
 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?	NO	Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R

< SYSTEM DESCRIPTION >

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

WITHOUT INTELLIGENT KEY: CONSULT Function (IPDM E/R)

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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.

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< SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
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.	
	Off	OFF	
FRONT WIPER	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	
	1	OFF	
MOTOR FAN	2	Operates the cooling fan relay (LO operation).	
	3	Operator the cooling for relay (HI energtion)	
	4	Operates the cooling fan relay (HI operation).	

< SYSTEM DESCRIPTION >

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

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< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

REAR WINDOW DEFOGGER SWITCH WITH AUTO A/C

WITH AUTO A/C: Component Function Check

INFOID:0000000009945433

1. CHECK FUNCTION

- 1. Check ("REAR DEF SW") in BCM REAR DEFOGGER "DATA MONITOR" mode by using CONSULT.
- 2. Operate rear window defogger switch and check the status on CONSULT screen.

Monitor Item	Condition		status	
REAR DEF SW	rear window defoager switch	Pressed	On	
KLAK DLI OW	rear window defogger switch	Released	Off	

Is the inspection result normal?

YES >> Rear window defogger switch function is OK.

NO >> Refer to DEF-20, "WITH AUTO A/C : Diagnosis Procedure".

WITH AUTO A/C: Diagnosis Procedure

INFOID:0000000009945434

1.CHECK AUTO A/C

Check the operating condition of auto A/C

Does auto A/C operate normally?

YES >> GO TO 2.

NO >> Perform auto A/C diagnosis. Refer to HAC-114, "Diagnosis Chart By Symptom".

2.CHECK BCM OUTPUT SIGNAL

- Turn ignition switch OFF.
- Disconnect A/C auto amp. connector.
- 3. Check signal between A/C auto amp. harness connector and ground using oscilloscope.

(+) A/C auto amp.		(-)	Voltage (V) (Approx.)
Connector	Terminal		(Approx.)
M51	33	Ground	(V) 15 10 5 0 10 ms JPMIA0012GB

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3. CHECK REAR WINDOW DEFOGGER SWITCH CIRCUIT

- Disconnect BCM connector.
- 2. Check continuity between BCM harness connector and A/C auto amp. harness connector.

BCN	И	A/C auto amp.		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M68	15	M51	33	Existed

^{3.} Check continuity between BCM harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

ВСМ			Continuity	
Connector Terminal		Ground	Continuity	
M68	15		Not existed	

Is the inspection result normal?

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

NO >> Repair or replace harness.

4. CHECK REAR WINDOW DEFOGGER SWITCH

Refer to DEF-21, "WITH AUTO A/C: Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace A/C auto amp. Refer to HAC-122, "Removal and Installation".

5. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

Is the inspection result normal?

>> INSPECTION END

WITH AUTO A/C: Component Inspection

1. CHECK REAR WINDOW DEFOGGER SWITCH

Turn ignition switch OFF.

Disconnect A/C auto amp. connector.

Check continuity between A/C auto amp. terminals.

A/C au	to amp.	Condition		Continuity
Terr	ninal			Continuity
16	33	Rear window defogger switch	Pressed	Existed
10	33	Real williuow delogger switch	Released	Not existed

Is the inspection result normal?

YES >> INSPECTION END

>> Replace A/C auto amp. Refer to HAC-122, "Removal and Installation".

WITH MANUAL A/C

WITH MANUAL A/C: Component Function Check

1. CHECK FUNCTION

- 1. Check ("REAR DEF SW") in BCM REAR DEFOGGER "DATA MONITOR" mode by using CONSULT.
- 2. Operate rear window defogger switch and check the status on CONSULT screen.

Monitor Item	Condition		status
REAR DEF SW	rear window defogger switch	Pressed	On
KEAR DET OW	real willdow delogger switch	Released	Off

Is the inspection result normal?

YES >> Rear window defogger switch function is OK.

>> Refer to DEF-21, "WITH MANUAL A/C: Diagnosis Procedure".

WITH MANUAL A/C: Diagnosis Procedure

1.CHECK MANUAL A/C

Check the operating condition of manual A/C

Does manual A/C operate normally?

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YES >> GO TO 2.

NO >> Perform manual A/C diagnosis. Refer to HAC-196, "Diagnosis Chart By Symptom".

2. CHECK BCM OUTPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect A/C control connector.
- 3. Check voltage between A/C control harness connector and ground.

With Intelligent Key System

(4			Voltage (V)	
A/C c	ontrol	(–)	(Approx.)	
Connector	Terminal			
M53	5	Ground	(V) 15 10 5 0 JPMIA0012GB	
Without Intelligent Key Syste	m			
	(+)		V 14 0.0	
A/C control		(-)	Voltage (V) (Approx.)	
Connector	Terminal		(() pp. () ()	
M53	5	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3.check rear window defogger switch circuit

- 1. Disconnect BCM connector.
- 2. Check continuity between BCM harness connector and A/C control harness connector.

With Intelligent Key System

В	СМ	A/C control		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M68	15	M53	5	Existed
Without Intelligent Key S	System			
В	BCM		control	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M65	10	M53	5	Existed

3. Check continuity between BCM harness connector and ground.

With Intelligent Key System

nth intelligent Key System				
BC	M		Continuity	
Connector	Terminal	Ground	Continuity	
M68	15		Not existed	
/ithout Intelligent Key System				
BCM			Continuity	
Connector	Terminal	Ground	Continuity	
M65	10	Ground	Not existed	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-88</u>, "Removal and Installation" (with Intelligent Key System) or <u>BCS-155</u>, "Removal and Installation" (without Intelligent Key System).

NO >> Repair or replace harness.

< DTC/CIRCUIT DIAGNOSIS >

4. CHECK REAR WINDOW DEFOGGER SWITCH

Refer to DEF-23, "WITH MANUAL A/C: Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace A/C control. Refer to <u>HAC-203</u>, "Removal and Installation".

5. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

Is the inspection result normal?

>> INSPECTION END

WITH MANUAL A/C: Component Inspection

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1. CHECK REAR WINDOW DEFOGGER SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect A/C control connector.
- 3. Check continuity between A/C control terminals.

A/C control		Condition		Continuity	
Terr	minal	Condition		Continuity	
	15	Rear window defogger switch	Pressed	Existed	
5 15	Real willdow delogger switch	Released	Not existed		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace A/C control. Refer to <u>HAC-203</u>, "Removal and Installation".

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REAR WINDOW DEFOGGER RELAY

< DTC/CIRCUIT DIAGNOSIS >

REAR WINDOW DEFOGGER RELAY

Component Function Check

INFOID:0000000009945439

1. CHECK FUNCTION

- 1. Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT.
- Touch "ON".
- 3. Check that the rear window heating wire is getting warmer.

Is the inspection result normal?

YES >> Rear window defogger relay function is OK.

NO >> Refer to <u>DEF-24</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

INFOID:0000000009945440

1. CHECK FUSE

- 1. Turn ignition switch OFF.
- 2. Check the 15A fuse (No. 41 and No. 42 located in IPDM E/R).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

2. CHECK IPDM E/R OUTPUT SIGNAL

- 1. Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT.
- 2. Touch "ON".

NO

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

	+) M E/R	(–)	CONSULT Active Test condition		Voltage (V) (Approx.)
Connector	Terminal				,
E11	12	Ground	REAR DEFOGGER	ON	Battery voltage
E11	E11 13	Ground	REAR DEFOGGER	OFF	0

Is the inspection result normal?

YES >> INSPECTION END

>> Replace IPDM E/R. Refer to <u>PCS-34, "Removal and Installation"</u> (with Intelligent Key System) or <u>PCS-64, "Removal and Installation"</u> (without Intelligent Key System).

REAR WINDOW DEFOGGER

< DTC/CIRCUIT DIAGNOSIS >

REAR WINDOW DEFOGGER

Component Function Check

1. CHECK FUNCTION

- 1. Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT.
- 2. Touch "ON".
- 3. Check that the rear window heating wire is getting warmer.

Is the inspection result normal?

YES >> Rear window defogger relay function is OK.

NO >> Refer to <u>DEF-24</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear window defogger connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear window defogger harness connector and ground.

	+) ow defogger	(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(проск.)
D103	D103 1	Ground	Rear window defogger switch	ON	Battery voltage
D103			iteal willdow delogger switch	OFF	0

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 4.

2. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Check continuity between rear window defogger harness connector and ground.

Rear windo	ow defogger		Continuity
Connector	Terminal	Ground	Continuity
D104	2		Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK FILAMENT

Refer to DEF-120, "Inspection and Repair".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair filament.

4. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect following connector.
- IPDM E/R connector

Revision: 2013 October

- Door mirror (both sides) connector
- A/C auto amp. connector (for models with auto A/C)
- A/C control connector (for models with manual A/C)
- 3. Check continuity between IPDM E/R harness connector and rear window defogger harness connector.

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REAR WINDOW DEFOGGER

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IPDM E/R		Rear window defogger		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E11	13	D103	1	Existed

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

IPDN	M E/R		Continuity
Connector	Terminal	Ground	Continuity
E11	13		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".

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace harness or connector.

REAR WINDOW DEFOGGER FEEDBACK SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

REAR WINDOW DEFOGGER FEEDBACK SIGNAL WITH AUTO A/C

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WITH AUTO A/C: Component Function Check

1. CHECK REAR WINDOW DEFOGGER FEEDBACK SIGNAL

Check that the indicator lamps of rear window defogger switch are illuminated when turning the rear window defogger switch ON.

Is the inspection result normal?

OK >> Rear window defogger feedback signal is OK.

>> Refer to DEF-27, "WITH AUTO A/C: Diagnosis Procedure". NG

WITH AUTO A/C: Diagnosis Procedure

INFOID:0000000009945450

1. CHECK REAR WINDOW DEFOGGER FEEDBACK SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect A/C auto amp. connector.
- Turn ignition switch ON.
- Check voltage between A/C auto amp. harness connector and ground.

A/C auto amp.			Condition		Voltage (V)
Connector	Terminal	Ground	Condition		(Approx.)
M51	27	Ground	Rear window defogger switch	ON	Battery voltage
WIST	21			OFF	0

Is the inspection result normal?

YES >> Replace A/C auto amp. Refer to HAC-122, "Removal and Installation".

>> Repair or replace harness. NO

WITH MANUAL A/C

WITH MANUAL A/C: Component Function Check

INFOID:0000000009945451

1. CHECK REAR WINDOW DEFOGGER FEEDBACK SIGNAL

Check that the indicator lamps of rear window defogger switch are illuminated when turning the rear window defogger switch ON.

Is the inspection result normal?

OK >> Rear window defogger feedback signal is OK.

>> Refer to DEF-27, "WITH MANUAL A/C : Diagnosis Procedure". NG

WITH MANUAL A/C: Diagnosis Procedure

INFOID:0000000009945452

1. CHECK REAR WINDOW DEFOGGER FEEDBACK SIGANL

Turn ignition switch OFF.

- Disconnect A/C control connector.
- Turn ignition switch ON.
- Check voltage between A/C control harness connector ground.

A/C control			Condition		Voltage (V)	
Connector	Terminal	Ground		(Approx		(Approx.)
M53	4	Ground	Rear window defogger switch	ON	Battery voltage	
	4			OFF	0	

Is the inspection result normal?

>> Replace A/C control. Refer to HAC-203, "Removal and Installation". YES

NO >> Repair or replace harness. DEF

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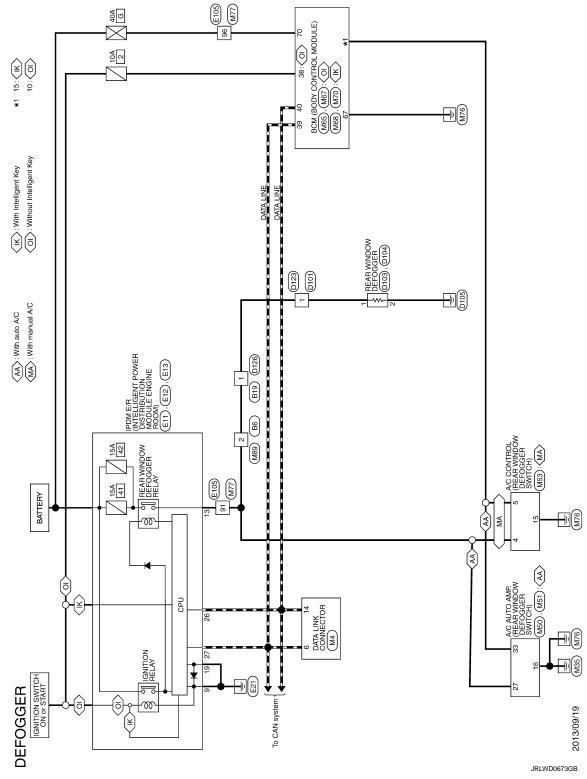
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Wiring Diagram - DEFOGGER CONTROL SYSTEM -

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Connector No. E11 Connector Name peut sis printiaten reviers central connector type MoSFB.LC Connector Type MOSFB.LC	Terminal Coor Of Signal Name (Specification) 9 BVW	HS		(
Terminal Color Of Signal Name [Specification] 2 B	Cornector Type MOZ-W-LC H.S. H.S. Terminal Color Of Signal Name (Specification) 1 R. Cornector No. D126		-	(
Corrector No. 10101 Corrector Name WIRE TO WIRE Corrector Type MO2MW-LC	Terminal Color Of Signal Name [Specification] No. Wire No. Wire Connector No. D103 Connector Name REAR WINDOW DEFOGGER Connector Type POTFB-A	Terminal Color Of Signal Name [Specification] No. Wite 1 R Corrector No. D104 Corrector Name REAR WINDOW DEFOGGER Corrector Year POPIFB.A.		,
DEFOGGER Corrector No. 86 Corrector No. 86 Corrector Year To WIRE Corrector Type MAMMV-LC H.S.	Terminal Color Of Signal Name [Specification] 2 R	Terminal Color Of Signal Name [Specification] 1 R 2 B		
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Γ	Connector No. M4	Connector Name DATA LINK CONNECTOR	Connector Type BD16FW				4 5 6 7 8			nal C	0	4 B	5 B	+	٩	+	- 14 P	┨		Connector No M50		Connector Name A/C AUTO AMP.	Connector Type TK20FGY	ą	厚] -	1 2 3 4 5 0	11 12 13 16 17 18 19			Z C	_	≥ 0	< ⊻	R INTA	LG/K	<u>G</u> N	6 R/W SENSOR GROUND	9 Y IGNITION POWER SUPPLY	11 B/R ILLUMINATION GROUND	12 L FRE DRIVE SIGNAL	G REC	a at
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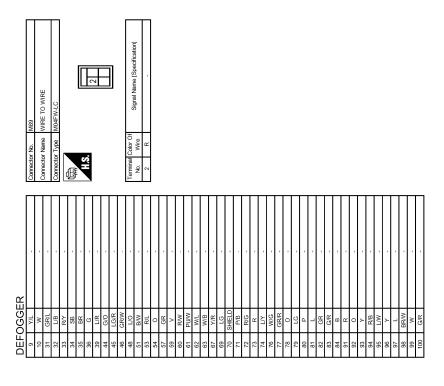
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Revision: 2013 October DEF-31 2014 CUBE



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< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE) WITH INTELLIGENT KEY

WITH INTELLIGENT KEY: Reference Value

INFOID:0000000010245783

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 MO	NITOR ITEI	M
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Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
FR WIPER TI	Front wiper switch HI	On
ED WIDED LOW	Other than front wiper switch LO	Off
FR WIPER LOW	Front wiper switch LO	On
ED MACHED OW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
ED WIDED INT	Other than front wiper switch INT	Off
FR WIPER INT	Front wiper switch INT	On
ED WIDED OTOD	Front wiper is not in STOP position	Off
FR WIPER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
DD WIDED ON	Other than rear wiper switch ON	Off
RR WIPER ON	Rear wiper switch ON	On
DD WIDED INT	Other than rear wiper switch INT	Off
RR WIPER INT	Rear wiper switch INT	On
DD WACHED OW	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
KK WIPEK STOP	Rear wiper is not in STOP position	On
TUDNI CIONAL D	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
TAIL LAIVIP SVV	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
HI DEAIVI SVV	Lighting switch HI	On
LICAD LAMD CM/4	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
HEAD LAMD CM 2	Other than lighting switch 2ND	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
DA CCINIC CW/	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On

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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
AUTO LIGHT SW	Other than lighting switch AUTO	Off
AUTU LIGHT SW	Lighting switch AUTO	On
ED EOC SW	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
2000 014 00	Driver door closed	Off
DOOR SW-DR	Driver door opened	On
DOOD CW AC	Passenger door closed	Off
DOOR SW-AS	Passenger door opened	On
DOOD CW DD	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On
DOOD CW DI	Rear LH door closed	Off
OOOR SW-RL	Rear LH door opened	On
OOD CW DK	Back door closed	Off
DOOR SW-BK	Back door opened	On
DDL LOOK OW	Other than power door lock switch LOCK	Off
CDL LOCK SW	Power door lock switch LOCK	On
	Other than power door lock switch UNLOCK	Off
CDL UNLOCK SW	Power door lock switch UNLOCK	On
(EV 0)/ 11/ 0)M	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
CEV OVE LINEON	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
14.74.DD CW	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
DEAD DEE OW	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
FR/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
FAIN OIN SIG	Blower fan ON	On
AIR COND SW	Air conditioner OFF (A/C switch indicator OFF)	Off
AIR COND SW	Air conditioner ON (A/C switch indicator ON)	On
RKE-LOCK	LOCK button of the key is not pressed	Off
KKE-LOOK	LOCK button of the key is pressed	On
RKE-UNLOCK	UNLOCK button of the key is not pressed	Off
VIVE-DINEOUR	UNLOCK button of the key is pressed	On
DVE TD/DD	BACK DOOR OPEN button of the key is not pressed	Off
RKE-TR/BD	BACK DOOR OPEN button of the key is pressed	On
DICE DANIC	PANIC button of the key is not pressed	Off
RKE-PANIC	PANIC button of the key is pressed	On
OVE MODE OUG	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off
RKE-MODE CHG	LOCK/UNLOCK button of the key is pressed and held simultaneously	On

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
PTI SEN (DTCT)	Bright outside of the vehicle	Close to 5 V
DETISEN (DTCT)	Dark outside of the vehicle	Close to 0 V
OPTI SEN (FILT)	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V
PII SEN (FILI)	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
DEO CW. DD	Driver door request switch is not pressed	Off
REQ SW -DR	Driver door request switch is pressed	On
250 014/ 40	Passenger door request switch is not pressed	Off
REQ SW -AS	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
	Back door request switch is not pressed	Off
REQ SW -BD/TR	Back door request switch is pressed	On
	Push-button ignition switch (push switch) is not pressed	Off
PUSH SW	Push-button ignition switch (push switch) is pressed	On
	The clutch pedal is not depressed.	Off
CLUCH SW	The clutch pedal is depressed	On
	The brake pedal is not depressed	Off
BRAKE SW 1	The brake pedal is depressed	On
	The brake pedal is depressed when No. 9 fuse is blown	Off
BRAKE SW 2	The brake pedal is not depressed when No. 9 fuse is blown, or No. 9 fuse is normal	On
	Selector lever in P position	Off
DETE/CANCL SW	Selector lever in any position other than P	On
	Selector lever in any position other than P and N	Off
SFT PN/N SW	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
	Driver door is locked	Off
JNLK SEN -DR	Driver door is unlocked	On
	Push-button ignition switch (push-switch) is not pressed	Off
PUSH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On
	Ignition switch in OFF or ACC position	Off
GN RLY1 -F/B	Ignition switch in ON position	On
	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
	Selector lever in any position other than P and N	Off
SFT PN -IPDM	The state of the s	

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
CET D MET	Selector lever in any position other than P	Off
SFT P -MET	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
SFI IN -IVIE I	Selector lever in N position	On
	Engine stopped	Stop
ENCINE STATE	While the engine stalls	Stall
ENGINE STATE	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
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	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
FIXIVIT ENG STAT	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
CONFRINTID ALL	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
CONFINIVI ID4	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done
CONFIRM ID2	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet
CONFIRM ID3	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet
CONFINI ID2	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
CONFIRM IDT	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
NOT REGISTERED	BCM detects non-registration key ID.	ID NG
TP 4	The ID of fourth key is not registered to BCM	Yet
17 4	The ID of fourth key is registered to BCM	Done
TP 3	The ID of third key is not registered to BCM	Yet
1173	The ID of third key is registered to BCM	Done
TP 2	The ID of second key is not registered to BCM	Yet
IF Z	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 REGGITET	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
ID REGGIT KI	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
ID REGGI KKI	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
ID REGOT RET	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
WARNING LAWF	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
DUZZEN	Tire pressure warning alarm is sounding	On

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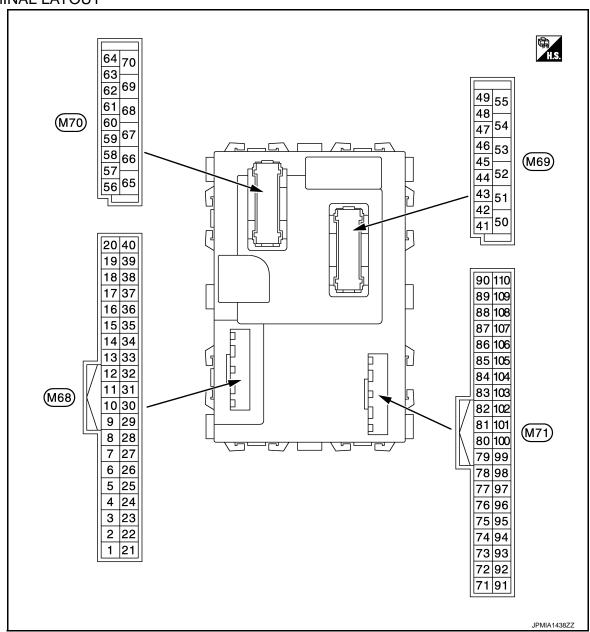
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TERMINAL LAYOUT



NOTE:

Connector colorM68, M70: Black

• M69, M71: White

PHYSICAL VALUES

	nal No.	Description				Value
+	color)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	0 V
					Turn signal switch RH	40
					Lighting switch HI	(V) 15 10 5
		Combination	Lighting switch 1ST	→ →10ms		
2 (BR/W)	Ground	Combination switch INPUT 5	Input	switch (Wiper intermit-		РКІВ4958J 1.0 V
			tent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 → 10 ms JPMIA0342JP 2.0 V	
					All switch OFF	0 V
				Turn signal switch LH	<u> </u>	
				Lighting switch PASS	(V) 15	
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch	Lighting switch 2ND	10 5 0 ++10ms PKIB4958J 1.0 V
(GR) Ground I	INPUT 4		(Wiper intermittent dial 4)	Front fog lamp switch ON	(V) 15 10 5 0 ++10ms PKIB4956J 0.8 V	
					All switch OFF	0 V
					Front wiper switch LO	
				Combination	Front wiper switch MIST	(V) 15 10 5
4	Ground	Combination switch	Input	switch	Front wiper switch INT	10 5
(L/Y) Ground INF	INPUT 3	прис	(Wiper intermittent dial 4)	Lighting switch AUTO	→ →10ms	
						PKIB4958J 1.0 V

	nal No.	Description	T		• ""	Value
+ (vvire	color)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch (Wiper intermittent dial 4)	(V)
					Rear washer ON (Wiper intermittent dial 4)	10 5 0
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	++10ms PKIB4958J
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0
						PKIB4956J 0.8 V
					All switch OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4)	(V)
					Rear wiper switch INT (Wiper intermittent dial 4)	15 10 5 0
					Wiper intermittent dial 3 (All switch OFF)	→ ◆10ms PKIB4958J
6 (L/R)	Ground	Combination switch INPUT 1	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 15 10 5 0 +-10ms PKIB4952J 1.9 V
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 ++10ms PKIB4956J 0.8 V

	inal No.	Description				Value
+ (vvire	e color)	Signal name	Input/ Output		Condition	(Approx.)
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylinder switch	NEUTRAL position	(V) ₁₅ 10 5 0 → 10ms JPMIA0587GB
					UNLOCK position	8.0 - 8.5 V 0 V
8		Door key cylinder		Door key cylin-	NEUTRAL position	12 V
(W/B)	Ground	switch LOCK	Input	der switch	LOCK position	0 V
9	Crownd	Cton large quitab 4	lanut	Stop lamp	OFF (Brake pedal is not depressed)	0 V
(R)	Ground	Stop lamp switch 1	Input	switch	ON (Brake pedal is depressed)	Battery voltage
12 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 ms 10 ms JPMIA0012GB
					LOCK position	0 V
13 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 ms 10 ms 1.0 - 1.5 V
					UNLOCK position	0 V
14	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(L/G)		,	,	ON	When dark outside of the vehicle	Close to 0 V
15 (W/L)	Ground	Rear window defog- ger switch	Input	Rear window defogger switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V
					Pressed	0 V
17		Optical sensor pow-			OFF, ACC	0 V
(R/G)	Ground	er supply	Output	Ignition switch	ON	5 V

	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
18 (V)	Ground	Sensor ground	Input	Ignition switch O	N	0 V
21 (P/L)	Ground	NATS antenna amp.	Input/ Output	Intelligent Key: Intelligent Key battery is re- moved	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed	(V) 15 10 5 0 →
					Brake pedal: Not depressed	12 V
					ON	0 V
23 (R/Y)	Ground	Security indicator lamp	Output	Security indicator	Blinking (Ignition switch OFF)	(V) ₁₅ 10 5 0 1s 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	(V) 15 10 5 0 → 40ms JMKIA6233JP
					Brake pedal: Not de- pressed	12 V
27 (O)	Ground	A/C ON	Input	A/C	OFF (A/C switch indicator: OFF)	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V
					ON (A/C switch indicator: ON)	0 V
					Blower fan switch OFF	0 V
28 (G/W)	Ground	Blower fan switch	Input	Fan switch	Blower fan switch ON	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V

	inal No. e color)	Description			O Itti	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
29	Ground	Hazard switch	Input	Hazard switch	OFF	12 V
(L/W)			·		ON	0 V
31 (G/B)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
			UNLOCK status (Unlock sensor switch ON)	0 V		
	32 (LG) Ground Combination switch OUTPUT 5			All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V	
				Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4) Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5
					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	+
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 ++10ms PKIB4960J
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	7.0 - 8.0 V
					Lighting switch AUTO (Wiper intermittent dial 4) Rear wiper switch INT	(V) 15 10 5
				(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	0 +-10ms PKIB4958J	

	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	Value (Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10
					Rear washer switch ON (Wiper intermittent dial 4)	5
					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
		Combination switch OUTPUT 2	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J
35 (R/L)	Ground				Lighting switch 2ND	7.0 - 8.0 V
					Lighting switch PASS	(V) 15
					Front wiper switch INT	10 5 0
					Front wiper switch HI	PKIB4958J
36		. Combination switch		Combination switch	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
(L/O)	Ground	OUTPUT 1	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	(1)
				terit diai 4)	Turn signal switch LH Front wiper switch LO (Front wiper switch MIST)	(V) 15 10 5
					Front washer switch ON	+10ms PKIB4958J
						1.2 V

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description	ı			Value	
+ (Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)	
37 (G/O)	Ground	Selector lever P position switch	Input	Selector lever	P position Any position other than P	0 V 12 V	_
					Waiting	12 V	_
			Ignition switch OFF (Remote keyless entry communication)	When operating either button on Intelligent Key	(V) 15 10 5 0		
						200 ms JMMIA0572GB	_
38 (G/Y)	38 (G/Y) Ground Receiver communication	Input/ Output		Waiting	(V) 15 10 5 0		
			Ignition switch ON (TPMS		100 ms JMMIA0573GB		
			communication)	MIL	(V) 15 10	=	
					When receiving signal from tire pressure sensor	10 5 0 100 ms	
39 (L)	Ground	CAN-H	Input/ Output		_	<u> </u>	_
40 (P)	Ground	CAN-L	Input/ Output		_	_	-
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) 15 10 5 0 → 10ms PKIB4960J	
					ON (When back door opened)	9.5 - 10.0 V 0 V	_
					(When back door opened) Rear wiper stop position	12 V	_
44 (LG)	Ground	Rear wiper stop position	Input	Ignition switch ON	Any position other than rear wiper stop position	0 V	_

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	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
45 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) 15 10 5 0 + 10ms 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)	(V) 15 10 5 0 + 10ms 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)	(V) 15 10 5 0 + 10ms 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)	(V) 15 10 5 0 *** 10ms PKIB4960J 7.0 - 8.0 V
					ON (When rear door LH opened)	0 V
50	Ground	Back door lock actu-	Output	Back door	LOCK (Actuator is activated)	0 V
(R/W)	2.344	ator relay control		2.5.1.2.30.	Other than LOCK (Actuator is not activated)	Battery voltage
51 (\/\)	Ground	Back door request switch	Input	Back door re-	ON (Pressed)	0 V
(W)		SWITCH	•	quest switch	OFF (Not pressed)	12 V
54 (LG)	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped) ON (Activated)	0 V 12 V
(30)					ON (Activated)	IZ V

	nal No.	Description				Value
+ (vvire	color)	Signal name	Input/ Output		Condition	(Approx.)
55	Ground	Rear door UNLOCK	Output	Rear door	UNLOCK (Actuator is activated)	12 V
(G)	0.00.00		Сара		Other than UNLOCK (Actuator is not activated)	0 V
					p battery saver is activated. room lamp power supply)	0 V
56 (L)	Ground	Interior room lamp power supply	Output	vated.	p battery saver is not acti- rior room lamp power sup-	12 V
57 (Y)	Ground	Battery power sup- ply	Input	Ignition switch Ol	=F	Battery voltage
59	01	Passenger door UN-	0 1 1	D	UNLOCK (Actuator is activated)	12 V
(G)	Ground	LOCK	Output	Passenger door	Other than UNLOCK (Actuator is not activated)	0 V
					Turn signal switch OFF	0 V
60 (W/B) Ground Turn signal LH	ırn signal LH Output	n signal LH Output Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0		
					Turn signal switch OFF	6.0 V 0 V
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0
					055	6.0 V
63 (BR)	Ground	Interior room lamp control signal	Output	Interior room lamp	OFF	12 V 0 V
65		Some or orginal			ON LOCK (Actuator is activated)	12 V
(V)	Ground	All doors LOCK	Output	All doors	Other than LOCK (Actuator is not activated)	0 V
66	0	Driver door UN-	Out	Driver	UNLOCK (Actuator is activated)	12 V
(L/B)	Ground	LOCK	Output	Driver door	Other than UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch Ol	N	0 V
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch O	N	12 V
69	Ground	P/W power supply (BAT)	Output	Ignition switch O	FF	12 V

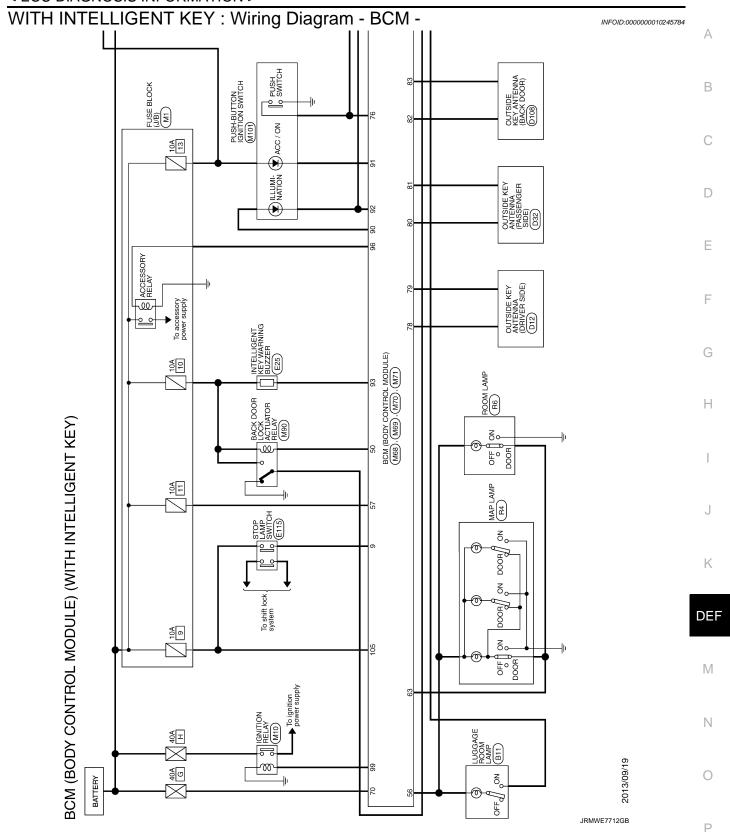
	nal No. color)	Description			Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage
72	Ground	A/C indicator	Output	A/C indicator	OFF	12 V
(SB)	Oroana	7 V O III diodici	Catpat	, vo maleator	ON	0 V
75 (OD)	Ground	Driver door request	Input	Driver door re-	ON (Pressed)	0 V
(SB)		switch	'	quest switch	OFF (Not pressed)	12 V
76	Ground	Push-button ignition	Input	Push-button ig-	Pressed	0 V
(L/O)	Orouna	switch (push switch)	mpat	(push switch)	Not pressed	12 V
78	Ground Driver door antenna Output Output	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 5 500 ms JMKIA5954GI			
78 (LG) Ground	(+)	Output	switch is operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 JMKIA5955GI	
79	Ground	Driver door antenna	Output	When the driver door request	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 500 ms JMKIA5954GE
(V) Ground	ound (-)		switch is operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 JMKIAS955GI	

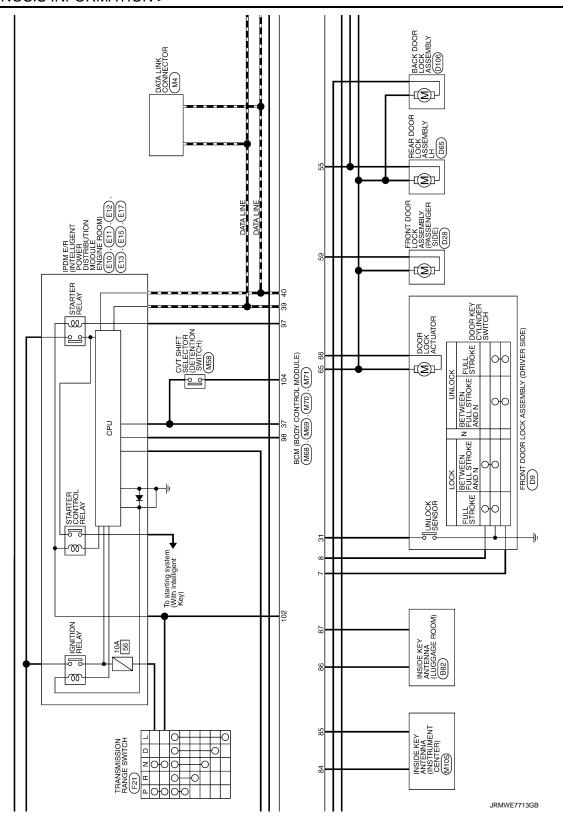
	nal No. color)	Description	1		Condition	Value	А
+	-	Signal name	Input/ Output		Condition	(Approx.)	\cap
80	Ground	Passenger door an-	Output	When the passenger door request switch is	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 JMKIA5954GB	B C
(BR/Y) Ground tenna (+)	tenna (+)	Calput	operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB	E F	
81	81 (L/Y) Ground Passenger door antenna (-)		When the passenger door re-	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 50 MKIA5954GB	G H	
			Output	quest switch is operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB	J K
82		Back door antenna		When the back door request	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 JMKIA5954GB	M
(W/B) Gro	Ground	(+)	Output	switch is operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 JMKIA5955GB	O P

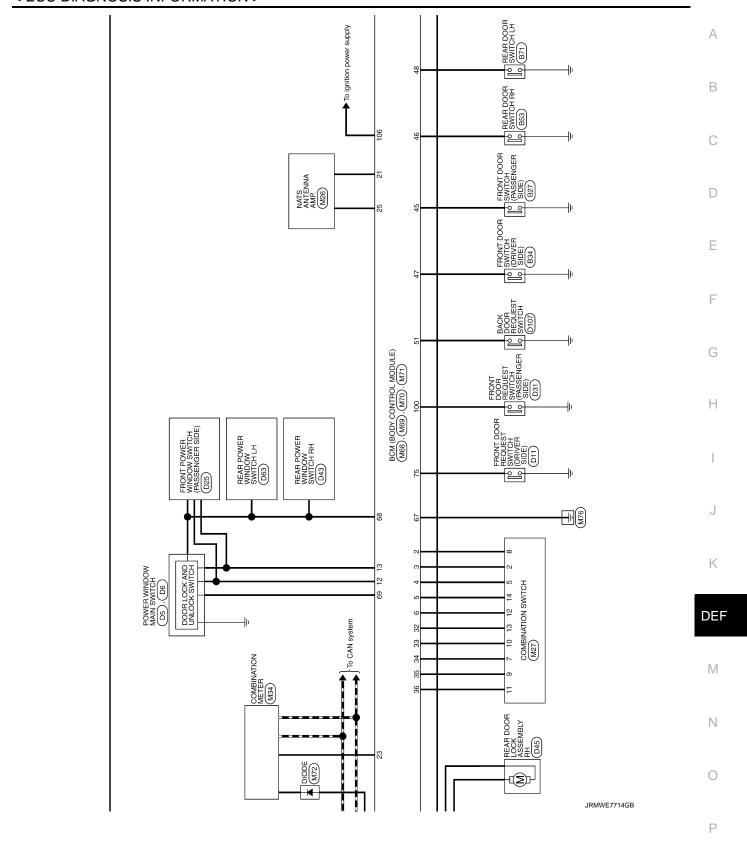
	nal No.	Description				Value
+ (VVire	color)	Signal name	Input/ Output		Condition	(Approx.)
83	Occupation	Back door antenna (-	0.4.4	When the back door request	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 5 500 ms JMKIA5954GB
(B/W)	Ground)	Output	switch is operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 JMKIA5955GB
84	Ground	Room antenna (+) (Instrument center)	Output	Ignition switch ON	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 11 1 s JMKIA5951GB
84 (Y/G)	Cround				When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB
85	Ground	Room antenna (-)	Output	Ignition switch	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA5951GB
(Y/L)	Glound	(Instrument center)	Output	ÓN	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB

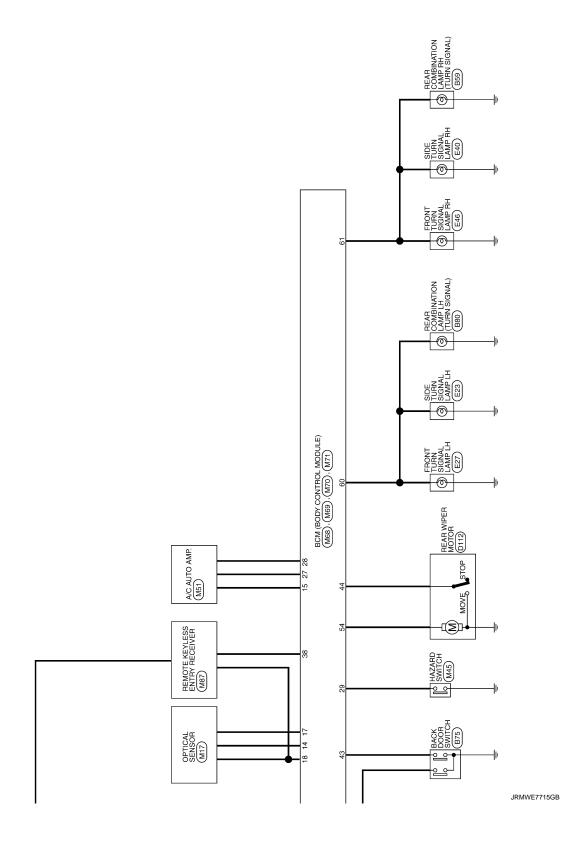
	nal No.	Description				Value	А
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)	A
86		Luggage room an-		Ignition switch	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA5951GB	B C
(P)	Ground	tenna (+)	Output	ÖN	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB	E
						00	G
					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0	Н
87 (L)	Ground	Luggage room antenna (-)	Output	Ignition switch ON		1 s JMKIA5951GB	J
(-/					When Intelligent Key is in the antenna detection area	10 5 0 1 s JMKIA3839GB	K
90	Ground	Push-button ignition	Output	Push-button ig- nition switch illu-	ON	12 V	
(W/L)	Sibulia	switch illumination	Culput	mination	OFF	0 V	M
91 (Y)	Ground	ACC/ON indicator lamp	Output	Ignition switch	OFF ACC or ON OFF	Battery voltage 0.5 V 0 V	Ν
92 (BR/R)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	ON	NOTE: When the illumination brightening/dimming level is in the neutral position (V) 15 10 5 0 JPMIA1554GB 6.0 - 7.0 V	O

	nal No.	Description				Value
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
93	Ground	Intelligent Key warn-	Output	Intelligent Key	Sounding	0 V
(GR/W)	Ground	ing buzzer	Output	warning buzzer	Not sounding	12 V
96	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
(BR/W)	Ground	ACC relay control	Output	ignition switch	ACC or ON	12 V
97	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage
(L/R)	Ground	Starter relay control	Output	ON	When selector lever is not in P or N position	0 V
98	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	12 V
(BR)	Ground	E/R) control	Output	ignition switch	ON	0 V
99	Ground	Ignition relay control	Output	Ignition switch	OFF or ACC	0 V
(W/R)	Ground	ignition relay control	Output	ignition switch	ON	12 V
100	Cround	Passenger door re-	Innut	Passenger door	ON (Pressed)	0 V
(G)	Ground	quest switch	Input	request switch	OFF (Not pressed)	12 V
102	Ground	Selector lever P/N	Input	Selector lever	P or N position	Battery voltage
(G)	Ground	position	iriput	Selector level	Except P and N positions	0 V
					A/C mode defroster ON position	0 V
103 (G/Y)	Ground	Front defroster switch	Input	Ignition switch ON	Other than A/C mode de- froster ON position	(V) 15 10 5 0 F 2 ms 1 JPMIA0589GB 8.0 - 9.0 V
104 (Y/R)	Ground	CVT shift selector (detention switch) power supply	Output	Ignition switch O	N	12 V
105 (B/O)	Ground	Stop lamp switch 2	Input	Ignition switch O	FF	Battery voltage
106	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V
(Y/B)	Sibuila	lay control	Output	iginion switch	ON	12 V









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Corrector No. BESO Corrector Name REAR COMBINATION LAMP LH Corrector Type RSu6FB-PR 1	В
Cornector Nb. B890	D
peofication	E
Signal Name (Specification) B71 B71 B72 B75 B76 B77 Signal Name (Specification) 0 Signal Name (Specification)	F G
Terminal Color Of No. Wire Of	Н
ES3 Signal Name [Specification]	I
MODULE) (WITH INTELLIGENT KEY) Corrector Name FRONT DOOR SWITCH (DRIVE) Corrector Name FRONT DOOR SWITCH RH Corrector Name REAR COMBINATION LAMP RH CORRECTOR NAME RESIDER R	J
	DEF
BCM (BODY CONTROL MODL Corrector No. Bit1 Corrector Name LUGGAGE ROOM LAMP Corrector Name Cub4FW Terminal Color Of Signal Name [Specification] No. Wire RowT DOOR SWITCH (PASSENGER SUE) Corrector Name FrowT DOOR SWITCH (PASSENGER SUE) No. Wire Signal Name [Specification] No. Wire Signal Name [Specification] No. Signa	М
BCM (BODY Connector No. Bitto Connector No. Bitto Connector No. Wire Inc. Connector No. B22 Connector No. B22 Connector No. B22 Connector No. B22 Connector No. Wire Inc. Conn	N
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BCM (BODY CONTROL MODULE) (OL MODULE) (WITH INTELLIGENT KEY)	Connector No. 1012	Connector No. 1728
Connector Name POWER WINDOW MAIN SWITCH	Connector Name FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE)	e e	e e
Connector Type NS16FW-CS	Connector Type E06FGY-RS	Connector Type RK02MGY	Connector Type E06FGY-RS
•	Œ	< e	
H.S.	S	H.S.	HS.
8 9 10 11 12 13 15 16	(12/3/4/3/6)		(5 6)
Terminal Color Of Signal Name [Specification]	Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of Signal Name [Specification] No. Wire
т	Н	Н	Н
Н	2 SB -	2 V -	
+	+		
		Connection No.	Commendate No.
^ 2		COLLECTOL NO.	
88 8	-	Connector Name FRONT POWER WINDOW SWITCH (PASSENGER SIDE)	Connector Name FRONT DOOR REQUEST SWITCH (PASSENGER SIDE)
┝		Connector Type NS12FW-CS	Connector Type RK02FGY
10 L	Connector No. D11	1	
11 GR -	Consector Name REGALIDOR REGILEST SWITCH (DRIVER SIDE)		
+		1101113	
+	Connector Type RK02FGY	1 - '	
15 6	₫.	6 7 8 11112	(12)
	Atha)
	HS.		
Connector No. D6	(112)	a a	<u>a</u>
Connector Name POWER WINDOW MAIN SWITCH		No. Wire	No. Wire
Connector Type NS03FW-CS		2 BR	2 LG
	Terminal Color Of Signal Name [Specification]	3 B	
•	T	H	
	2 BR -	Н	
171819		11 SB	
Terminal Color Of Signal Name [Specification] No. Wire			
Н			
18 GR -			

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					\wedge
SWITCH	ecification)	A (BACK DOOR)	ecfication)		В
DIO7 BACK DOOR REQUEST SWITCH RROZEGY	Signal Name [Specification]	DIOB OUTSIDE KEY ANTENNA (BACK DOOR) RKOZMGY	Signal Name [Specification]		С
Connector No. D107 Connector Name BACK Connector Type RK021	Terminal Color Of No. Wire 1 W 2 B	Corrector No. D108 Corrector Name OUTSIDE Corrector Type RR02MG)	Terminal Color Of Wine Wine 2 R R		D
<u> </u>	EG I				Е
DOSS REAR DOOR LOCK ASSEMBLY LH EDGFGY-RS	Signal Name [Specification]	BACK DOOR LOCK ASSEMBLY FEAGAFB-FHA2-LC	Signal Name [Specification]		F
	Color Of Wire V G		Terminal Color Of No. Wire 2		G
Corrector No. Corrector Name Corrector Type	Terminal Color Of No. Wire 1 V C	Corrector No. Corrector Name Corrector Type	Terminal No.		Н
LIGENT KEY) Dods REAR DOOR LOCK ASSEMBLY RH EDGFGY-RS THE	Signal Name (Specification)	DESS NEGREN POWER WINDOW SWITCH LH NEGREN CS 23451	Signal Name (Specification)		1
TELLIGEN D45 THE REAR DOO! BEGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG					J
Corrector Name Corrector Name Corrector Type	Terminal Color Of No. Wire 5 W	Corrector No. Corrector Name Corrector Type H.S.	Terminal Color Of No. Wire 1 L L 2 BR 3 0 0 4 4 G 5 5 R		K
BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY) Connector No. 1032 Connector Name (oursoit key with key keyselvein side) Connector Type (ROZMGY CONN	Specification]	ow switchrah	Specification		DEF
DD2 OUTSDE REYANTENNA PASSENGER SIDE) RROZMGY	Signal Name [Specification]	PAS REAR POWER WINDOW SWITCH RH INSUBPW-CS	Signal Name (Specification)		M
BCM (BODY Corrector No. 1032 Corrector Name our Corrector Type RKK	Terminal Color Of No. Wire 1 P 2 V	Corrector No. D43 Corrector Name REA Corrector Type NS00	Terminal Color Of No. Wire 1 L 2 BR 3 0 4 G 5 R		Ν
					0
				JRMWE7820GB	D

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BCM (BODY CONTROL MODULE)	OL MODULE) (WITH INTELLIGENT KEY)	Connector No.	E13	· \ 69
Connector Name REAR WIPER MOTOR	Connector Name POWER DISTREUTION MODULE ENGINE MODULE	Connector Name	PDM EIR (INTELLIGENT POWER DISTRIBUTION MICOULE BIGINE ROOM)	60 V
Connector Type CJ04FW-1V	Connector Type M06FB-LC	Connector Type	TH12FW-NH	62 L -
	E	優		Connector No. E17
HS.	109	S.		Jul Pile
3 4	13		34 33 31 30	Connector Type TH10FB-NH
Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of No. Wire	Of Signal Name [Specification]	H.S.
- L	9 B/W	24 G		66 64
+	\dashv	+		69
4 LG	13 W	26 P	1	
		28 P		Terminal Color Of
Connector No. E10	Connector No. E12	30 SB		
Connector Name IPDM EIR (INTELLISENT POWER DISTRIBUTION MODULE	Connector Name Prover Device Description Mobile	\dashv		64 R -
Connector Tyne M06FW-I G		34 33	1 1	- U 69
1	1	┨		-
_	Auth	Connector No.	E15	Connector No. E23
H.S. 5 4 3	HS.	Connector Name		9
8 7 8	22 21 19 18	Connector Type		Connector Type STL02FW
		ą.		đ.
	Terminal Color Of	THE		
No. Wire Signal Name [Specification]	No. Wire Signal Name [Specification]	S.	52 51 50 7 49 47	K. H.S.
3 BR -	18 Y		62 61 60 59 58 57 56 55 54	
Н	H			1
0 3B 7 7		- Ra	Of Simosi Namo (Seconification)	a D
8 V		7		No. Wire
		4/ BK		
		50 W		2 B/K
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		+		
		24 88		
		F	[With M/T]	
		Н		

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	edification] R R 6 7 8	edification)		В
M1 FUSE BLOCK (J/B) 24311 ED000	Signal Name [Specification] M4 M4 M4 ED16FW ED16FW	Signal Name [Specification]		С
Corrector Ne. MI Corrector Name Fu Corrector Type 24 LS.	Terminal Coor Of No. 1 Wr. 1 Wr. 2 Wire DA! Wr. 2 Corrector No. 1 W. Corrector No. 1 W. 2 Corrector Type BUT. 1 W. 2 W	Terminal Color Of No. Wire No. Wire No. Wire No. Mire No		D
	SWITCH	Cofficiation		Е
E116 STOP LAMP SWITCH MOJEW-LC 3 4	Signal Name (Spr NSMISSION PANGE	 		F
Corrector No. E115 Corrector Name STOF Corrector Type MO4F	Terminal Color Of No. Wire 1 V 2 V 2 V 3 V 0 V 3 Corrector No. F21	Terminal Color Of No. Wire e No. Wire e Color Of No. Wire e Color Of No. Color Of		G H
				П
LLIGENT KEY) E40 SIDE TURN SIGNAL LAMP RH STLOZEW	Signal Name (Specification)	Signal Name (Specification)		I
LLIGENT E40 SIDE TURN SI STLOZEW	E46 FRONT RS02FE			J
Connector No. E40 Connector No. E40 Connector Name SIDE TURN SIGNAL LAM Connector Type STLOPHY	Terminal Color Of No. Wire of 1 W 2 BPY 2 BPY Corrector No. Corrector No. Corrector No.	Terminal Color Of No. Wife 1 W 2		K
ωπ π	tion)	lifon)		DEF
DY CONTROL MODUL E25 INTELLIGENT REY WARNING BUZZER RKGGFBR	Signal Name (Specification) E27 FRONT TURN SIGNAL LAMP LH RS00FB	Signal Name [Specification]	•	M
	E27 FRONT RS02FE			Ν
BCM (BO Connector No.	Terminal Color Of No. Wire of 1 V 3 P Connector No. Connector Name Connector Type	Terminal Coor Of No. Wife 1 L L 2 BW		IN
				0
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Corrector No. M45 Corrector Name IHAZARD SWITCH	Connector Type TK04FW		Terminal Co	2 LW	8	SE) [Without NAVI] 4 B/R -	JUSE JWITT NAVI	JAL Connector No. M51	MITCH SIGNAL Connector Name A/C AUTO AMP.	Connector Type TK16FGY		唐	121 221 25 24 25 28 27			Terminal Color Of	No. Wire	D 21 BR WATER TEMPERATURE SIGNAL	23 0	L 24 G	25 P	26 SB	GNAL 2/ R REAK WINDOW DEFOGGER F/B SIGNAL 29 GR MODE DRIVE SIGNAL 4	5 ∧	>	32 V MODE DRIVE SIGNAL 1	W/L REAR WIND	Y/G	35 G/W BLOWER FAN ON SIGNAL
Corrector No. M34 Corrector Name COMBINATION METER	Connector Type TH40FW-NH	H.S.	Terminal Color Of Signal Name [Specification] No. Wire	2 P CAN-H	> 2	4 L VEHICLE SPEED SIGNAL (8-PULSE) [Without NAVI	6 BR/Y	R/G	8 P OVERDRIVE CONTROL SWITCH SIGNA 9 O SEATBELT BUCKLE SWITCH SIGNA ORDER SDEV	SB	G/R BF	13 B/R ILLUMINATION CONTROL SIGNAL	18 R/Y SECURITY SIGNAL	RW	21 B GROUND	23 B	PU FUEL LE	25 B VDC GROUND	GR	29 BR PASSENGER SEAT BELT WARNING SIGNA	œ	BR ENGINE	38 GK ALIEKNATOK SIGNAL	Τ	<u> </u>			Ţ	T
BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY) Connector No. M10 Connector No. M26 Connector Name (INTION RELAY Connector Name (INTION RELAY)	Connector Type TH04FW-NH	H.S.	erminal Color Of Signal Name [Specification]	2 P/L CLK	8	3 LG DATA [With Intelligent Key]	Te D		Connector No. M27	9	- 1	Connector Type TH16FW-NH		.S.	0 10 11 12 13	7 1 0	-	erminal Color Of Signal Name [Specification]	╁		R/G WAS	M.	L/Y COLPOL 3	- A	2	9 R/L INPUT 2	\/\	0/1	12 L/R OUTPUT 1
5,2	8 8	45	Ter		Ш		4 4		Conne	2	3	S	售	~			L	E S	-	2	m	4	n y		Ľ		Ш		

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BCM (BODY CONTROL MODULE)	\geq	N H	(WITH INTELLIGENT KEY)					
Connector No. M58	Ш	17 R/G	OPTICAL S		83	B/W	BACK DOOR ANT-	
GOTOTI ITO TITLO TAO		18	SENSOR GND		84	5/A	ROOM ANT+	
		21 P/L	NATS ANTENNA AMP. CONTROL INC.	DOLE)	82	J/A	ROOM ANT-	
Connector Type TH08FW-NH		23 R/Y	SECURITY INDICATOR LAMP Connector Type FEA09FW-FHA6-SA		98	۵	LUGGAGE ROOM ANT+	
ď		25 LG	NATS ANTENNA AMP.		87	٦	LUGGAGE ROOM ANT-	
		27 0	AVC SW		90	W/L	PUSH-BUTTON IGNITION SW ILL POWER	
		28 G/W	BLOWER FAN SW		91	>	ACC/ON IND	
٢		29 LW	HAZARD SW	٤	95	BR/R	PUSH-BUTTON IGNITION SW ILL GND	
1 2 3 4		31 G/B	10 NO AC /C	2⊩	93	GR/W	I-KEY WARN BUZZER	
8 7 6 5		32 LG	COMBI SW OUTPUT 5 66 67 68 6	02 69	96	BRW	ACC RELAY CONT	
II		33 Y/L	COMBI SW OUTPUT 4		46	L/R	STARTER RELAY CONT	
		34 W	COMBI SW OUTPUT 3		86	BR	IGN RELAY (IPDM E/R) CONT	
Terminal Color Of	L	35 R/L	COMBI SW OUTPUT 2 Terminal Color Of		66	W/R	IGN RELAY CONT	
No. Wire Signal Name [Specification]		H	ė	[cation]	100	9	PASSENGER DOOR REQUEST SW	
٦ -	ľ	H	SHIFT P 56 L INTERIOR ROOM LAMP POWER SUPPLY	WER SUPPLY	102	G	SHET NP	
, B	L	t	V 75		103	5/	FR DEFROSTER SW	
, w	ľ	╁	A DASSENGED	ОСК ОПТВІТ	100	T	VI SHIET SEI ECTOR POWER SI IBBI V	
t		30	S W	T I I	101	+	CATOR LAMP SW 2	
$^{+}$]	┨	90 00	5 5 5	3 5		DICHAMINOTOR DELAY CONT	
+			WIL	OFFICE	9	9/	BLOWER FAINING FOR RELATIONI	
+	Š	Company No	ź >	TELL				
+	3	I IECIOI INC	A	OIPU		Т		
8 6/7	Ŝ	Connector Name	BCM (BODY CONTROL MODULE) 66 L/B DRIVER DO	KOUIPUI	Connector No.	1	M72	
	ŀ		9/ B		Connector Name		DIODE	
1	Š	Connector Type	7	SUPPLY (IGN)		7		
Connector No. M68	Q	1	P POWER WINDO	SUPPLY (BAT)	Connector Type	7	24335_C9900	
Connector Name BCM (BODY CONTROL MODULE)	多	i e	70 Y BAT (F/L)		ą			
Constant Time Time	_	S E			季		[
		l	43 44 45 46 47 48		<u>S</u>		Ø.	
4			Т				1 2	
Atth			Connector Name BCM (BODY CONTROL MODULE)	DULE)				
Z.			Connector Type TH40FW-NH					
2 3 4 5 6 7 8 9 12 13 14 15 17 18	Ī	Terminal Color Of						
[21 23 25 27 28 29 31 32 33 34 35 36 37 38 39 40	_		Signal Name (Specification)		Terminal	Color Of	5.00	
		43 W	BACK DOOR SW		Š	Wire	Signal Name [Specification]	
	Ľ	44 LG	REAR WIPER STOP POSITION		-	B/R	,	
Terminal Color Of		H	PASSENGER DOOR SW	88 58 88	2	BR/R	,	
No. Wire Signal Name [Specification]	Ľ	F	REAR RH DOOR SW	105 106				
2 RRAW COMBLEW INPLITS		t	DRIVER DOOR SW					
COMBI SW	Ľ	t	REAR I H DOOR SW					
COMBLSW	ľ	H	CONT Terminal Color Of					
i e	<u> </u>	╁	£	[cation]				
+	1	+	į	HIGH				
200		+	27	1010				
N/V		33	98 c/	JEST SW				
W/B			3					
R STOP LA			97	+				
GR CENTRAL DOC			>	-INI-				
BR CENTRAL DOO			BR/Y	ANT+				
			PA	R ANT-				
15 W/L REAR WINDOW DEFOGGER SW			82 W/B BACK DOOR ANT+	±				

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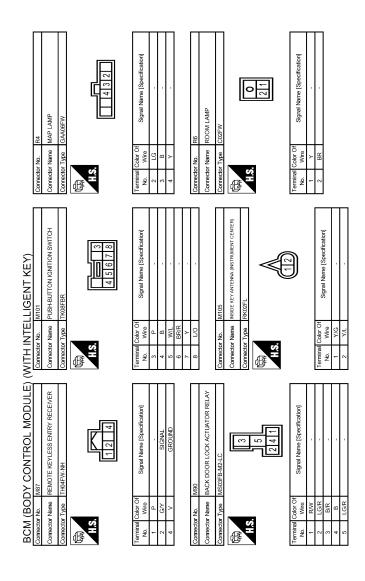
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WITH INTELLIGENT KEY: Fail-safe

FAIL-SAFE CONTROL BY DTC

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

< ECU DIAGNOSIS INFORMATION >

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 sys- tem	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.
- 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.

WITH INTELLIGENT KEY: DTC Inspection Priority Chart

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)

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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 B2605: STARTER RELAY B2606: ENG STATE SIG LOST B2614: BCM B2615: BCM B2616: BCM B2618: BCM B2618: BCM B2611: IGN RELAY OFF B2672: IGN RELAY ON B2672: START CONT RLY ON B2674: START CONT RLY OFF B2676: BCM B2676: BCM B2677: 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

WITH INTELLIGENT KEY: DTC Index

INFOID:0000000010245787

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 <u>BCS-20, "COM-MON ITEM : CONSULT Function (BCM - COMMON ITEM)"</u>.

< ECU DIAGNOSIS INFORMATION >

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	×	_	_	_	<u>SEC-38</u>
B2193: CHAIN OF BCM-ECM	×	_	_	_	SEC-40
B2195: ANTI-SCANNING	×	_	_	_	SEC-41
B2198: NATS ANTENNA AMP	×	_	_	_	SEC-42
B2555: STOP LAMP	_	×	×	_	<u>SEC-46</u>
B2556: PUSH-BTN IGN SW	_	×	×	_	<u>SEC-48</u>
B2557: VEHICLE SPEED	_	×	×	_	<u>SEC-50</u>
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	×	×	×	_	<u>SEC-67</u>
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	×	×	×	_	<u>SEC-70</u>
B26F4: START CONT RLY OFF	×	×	×	_	<u>SEC-71</u>
B26F6: BCM	_	×	×	_	PCS-93
B26F7: BCM	×	×	×	_	SEC-73
B26F8: BCM	_	×	×	_	<u>SEC-74</u>
B26FC: KEY REGISTRATION	_	×	×	_	SEC-75

Revision: 2013 October DEF-67 2014 CUBE

< ECU DIAGNOSIS INFORMATION >

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	_	_	_	×	
C1705: LOW PRESSURE FR	_	_	_	×	WT-26
C1706: LOW PRESSURE RR	_	_	_	×	<u> </u>
C1707: LOW PRESSURE RL	_	_	_	×	
C1708: [NO DATA] FL	_	_	_	×	
C1709: [NO DATA] FR	_	_	_	×	WT-28
C1710: [NO DATA] RR	_	_	_	×	<u>W1-20</u>
C1711: [NO DATA] RL	_	_	_	×	
C1716: [PRESSDATA ERR] FL	_	_	_	×	
C1717: [PRESSDATA ERR] FR	_	_		×	WT-31
C1718: [PRESSDATA ERR] RR	_	_	_	×	<u> </u>
C1719: [PRESSDATA ERR] RL	_	_	_	×	
C1729: VHCL SPEED SIG ERR	_	_	_	×	<u>WT-33</u>

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY: Reference Value

INFOID:0000000010245797

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	
IGN ON SW	Ignition switch OFF or ACC	Value/Status Off On Off	
IGN ON 5W	Ignition switch ON		
KEY ON SW	Mechanical key is removed from key cylinder	Off On Off	
KET ON SW	Mechanical key is inserted to key cylinder		
CDL LOCK SW	Door lock/unlock switch does not operate	Off	
CDL LOCK SVV	Press door lock/unlock switch to the lock side	Off On Off	
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off On Off	
ODL UNLOCK 3VV	Press door lock/unlock switch to the unlock side		
DOOR SW-DR	Driver's door closed	Off On Off	
DOOK SW-DR	Driver's door opened		
DOOR SW-AS	Passenger door closed	Off On	
DOOR SW-AS	Passenger door opened		
DOOR SW-RR	Rear RH door closed	On Off Off On Off	
DOOR SW-RR	Rear RH door opened		
DOOR SW-RL	Rear LH door closed	Off	
DOOK SW-KL	Rear LH door opened	Off On Off On Off On Off On Off	
BACK DOOR SW	Back door closed	Off	
DACK DOOK 3W	Back door opened		
LOCK STATUS	NOTE: The item is indicated, but not monitored.	Off	

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF	Off
ACC ON SW	Ignition switch ACC or ON	On
KEYLESS LOCK	"LOCK" button of key fob is not pressed	Off On Off On Off On Off On Off On NORMAL Off On Off
KETLESS LOCK	"LOCK" button of key fob is pressed	
KEVI EGG LINII OOK	"UNLOCK" button of key fob is not pressed	Off On Off On Off On Off On NORMAL Off On Off On Off On Equivalent to speed- ometer reading Off On Off Off
KEYLESS UNLOCK	"UNLOCK" button of key fob is pressed	
SHOCK SENSOR	NOTE: The item is indicated, but not monitored.	NORMAL
	Other than driver door key cylinder LOCK position	Off On Off On Off On Off On NORMAL Off On Off On Off On Equivalent to speed- ometer reading Off On Off Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	
	Other than driver door key cylinder UNLOCK position	Off On Off On Off On Off On NORMAL Off On Off On Off On Equivalent to speed- ometer reading Off On Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	
VEHICLE SPEED	While driving	
DEAD DEE OU!	Rear window defogger switch OFF	Off On Off On Off On Off On Off On NORMAL Off On Off
REAR DEF SW	Rear window defogger switch ON	
DE//EDOE 0/4/ 0 · · ·	NOTE:	Off On Equivalent to speed- ometer reading Off On Off On Off On Off On Off Off On Off Off
REVERSE SW CAN	The item is indicated, but not used.	
TAIL LAND OW	Lighting switch OFF	Off On Off
TAIL LAMP SW	Lighting switch 1ST	On
FR FOG SW	NOTE: The item is indicated, but not monitored.	Off
	The seat belt (driver side) is fastened. [Seat belt switch (driver side) OFF]	On Off Off On
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) ON]	
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
KYLS TRNK/HAT	NOTE: The item is indicated, but not monitored.	Off
1/5)// 500 BANIO	PANIC button of key fob is not pressed	On Off On Off On Off On NORMAL Off On Off On Off On Equivalent to speed- ometer reading Off On Off Off
KEYLESS PANIC	PANIC button of key fob is pressed	
III DE AMA CVA	Lighting switch OFF	Off On Off On Off On Off On Off On NORMAL Off On Off On Off On Equivalent to speed- ometer reading Off On Off On Off On Off On Off On Off On Off Off
HI BEAM SW	Lighting switch HI	
IEAD LAND OV	Lighting switch OFF	Off On Off On Off On Off On NORMAL Off On Off On Off On Equivalent to speed- ometer reading Off On Off
HEAD LAMP SW 1	Lighting switch 2ND	On
IEAD LAND OW	Lighting switch OFF	Off On Off On Off On Off On NORMAL Off On Off On Off On Equivalent to speed- ometer reading Off On Off
HEAD LAMP SW 2	Lighting switch 2ND	
AUTO LIGHT SW	NOTE: The item is indicated, but not monitored.	Off
	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
	Turn signal switch OFF	Off
TURN SIGNAL R	Turn signal switch RH	
	Turn signal switch OFF	
TURN SIGNAL L	Turn signal switch LH	Off Off On Off On Off On Off On Off On Off On Off Off

Monitor Item	Condition	Value/Status
PKB SW	Parking brake switch is OFF	Off
ND 3W	Parking brake switch is ON	On
NGINE RUN	Engine stopped	Off
ENGINE RON	Engine running	On
OPTI SEN (DTCT)	NOTE: The item is indicated, but not monitored.	Close to 5 V
OPTI SEN (FILT)	NOTE: The item is indicated, but not monitored.	Close to 5 V
IG SEN COND	NOTE: The item is indicated, but not monitored.	OFF
GN SW CAN	Ignition switch OFF or ACC	Off
GIN SW CAIN	Ignition switch ON	On
R WIPER HI	Front wiper switch OFF	Off
IX WIF LIX III	Front wiper switch HI	On Off Off On Close to 5 V Close to 5 V Close to 5 V Close to 5 V OFF Off On Off On Off Off On Off Off On Off Off
R WIPER LOW	Front wiper switch OFF	Off
N WIFEN LOW	Front wiper switch LO	Off On Off On Off On Close to 5 V Close to 5 V OFF Off On Off
R WIPER INT	Front wiper switch OFF	Off
IV AAIL ELY HAI	Front wiper switch INT	Off On Off On Off On Close to 5 V Close to 5 V OFF Off On Off
FR WASHER SW	Front washer switch OFF	Off
K WASHER SW	Front washer switch ON	On
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
D WIDER STOR	Any position other than front wiper stop position	Off
FR WIPER STOP	Front wiper stop position	Off On Off On Off On Off On Off On 1 - 7 Off On Off On Off On Off On Off On Off On
DD WIDED ON	Rear wiper switch OFF	Off
RR WIPER ON	Rear wiper switch ON	On Off Off On Close to 5 V Close to 5 V Close to 5 V OFF Off On Off Off On Off Off On Off Off On Off Off
DD WIDED INT	Rear wiper switch OFF	On Off Off On Close to 5 V Close to 5 V Close to 5 V OFF Off On Off Off On Off Off On Off Off On Off Off
RR WIPER INT	Rear wiper switch INT	
	Rear washer switch OFF	Off On Close to 5 V Close to 5 V OFF Off Off On Off
RR WASHER SW	Rear washer switch ON	
D WIDED CTOD	Rear wiper stop position	On Off Off On Close to 5 V Close to 5 V Close to 5 V OFF Off On Off Off On Off Off On Off Off On Off Off
RR WIPER STOP	Other than rear wiper stop position	
RAIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
1474DD 6W	Hazard switch OFF	Off
IAZARD SW	Hazard switch ON	On
TANLONI CIO	Blower control dial OFF	Off
FAN ON SIG	Other than blower control dial OFF	On
UD COND CVV	A/C switch OFF	Off
AIR COND SW	A/C switch ON	On
	Ignition switch ON	Off
HERMO AMP	Evaporator is extremely low temperature	On
-D DEE 014/	Other than A/C mode defroster ON position	Off
R DEF SW	A/C mode defroster ON position	On
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	Off

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
TRNK OPNR SW	NOTE: The item is indicated, but not monitored.	Off	Α
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	Off	Е
HOOD SW	Close the hood	Off	-
HOOD SW	Open the hood	On	
TRANCRONRER	Other than the ignition switch is ON by key registered to BCM.	Off	
TRANSPONDER	The ignition switch is ON by key registered to BCM.	On	=
INTELLI KEY	NOTE: The item is indicated, but not used.	Off	D
AUTO RELOCK	NOTE: The item is indicated, but not monitored.	Off	Е
OIL PRESS SW	Ignition switch OFF or ACC Engine running	Off	-
	Ignition switch ON	On	F
DDAKE CW	Brake pedal is not depressed	Off	=
BRAKE SW	Brake pedal is depressed	On	

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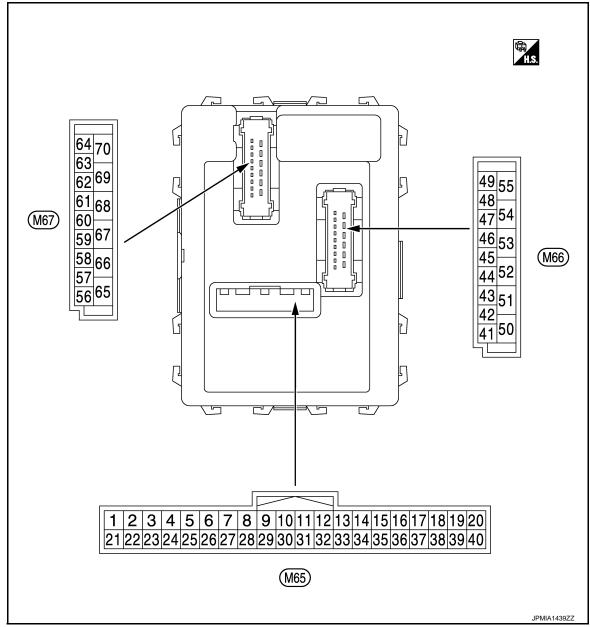
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TERMINAL LAYOUT



NOTE:

M65, M66: WhiteM67: Black

PHYSICAL VALUES

< ECU DIAGNOSIS INFORMATION >

	nal No. color)	Description			.	Value	/
+	–	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF	0 V	E
					Turn signal switch RH		-
					Lighting switch HI	(V) 15 10	
					Lighting switch 1ST	10 5 0	
2	Ground	Combination switch	Input	Combination switch		РКIВ4958J 1.0 V	
(BR/W)	Ground	INPUT 5	iriput	(Wiper intermit-		1.0 V	Е
	tent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 **•10 ms JPMIA0342JP	F			
					All switch OFF	0 V	-
					Turn signal switch LH		-
				Combination	Lighting switch PASS	(V) 15	
3 (GR)	Ground	Combination switch INPUT 4	Input	switch (Wiper intermittent dial 4)	Lighting switch 2ND	10 5 0	I
						PKIB4958J 1.0 V	
					All switch OFF	0 V	-
					Front wiper switch LO		k
				Combination	Front wiper switch MIST	(V) 15 10	
4 (L/Y)	Ground	Combination switch INPUT 3	Input	switch (Wiper intermit- tent dial 4)	Front wiper switch INT	PKIB4958J	DE

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	nal No.	Description			0 1111	Value																																							
+ (vvire	color)	Signal name	Input/ Output		Condition	(Approx.)																																							
					All switch OFF (Wiper intermittent dial 4)	0 V																																							
					Front washer switch (Wiper intermittent dial 4)	(V)																																							
					Rear washer switch ON (Wiper intermittent dial 4)	10 5 0																																							
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	→ +10ms PKIB4958J																																							
				SWILCTI	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 → +10ms																																							
						PKIB4956J 0.8 V																																							
					All switch OFF (Wiper intermittent dial 4)	0 V																																							
					Front wiper switch HI (Wiper intermittent dial 4)	(V)																																							
					Rear wiper switch INT (Wiper intermittent dial 4)	10 5 0																																							
																																												Wiper intermittent dial 3 (All switch OFF)	++10ms PKIB4958J
6 (L/R)	Ground	Combination switch INPUT 1	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 15 0 ++10ms PKIB4952J 1.9 V																																							
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 ++10ms PKIB4956J 0.8 V																																							

	nal No. color)	Description			Q 155	Value
+	- COIOF)	Signal name	Input/ Output		Condition	(Approx.)
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0 + 10ms PKIB4960J
					UNLOCK position	7.0 - 8.0 V 0 V
		Describer of Partico		D l l'.	NEUTRAL position	12 V
8 (W/B)	Ground	Door key cylinder switch LOCK	Input	Door key cylin- der switch	LOCK position	0 V
9	0		lav. 1	Stop lamp	OFF (Brake pedal is not depressed)	0 V
(R)	Ground	Stop lamp switch	Input	switch	ON (Brake pedal is depressed)	Battery voltage
10	Graves	Rear window defog-	lnn::t	Rear window	OFF (Not pressed)	12 V
(W/L)	Ground	ger switch	Input	defogger switch	ON (Pressed)	0 V
11	Ground	Ignition switch ACC	Innut	Ignition switch O	FF	0 V
(L/Y)	Giourid	Ignition switch ACC	Input	Ignition switch AG	CC or ON	Battery voltage
12 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When passenger door opened)	0 V
13 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When rear RH door opened)	0 V
18 (V)	Ground	Receiver ground	Input	Ignition switch Ol	N	0 V

	nal No.	Description				W.L.				
(Wire	color)	Signal name	Input/ Output		Condition	Value (Approx.)				
					Insert mechanical key into ignition key cylinder	0 V				
				Input Ignition switch OFF	Remove mechanical key from ignition key cylinder (Any door opened)	5 V				
19 (BR)	Ground	Remote keyless en- try receiver power supply	Input		Remove mechanical key from ignition key cylinder (Any door closed)	(V) 6 4 2 0 •••0.2 s				
					Insert mechanical key into ignition key cylinder	0 V				
20 (G/Y)	Ground	Remote keyless entry receiver communication	Input Ignition swit	Input Ignition switch OFF	Ignition switch OFF	Waiting	(V) 6 4 2 0 ••1,0ms			
21	Ground	NATS antenna amp.	Input/	Just after insertin	g ignition key in key cylinder	Pointer of tester should move				
(P/L)	Oround	TV/TO antenna amp.	Output	Other than above	е	0 V				
					ON	0 V				
23 (R/Y)	Ground	Security indicator	Input	Security indicator	Blinking (Ignition switch OFF)	(V) 15 10 5 0 1 s JPMIA0014GB				
					OFF	12 V				
			len: 4/	Just after insertin	g ignition key in key cylinder	Pointer of tester should move				
25 (LG)	Ground	NATS antenna amp.	Input/ Output	Other than above		0 V				
26	_			Ignition switch O		0 V				
(GR)	Ground	Thermo control amp.	Input		tremely low temperature	12 V				

Terminal No. Description (Wire color)			O Pri	Value	Α		
+	-	Signal name	Input/ Output		Condition	(Approx.)	
27 (Y/G)	Ground	A/C switch	Input	A/C switch	OFF	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V	B C
					ON	0 V	
28 (G/W)	Ground	Blower fan switch	Input	Fan switch	Blower fan switch OFF	(V) 15 10 5 0 ***10ms PKIB4960J 7.0 - 8.0 V	E F G
					Blower fan switch ON	0 V	
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF ON	Battery voltage 0 V	Н
					A/C mode defroster ON position	0 V	I
31 (G/Y)	Ground	Front defroster switch	Input	Ignition switch ON	Other than A/C mode de- froster ON position	(V) 15 10 5 0 *** *2ms *** *2ms *** *3pmia0589GB	J K
						8.0 - 9.0 V	DE
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 PKIB4960J	M
32 (LG)	Ground	Combination switch OUTPUT 5	Output	Combination switch	Rear wiper switch ON (Wiper intermittent dial 4)	7.0 - 8.0 V	0
					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	15 0 0 +-+10ms PKIB4956J 1.0 V	Р

	nal No.	Description				Value		
(Wire	color)	Signal name	Input/ Output		Condition	Value (Approx.)		
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V		
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) (V)		
					Rear wiper switch INT (Wiper intermittent dial 4)	15		
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	0 ++10ms PKIB4958J 1.2 V		
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V		
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)			
							Lighting switch HI (Wiper intermittent dial 4) Rear washer switch ON	(V) 15 10 5
					(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	Ground	Combination switch	Output	Combination switch	All switch OFF	(V) 15 10 5 0 +-10ms PKIB4960J 7.0 - 8.0 V		
(R/L)	Ground	OUTPUT 2	Output	(Wiper intermit- tent dial 4)	Lighting switch 2ND	4.0		
				terit ulai 4)	Lighting switch PASS	(V) 15		
					Front wiper switch INT	10 5 0		
					Front wiper switch HI	PKIB4958J		

Terminal No. Description (Wire color) Input/				Value		
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
36		Combination switch		Combination switch	All switch OFF	(V) 15 10 5 0 → 10ms PKIB4960J 7.0 - 8.0 V
36 (L/O)	Ground	OUTPUT 1	Output	(Wiper intermit-	Turn signal switch RH	7.0 0.0 7
,				tent dial 4)	Turn signal switch LH	(V) 15
					Front wiper switch LO (Front wiper switch MIST)	10
					Front washer switch ON	+10ms PKIB4958J
37				Insert mechanica	al key into ignition key cylin-	Battery voltage
(R/W)	Ground	Key switch	Input		nical key from ignition key	0 V
38	Ground	Ignition switch ON	Input	Ignition switch O	PFF or ACC	0 V
(O)	Cround	iginion owich ort		Ignition switch O	N	Battery voltage
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)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When back door opened)	0 V
					Rear wiper stop position	12 V
44 (LG)	Ground	Rear wiper stop position	Input	Ignition switch ON	Any position other than rear wiper stop position	0 V
45 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 ms
						1.0 - 1.5 V
					LOCK position	0 V

	nal No.	Description				Value
+ (VVire	color)	Signal name	Input/ Output		Condition	(Approx.)
46 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 10 ms JPMIA0012GB 1.0 - 1.5 V
					UNLOCK position	0 V
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 5 0 → 10ms 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)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When rear LH door opened)	0 V
50	0	A (O i.e. di4- e	Outrout	A /O : dit	OFF	12 V
(SB)	Ground	A/C indicator	Output	A/C indicator	ON	0 V
54	Ground	Rear wiper	Output	Ignition switch	Rear wiper switch OFF	0 V
(LG)	Cround	rtour wipor	Odipai	ON	Rear wiper switch ON	12 V
					np battery saver is activated. r room lamp power supply)	0 V
56 (L)	Ground	Interior room lamp power supply	Output	Interior room lamp battery saver is not activated. (Outputs the interior room lamp power supply)		12 V
57 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage
59	Ground	Driver door UN-	Output	Driver door	UNLOCK (Actuator is activated)	12 V
(L/B)	Ground	LOCK	Output	Dilver dool	Other than UNLOCK (Actuator is not activated)	0 V

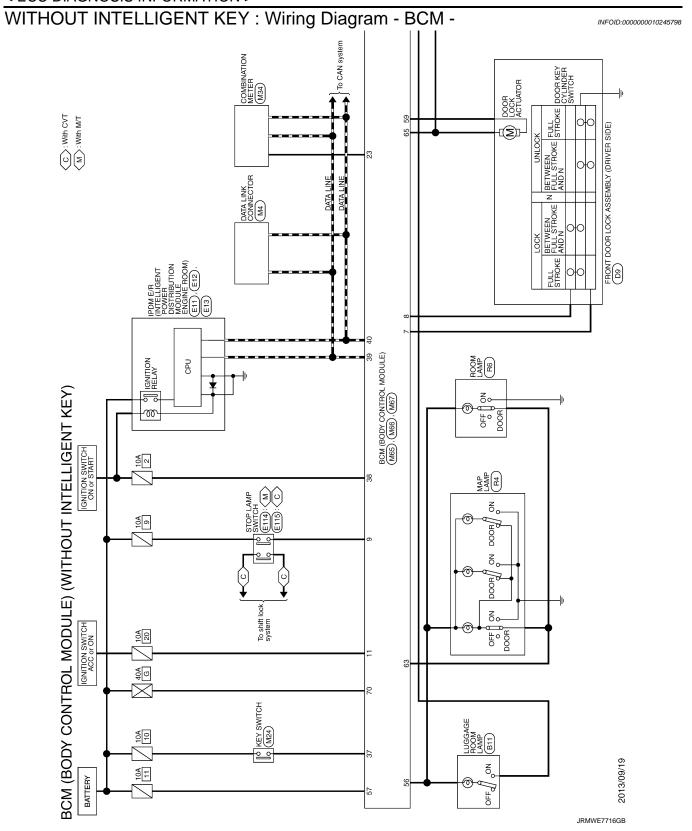
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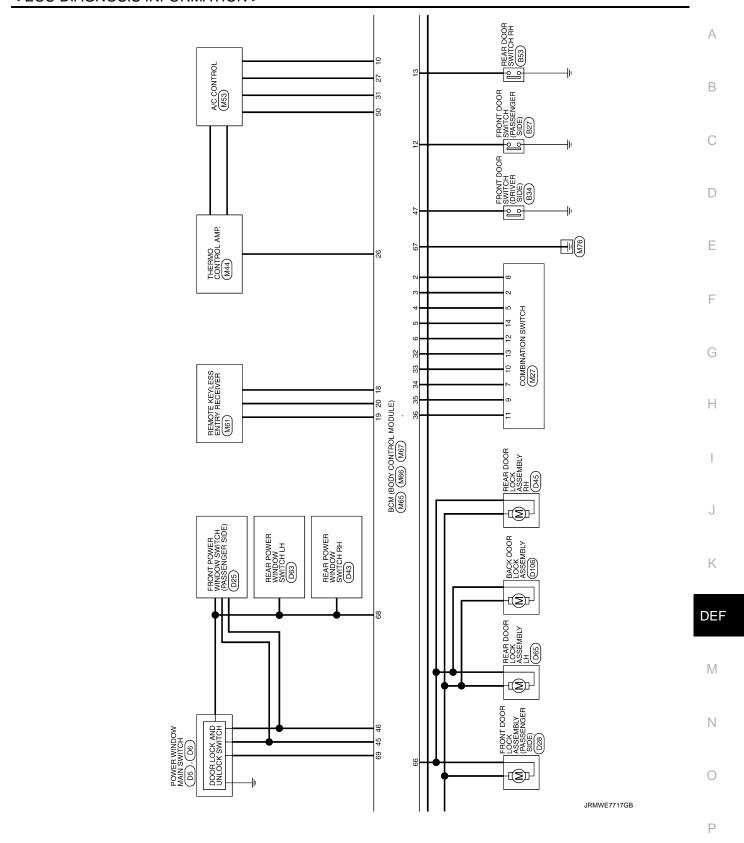
	nal No. color)	Description			• "	Value
+	- COIOT)	Signal name	Input/ Output		Condition	(Approx.)
					Turn signal switch OFF	0 V
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 PKIC6370E 6.0 V
					Turn signal switch OFF	0 V
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 18 PKIC6370E
		Late de la constante		1.4	OFF	6.0 V
63 (BR)	Ground	Interior room lamp control signal	Output	Interior room lamp	ON	0 V
65	Crownd	All doors I OCK	Outrout	All doors	LOCK (Actuator is activated)	12 V
(V)	Ground	All doors LOCK	Output	All doors	Other than LOCK (Actuator is not activated)	0 V
66	Crowns	Passenger door and	Out	Passenger door	UNLOCK (Actuator is activated)	12 V
(G)	Ground	rear door UNLOCK	Output	and rear door	Other than UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch Ol	N	0 V
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch Ol	N	12 V
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch O	FF	12 V
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch Ol	FF	Battery voltage

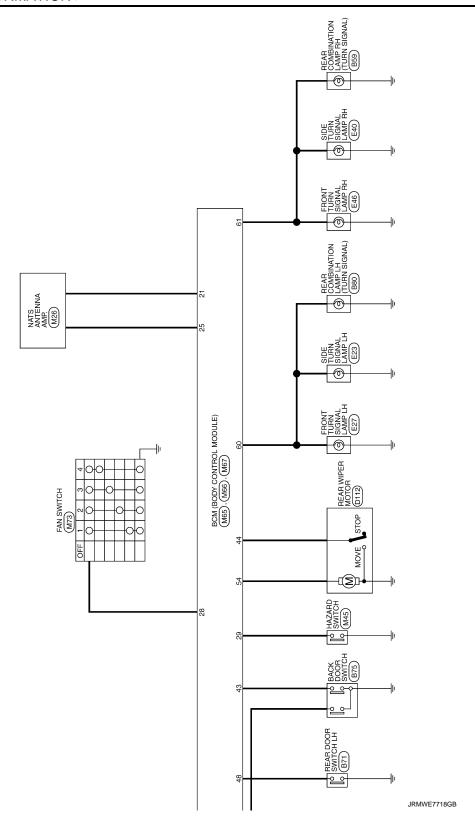
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Corrector No. 890	B C
	Е
Signal Name (Specification) Signal Name (Specification) Signal Name (Specification) Signal Name (Specification)	F
Terminal Cotor Of	G H
Signal Name [Specification]	1
Ctor Name	J K
Such and the such as the such	DEF
Corrector Name LUGGAGE ROOM LAMP Corrector Name LUGGAGE ROOM LAMP Corrector Name LUGGAGE ROOM LAMP Terminal Color Of Signal Name (Specification) Corrector Name Room Door Signal Name (Specification) No. Wire Signal Name (Specification) No. Wire Signal Name (Specification) No. Wire Signal Name (Specification)	M
BCM (BODY Cornector No. B11 Cornector No. B12 I	N
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BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)	(WITHOUT INTELLIGENT KEY)			
Connector No. D6	Connector No. D25	Connector No. D43	Connector No. D63	
Connector Name POWER WINDOW MAIN SWITCH	Connector Name FRONT POWER WINDOW SWITCH (PASSENGER SIDE)	Connector Name REAR POWER WINDOW SWITCH RH	Connector Name REAR POWER WINDOW SWITCH LH	
Connector Type NS03FW-CS	Connector Type NS12FW-CS	Connector Type NS08FW-CS	Connector Type NS08FW-CS	
(F)	(12) [12] [13] [14]	E SH	E SH	
17 18 19	6 7 8 1112	2 3 4 5 1	23451	
Terminal Color Of Signal Name [Specification]	Terminal Color Of Signal Name [Specification]	Terminal Color Of Signal Name [Specification]	Terminal Color Of Signal Name [Specification]	
Н	Н	Н	1 -	
18 GR	2 BR	2 BR	2 BR	
4	+	0 0 0	+	
	7 R	5 R	5 R	
Connector No. D9	H			
Connector Name FRONT DOOR LOCK ASSEMBLY (DRIVER SIDE)	11 SB	Connector No. D45	Connector No. D65	
Connector Type E06FGY-RS		Connector Name REAR DOOR LOCK ASSEMBLY RH	Connector Name REAR DOOR LOCK ASSEMBLY LH	
4	Connector No. D28	Connector Type E06FGY-RS	Connector Type E06FGY-RS	
H.S.	Corrector Name FRONT DOOR LOOK ASSEMBLY (PASSENGER SIDE)			
(12) 3 4 5 6)	Connector Type E06FGY-RS	H.S.	H.S.	
	唇			
Terminal Color Of Signal Name [Specification]	HS.			
Н		a	a	
2 SB -		No. Wire Ognarivarie Operatorii	No. Wire organia realing type and and an	
Н	la Ia	Н	2 G	
Н	Wire			
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FRONT TURN SIGNAL LAMP LH RS02FB Signal Name (Specification) Signal Name (Specification) Signal Name (Specification)		С
Corrector No. Connector Name Fig.		D
AP LH AP		Е
Signal Name [Sp. 22] 28] 21] 28] 21] 28] 21] 28] 21] 28] 28] 28] 28] 28] 28] 28] 28] 28] 28		F
Cornector No. E13 Connector No. E13 Connector No. E13 No. Wire No. Wire State of Connector No. E23 State of Connector No. E23 Connector No. E23 State of Connector No. E23 State of Connector No. E23 State of Connector No. E23 Connector No. E23 State of Connector No. E23 State of Connector No. E23 Connector No. E23 State of Connector No. E23 Connector No. E23 State of Connector No. E23 State of Connector No. E23 State of Connector No. E23 Connector No. E23 Connector No. E23 Connector No. E23 State of Connector No. E23 Connector No. E23 Connector No. E23 State of Connector No. E23 Connector		G H
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Corrector No. Corrector No		J
Corrector Name Correc		K
SEMBLY Sechication Sechication		DEF
BCM (BODY CONTROL MOD) Corrector Ne. D106 Corrector Ne. D106 Terminal Color Of Signal Name [Specification] No. Wire No. Wire Corrector No. D112 Corrector No. D112 Corrector No. D112 Corrector No. D112 Terminal Color Of Signal Name [Specification] 1. Signal Name [Specification]		M
Terminal Color Of Sign Wire Sign Wir		Ν
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Connector Type RS02FB	Connector Name STOP LAMP SWITCH Connector Type M04PW-LC	Connector Name KEY SWITCH Connector Type TK06MGY	Connector Name COMBINATION SWITCH Connector Type TH16FW-NH
	B	匮	
	134		1 2 3
Terminal Color Of Signal Name [Specification]	Terminal Color Of Signal Name [Specification]	Terminal Color Of Signal Name [Specification]	Terminal Color Of Signal Name (Specification) No. Wire
W		1 RW -	1 O/B WASHER (RR)
┨	╁	1	R/G
- 1	4 G	- 1	W
Connector No. E114		Connector No. M26	5 L/Y OUTPUT 3 6 B GROUND
	Connector No. M4	Connector Name NATS ANTENNA AMP.	W
Connector Type M02FB-LC	Connector Name DATA INK CONNECTOR	Connector Type TH04FW-NH	۸
4		d)	RVL
	Connector Lype BD16FW	基	10 Y/L INPUT 4
T.S.		T T	UR
2 1		1 2 3 4	97
	1.5		14 G OUTPUT 2
	4 5 6 7 8		
Terminal Color Of Signal Name [Specification]		E I	Connector No. M34
	-	No. Wire	Connector Name COMBINATION METER
2 W	I erminal Color Of Signal Name [Specification]	2 P/L CLK	Connector Type TH40FW-NH
ł	П	В	1
	- B	3 LG DATA [With Intelligent Key] 4 R GND DWith Intelligent Key]	
	10	o 91	H.S. Mariadas 15 13 14 10 10 18 17 16 14 19 14
	8 O		38 34 34 28 21 25 24 23 22 21
	H		
			Terminal Color Of Signal Name [Specification]
			+
			2 P CAN-L
			> -
			4 L VEHICLE SPEED SIGNAL (8-PULSE) [Without NAVI] 4 V/R VEHICLE SPEED SIGNAL (8-PULSE) [With NAVII]
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< ECU DIAGNOSIS INFORMATION >

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Corrector No. Mist Corrector Name REMOTE KEYLESS ENTRY RECEIVER Corrector Type TYCO4FW 12 4	Terminal Color Of Signal Name (Specification) No. Wire V 2 G/V 4 BR 5 G/V 6 Corrector Name EM (BODY CONTROL MODULE) 7 Corrector Name EM (BODY CONTROL MODULE) 8 Corrector Name EM (BODY CONTROL MODULE) 9 Corrector Name EM (BODY CONTROL MODULE) 10 Wire EM (BODY CONTROL MODULE) 11 Corrector Name EM (BODY CONTROL MODULE) 12 EM (BODY CONTROL MODULE) 13 G COMBIS SWI NEUT 3 14 L/Y COMBIS SWI NEUT 3 15 G COMBIS SWI NEUT 3 16 L/R COMBIS SWI NEUT 3 17 L/Y COMBIS SWI NEUT 3 18 WIR REPORT SIPPOR SIPP	
Connector No. M45 Connector No. M45 Connector Name Hx2ARD SWITCH Connector Type TKO4FW ST 124	Terminal Color Of Signal Name Specification No. Wire Signal Name Specification No. Wire Signal Name Specification No. Wire Signal Name Specification No. Wire No. Wire Signal Name Specification No. Wire No. Wire Signal Name Specification No. Wire No. Wir	
M (BODY R/G O SE S/B B/B G/R B/B L/Y PUW R/W R/W R/W	23 B GROUND 24 PU FILELLEVEL SENESOR GROUND 25 BU FILELLEVEL SENESOR GROUND 26 BU FILELLEVEL SENESOR GROUND 27 LGIR BATTERY POWER SUPPLY 28 GR HONE CONCEROUND SIGNAL 29 BR FOUND AN CONCEROUND SIGNAL 36 GR ALTERNATOR SIGNAL 38 GR ALTERNATOR SIGNAL Corrector Name THERMO CONTROL AMP. Corrector Name THERMO CONTROL AMP. 1 CORRECTOR Type SOFTW 1 CORP. 2 GR ALTERNATOR SIGNAL 2 GR ALTERNATOR SIGNAL 3 GR ALTERNATOR SIGNAL 4 V	D

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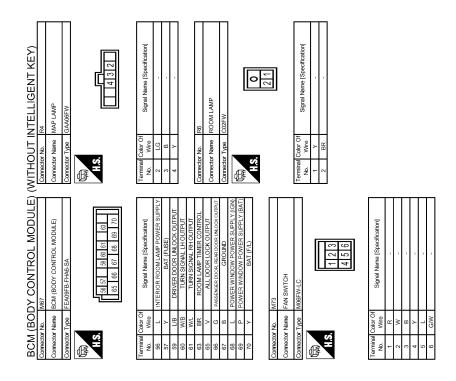
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WITHOUT INTELLIGENT KEY: Fail-safe

FAIL-SAFE CONTROL BY DTC

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

< ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
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 $ON \rightarrow OFF$

REAR WIPER MOTOR PROTECTION

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

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

Condition of cancellation

- 1. Pass more than 1 minute after the rear wiper stop.
- Turn rear wiper switch OFF.
- Operate the rear wiper switch or rear washer switch.

WITHOUT INTELLIGENT KEY: DTC Inspection Priority Chart

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

Priority	DTC	
1	U1000: CAN COMM U1010: CONTROL UNIT (CAN)	
2	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING 	
3	C1735: IGN CIRCUIT OPEN	
4	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] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1729: VHCL SPEED SIG ERR	

WITHOUT INTELLIGENT KEY: DTC Index

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch $\overrightarrow{OFF} \rightarrow ON$ again.
- 1 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1 \rightarrow 2 \rightarrow 3...38 \rightarrow 39 after returning to the normal condition whenever ignition switch OFF \rightarrow ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch $OFF \rightarrow ON$ after returning to the normal condition if the malfunction is detected again.

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CONSULT display	Fail-safe	Tire pressure monitor warn- ing lamp ON	Reference
U1000: CAN COMM	_	_	BCS-120
U1010: CONTROL UNIT (CAN)	_	_	BCS-121
B2190: NATS ANTENNA AMP	×	_	SEC-197
B2191: DIFFERENCE OF KEY	×	_	<u>SEC-200</u>
B2192: ID DISCORD BCM-ECM	×	_	<u>SEC-201</u>
B2193: CHAIN OF BCM-ECM	×	_	SEC-202
B2195: ANTI SCANNING	×	_	SEC-203
C1704: LOW PRESSURE FL	_	×	
C1705: LOW PRESSURE FR	_	×	MT OC
C1706: LOW PRESSURE RR	_	×	<u>WT-26</u>
C1707: LOW PRESSURE RL	_	×	
C1708: [NO DATA] FL	_	×	
C1709: [NO DATA] FR	_	×	WT 20
C1710: [NO DATA] RR	_	×	<u>WT-28</u>
C1711: [NO DATA] RL	_	×	
C1716: [PRESS DATA ERR] FL	_	×	
C1717: [PRESS DATA ERR] FR	_	×	W/T 24
C1718: [PRESS DATA ERR] RR	_	×	<u>WT-31</u>
C1719: [PRESS DATA ERR] RL	_	×	
C1729: VHCL SPEED SIG ERR	_	×	<u>WT-33</u>
C1735: IGN CIRCUIT OPEN	_	_	BCS-122

< ECU DIAGNOSIS INFORMATION >

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

WITH INTELLIGENT KEY

WITH INTELLIGENT KEY: Reference Value

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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
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
TAIL OCLD DEO	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND, HI or AUTO) (Light is illuminated)	On
III III DEO	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
ED E00 DE0	Lighting switch 2ND or	Front fog lamp switch OFF	Off
FR FOG REQ	AUTO (Light is illuminated)	Front fog lamp switch ON	On
	Ignition switch ON	Front wiper switch OFF	Stop
FR WIP REQ		Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
IGN KLI I -KEQ	Ignition switch ON		On
IGN RLY	Ignition switch OFF or ACC		Off
IGN KLI	Ignition switch ON		On
DUCLION	Release the push-button ignition	switch	Off
PUSH SW Press the push-button ignition switch		witch	On
INITED/ND CVA/	lanition quitab ON	Selector lever in any position other than P or N (CVT models) Release clutch pedal (M/T models)	Off
INTER/NP SW	Ignition switch ON	Selector lever in P or N position (CVT models) Depress clutch pedal (M/T models)	On

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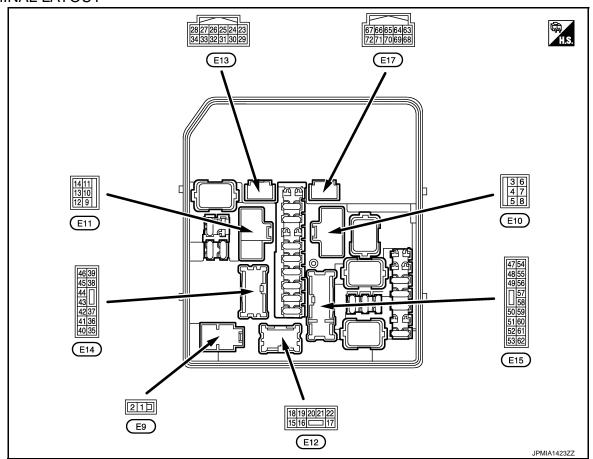
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Monitor Item	Cor	ndition	Value/Status		
ST RLY CONT	Ignition switch ON	Off			
STREE CONT	At engine cranking	On			
IHBT RLY -REQ	Ignition switch ON	Off			
INDI KLI -KEQ	At engine cranking	On			
	Ignition switch ON		Off		
07/11/11/2011	At engine cranking	At engine cranking			
ST/INHI RLY	The status of starter relay or starter the battery voltage malfunction, etc 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 selenter NOTE: Fixed On for M/T models	On			
S/L RLY -REQ	NOTE: The item is indicated, but not monit	Off			
S/L STATE	NOTE: The item is indicated, but not monit	UNLOCK			
DTRL REQ	NOTE: The item is indicated, but not monit	Off			
OIL P SW	Ignition switch OFF, ACC or engine	running	Open		
OIL P 3W	Ignition switch ON	Close			
HOOD SW	NOTE: The item is indicated, but not monit	Off			
	Not operation	Off			
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE: TEM	On			
LIODA GUIDD	Not operating		Off		
HORN CHIRP	Door locking with Intelligent Key (h	orn chirp mode)	On		

< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

Termin		Description			Value
(Wire	color)	Signal name Input/		Condition	(Approx.)
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	Ground	Starter motor	Output	Ignition switch ON	0 V
(BR)	Giouila	Starter motor	Output	At engine cranking	Battery voltage
4 (P)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
5	Ground	Cooling fan relay-1	Output	Cooling fan OFF	0 V
(LG)	Ground	power supply	Output	Cooling fan operated	Battery voltage
		_		Cooling fan OFF	0 V
7 (Y)	Ground Cooling fan relay-2 power supply	Output	Cooling fan LO operated	9.0 V	
(')		power suppry		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
				Cooling fan OFF	0 V
10 (L)	Ground	Cooling fan motor	Output	Cooling fan LO operated	5.0 V
(-/	ground			Cooling fan HI operated	0 V

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	nal NO. color)	Description				Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
13	Ground	Rear window defogger	Output	Ignition switch	Rear window defogger switch OFF	0 V
(W)	Ground	iteal willdow delogger	Output	Rear window defogo switch ON		Battery voltage
19 (B/W)	Ground	Ground		Ignition switch ON		0 V
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(vv)				2ND	Front fog lamp switch ON	Battery voltage
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(v)				2ND	Front fog lamp switch ON	Battery voltage
24	Ground	Oil pressure switch	Input	Ignition switch	Engine stopped	0 V
(G)	Ground	Oii pressure switch	iriput	ON	Engine running	Battery voltage
25				Ignition	Front wiper stop position	0 V
(Y)	Ground	Front wiper auto stop	Input	switch ON	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	Ground	Starter relay control	Output	At engine cranking		0 V
(SB)	Cround	Starter rolay control	Catput	Ignition switch ON		Battery voltage
31 (W)	Ground	Fuel pump relay control	Output		mately 1 second after turn- gnition switch ON running	0 - 1.5 V
(۷۷)					ately 1 second or more after e ignition switch ON	Battery voltage
				Ignition sw	vitch ON	Battery voltage
33 (O)	Ground	Power generation command signal	Output		et on "ACTIVE TEST", "AL- OR DUTY" of "ENGINE"	(V) 6 4 2 0 2ms JPMIA0002GB 3.8 V
					et on "ACTIVE TEST", "AL- PR DUTY" of "ENGINE"	(V) 6 4 2 0 → 2ms JPMIA0003GB
34			0 :	The horn i	s deactivated	Battery voltage
(R)	Ground	Horn relay control	Output	The horn i	s activated	0 V

< ECU DIAGNOSIS INFORMATION >

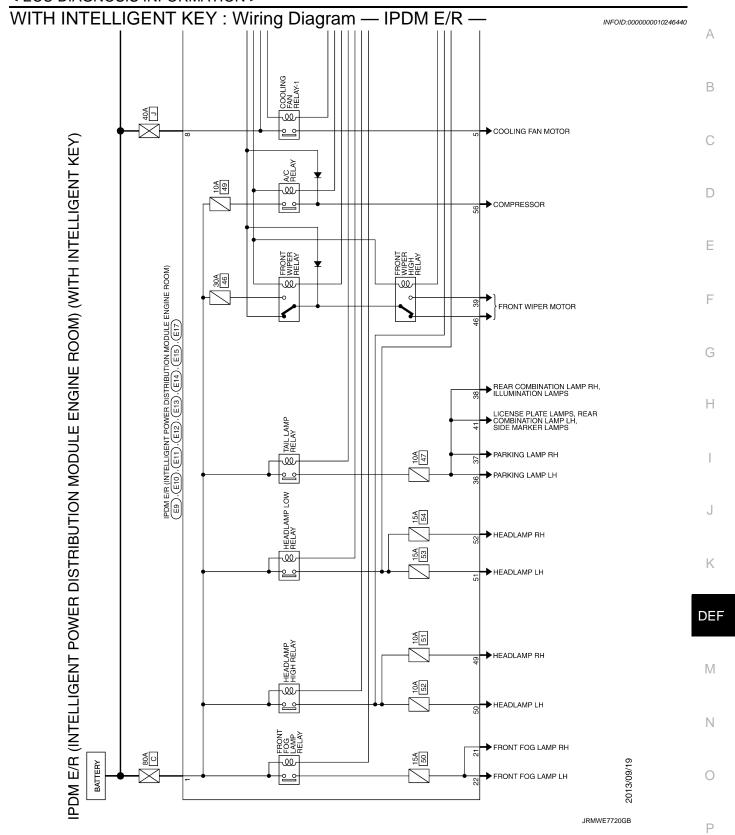
	nal NO.	Description				Value	
+ (Wire	color)	Signal name	Input/ Output		Condition	(Approx.)	
36				Ignition	Lighting switch OFF	0 V	
(O)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage	
37		,_,_,		Ignition	Lighting switch OFF	0 V	
(V)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage	
38	1	Tail lamp (RH) & illumi-		Ignition	Lighting switch OFF	0 V	
(G)	Ground	nations	Output	switch ON	Lighting switch 1ST	Battery voltage	
39	0	F	0 1 1	Ignition Front wiper switch OFF		0 V	
(V)	Ground	Front wiper HI	Output	switch ON Front wiper switch HI		Battery voltage	
40				Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage	
(R)	Ground	ECM relay control	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	0 - 1.5 V	
41	Ground	Tail lamp (LH) & license	Output	Ignition switch	Lighting switch OFF	0 V	
(SB)	Ground	plate lamps	Output	ON	Lighting switch 1ST	Battery voltage	
43		ECM relay power sup-			itch OFF a few seconds after turn- switch OFF)	0 V	
(G)	Ground	ply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage	
44		ECM relevaneurer cun			itch OFF a a few seconds after turn- switch OFF)	0 V	
44 (P)	Ground	ECM relay power sup- ply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage	
45 (Y)	Ground	TCM power supply	Output	Ignition sw	ritch OFF	Battery voltage	
46			_	Ignition	Front wiper switch OFF	0 V	
(O)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage	
		Transmission range			er in any position other than aition switch ON)	0 V	
47 (BR)	Ground	switch*1	Input	Select lever P or N (Ignition switch ON)		Battery voltage	·
•		Clutch interlock		Release the clutch pedal		0 V	
		switch*2		Depress th	ne clutch pedal	Battery voltage	_
49				Ignition	Lighting switch OFF	0 V	
(W)	Ground	Headlamp HI (RH)	Output	switch ON	Lighting switch HI Lighting switch PASS	Battery voltage	
50				Ignition	Lighting switch OFF	0 V	
(GR)	Ground	Headlamp HI (LH)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage	

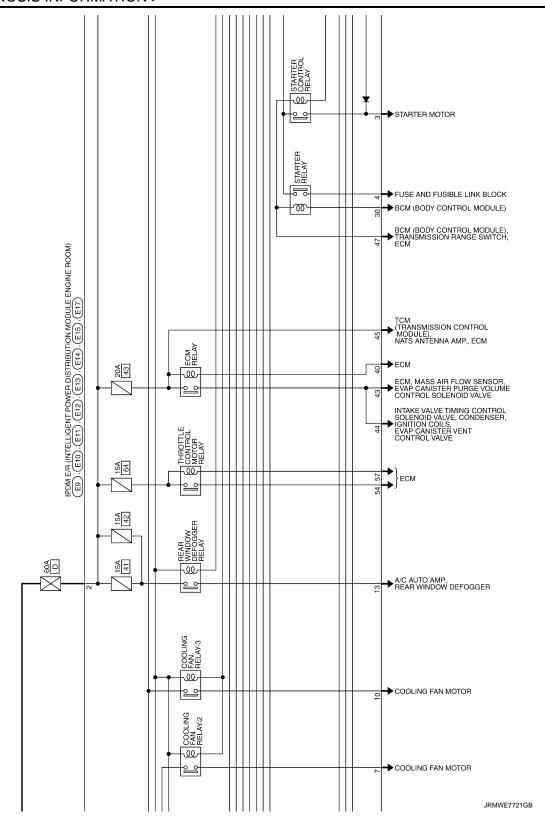
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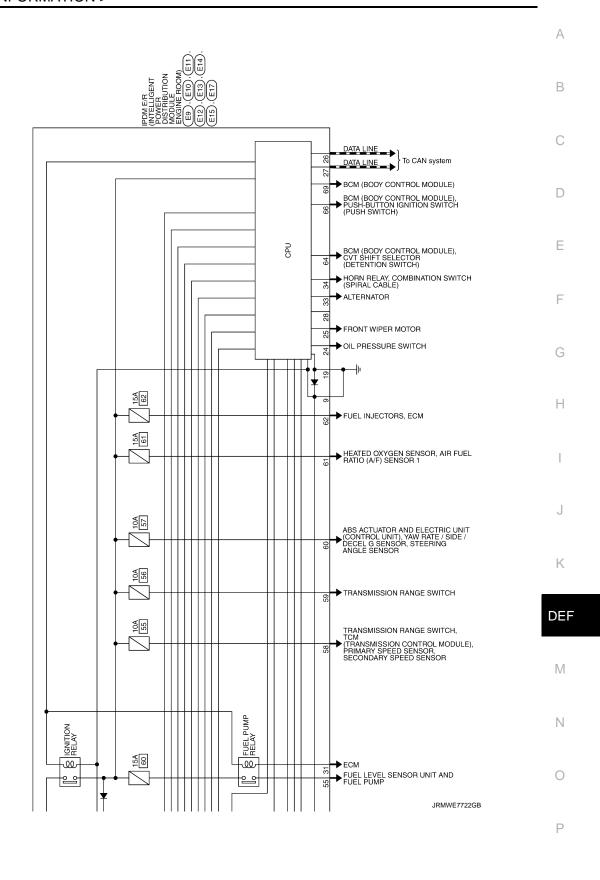
	nal NO. color)	Description			0 100	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
51	_		_	Ignition	Lighting switch OFF	0 V
(R)	Ground	Headlamp LO (LH)	Output	switch ON	Lighting switch 2ND	Battery voltage
52			_	Ignition	Lighting switch OFF	0 V
(P)	Ground	Headlamp LO (RH)	Output	switch ON	Lighting switch 2ND	Battery voltage
54		Throttle control motor		Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
(GR)	Ground	relay power supply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage
				Approximately 1 second or more than after turning the ignition switch ON		0 V
55 (P)	Ground	Fuel pump power sup- ply	Output		mately 1 second after turn- gnition switch ON running	Battery voltage
					A/C switch OFF	0 V
56 (SB)	Ground	A/C relay power supply	Output	Engine running	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		Ignition relay power		Ignition sw	ritch OFF	0 V
(R)	Ground	supply	Output	Ignition sw	ritch ON	Battery voltage
59	Ground	Ignition relay power	Output	Ignition sw	itch OFF	0 V
(Y)	Ground	supply	Output	Ignition sw	ritch ON	Battery voltage
60	Ground	Ignition relay power	Output	Ignition sw	itch OFF	0 V
(V)	Giound	supply	Output	Ignition sw	ritch ON	Battery voltage
61	Ground	Ignition relay power	Output	Ignition sw	itch OFF	0 V
(W)	Giound	supply	Output	Ignition sw	ritch ON	Battery voltage
62	Ground	Ignition relay power	Output	Ignition switch OFF		0 V
(L)	Ground	supply	Output	Ignition switch ON		Battery voltage
64 ^{*1}		CVT shift selector	-	Ignition	Select lever P	0 V
(R)	Ground	(Detention switch)	Input	switch ON	Select lever in any position other than P	Battery voltage
66		Duch button ignition		Press the	push-button ignition switch	0 V
66 (L)	Ground	Push-button ignition switch	Input	Release th	e push-button ignition	Battery voltage
69	0	Impition as Issues at the	lee: 1	Ignition sw	itch OFF or ACC	Battery voltage
(O)	Ground	Ignition relay monitor	Input	Ignition sw	ritch ON	0 V

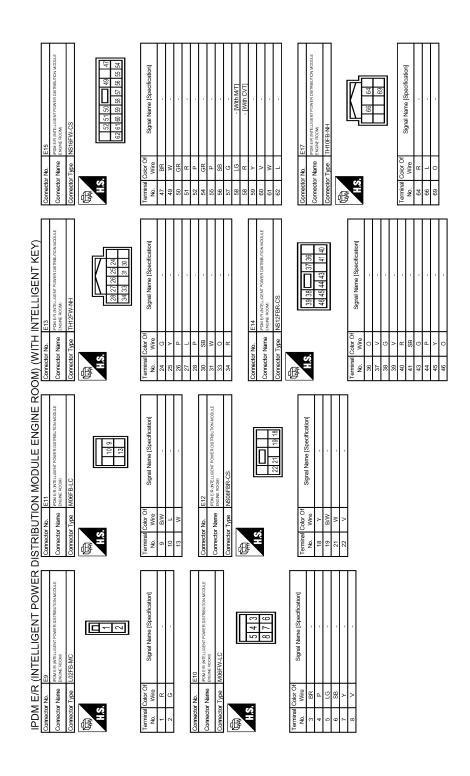
^{*1:} CVT models

^{*2:} M/T models









JRMWE7835GB

WITH INTELLIGENT KEY: Fail-Safe

INFOID:0000000010246441

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

< ECU DIAGNOSIS INFORMATION >

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 lampsSide marker lampsLicense plate lampsIlluminationsTail 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				
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation	
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.	

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< ECU DIAGNOSIS INFORMATION >

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.

WITH INTELLIGENT KEY: DTC Index

INFOID:0000000010246442

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 \rightarrow 2 \cdots 38 \rightarrow 39 after returning to the normal condition whenever IGN OFF \rightarrow 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	_	<u>SEC-76</u>
B210C: STR CONT RLY OFF CIRC	_	<u>SEC-77</u>
B210D: STARTER RLY ON CIRC	_	<u>SEC-78</u>
B210E: STARTER RLY OFF CIRC	_	<u>SEC-79</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-81</u>
B2110: INTRLCK/PNP SW OFF	_	<u>SEC-83</u>

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY: Reference Value

INFOID:0000000010246444

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		A/C switch OFF	Off
	Engine running	A/C switch ON (Compressor is operating)	On
TAIL OCUP DEO	Lighting switch OFF	Off	
TAIL&CLR REQ	Lighting switch 1ST, 2ND, H	On	
HL LO REQ	Lighting switch OFF		Off
	Lighting switch 2ND, HI or A	UTO (Light is illuminated)	On

< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Value/Status			
HL HI REQ	Lighting switch OFF	Lighting switch OFF				
TL TI KEQ	Lighting switch HI	Lighting switch HI				
ED 500 D50	Lighting switch 2ND or	Front fog lamp switch OFF	Off			
FR FOG REQ	AUTO (Light is illuminated)	Front fog lamp switch ON	On			
		Front wiper switch OFF	Stop			
FR WIP REQ	Ignition quitab ON	Front wiper switch INT	1LOW			
FR WIP REQ	Ignition switch ON	Front wiper switch LO	Low			
		Front wiper switch HI	Hi			
		Front wiper stop position	STOP P			
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P			
		Front wiper operates normally	Off			
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK			
ION DLV	Ignition switch OFF or ACC	Off				
IGN RLY	Ignition switch ON	On				
	1	Selector lever in any position other than P or N (CVT models)	Off			
INTER/NP SW	Ignition switch ON	Selector lever in P or N position (CVT models)	On			
OT DLV DEO	Ignition switch OFF or ACC		Off			
ST RLY -REQ	Ignition switch ON		On			
DTRL REQ	NOTE: The item is indicated, but not me	onitored.	Off			
OII D OW	Ignition switch OFF, ACC or eng	Open				
OIL P SW	Ignition switch ON	Close				
HOOD SW	NOTE: The item is indicated, but not me	onitored.	Off			
	Not operation	Off				
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM		On			
LIODAL OLUBB	Not operating		Off			
HORN CHIRP	Door locking with key fob (horn	On				

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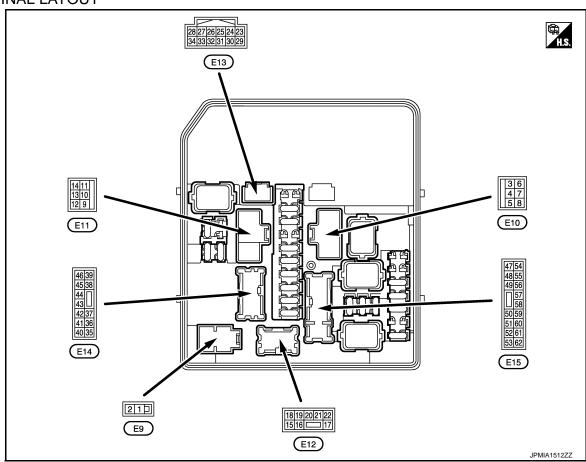
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< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

	al NO.	Description Signal name Input/ Output			Value
(Wire	color)			Condition	(Approx.)
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	Ground	Starter motor	Output	Ignition switch ON	0 V
(BR)	Ground	Starter motor	Output -	At engine cranking	Battery voltage
5	Ground	Cooling fan relay-1 power supply	Output -	Cooling fan OFF	0 V
(LG)	Giodila			Cooling fan operated	Battery voltage
6 (SB)	Ground	Ignition switch START	Output	Any position other ignition switch START	0 V
(SB)			-	Ignition switch START	Battery voltage
_		round Cooling fan relay-2 power supply	Output	Cooling fan OFF	0 V
7 (Y)	Ground			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

Termin	oolor)				Value	
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
			•	Cooling fan OFF		0 V
10	Ground	Cooling fan motor ground	Output	Cooling fa	n LO operated	5.0 V
(L)		ground		Cooling fa	n HI operated	0 V
13	Cround	Door window defeager	Output	Ignition	Rear window defogger switch OFF	0 V
(W)	Ground	Rear window defogger	Output	Output switch ON	Rear window defogger switch ON	Battery voltage
18	Ground	Ignition switch	Output	Ignition sw	vitch OFF	0 V
(Y)	Ground	ignition switch	Output	Ignition sw	vitch ON	Battery voltage
19 (B/W)	Ground	Ground	_	Ignition sw	vitch ON	0 V
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(**)				2ND	Front fog lamp switch ON	Battery voltage
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(*)				2ND	Front fog lamp switch ON	Battery voltage
24	Ground	Oil proscure quitab	Innut	Ignition switch	Engine stopped	0 V
(G)	Ground	Oil pressure switch	Input	ON	Engine running	Battery voltage
25				Ignition	Front wiper stop position	0 V
25 (Y)	Ground	Front wiper auto stop	Input	switch ON	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		mately 1 second after turn- gnition switch ON running	0 - 1.5 V
(**)					ately 1 second or more after e ignition switch ON	Battery voltage
				Ignition sw	vitch ON	Battery voltage
33 (O)	Ground	Power generation command signal		40 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE" 80 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 ■ 2ms JPMIA0002GB 3.8 V
						(V) 6 4 2 0 2 ms JPMIA0003GB 1.4 V

Terminal NO. (Wire color)		Description			O an aliata	Value
+		Signal name	Input/ Output		Condition	(Approx.)
34	Ground	Horn relay control	Output	The horn i	s deactivated	Battery voltage
(R)	Ciodila	Tion rolay control	Julpul	The horn i	s activated	0 V
36	Ground	Parking lamp (LH)	Output	Ignition switch	Lighting switch OFF	0 V
(O)	Ciodila	r anding lamp (EH)	Guipui	ON	Lighting switch 1ST	Battery voltage
37	0	Doubing Invest (DLI)	0	Ignition	Lighting switch OFF	0 V
(V)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage
38	0.00	Tail lamp (RH) & illumi-	0 1 1	Ignition	Lighting switch OFF	0 V
(G)	Ground	nations	Output	switch ON	Lighting switch 1ST	Battery voltage
39				Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
40					ritch OFF n a few seconds after turn- n switch OFF)	Battery voltage
40 (R)	Ground	ECM relay control	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	0 - 1.5 V
41		Tail lamp (LH) & license		Ignition	Lighting switch OFF	0 V
SB)	Ground	plate lamps	Output	switch ON Lighting switch 1ST		Battery voltage
43				Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
43 (G)	Ground	ECM relay power sup- ply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage
44		ECM relay power sup-			vitch OFF n a few seconds after turn- n switch OFF)	0 V
(P)	Ground	ply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage
45 (Y)	Ground	TCM power supply	Output	Ignition sw	vitch OFF	Battery voltage
46	0	Frank win and O	0	Ignition	Front wiper switch OFF	0 V
(O)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
		Transmission range		Select lever in any position other than P or N (Ignition switch ON)		0 V
47 (BR)	Ground	switch*1	Input	Select lever P or N (Ignition switch ON)		Battery voltage
		Clutch interlock		Release the clutch pedal		0 V
		switch*2	Input	Depress the clutch pedal		Battery voltage
40				Ignition	Lighting switch OFF	0 V
49 (W)	Ground	Headlamp HI (RH)	Output	switch ON Lighting switch HI Lighting switch PASS		Battery voltage

< ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description				Value
+	-	Signal name	Input/ Output	Condition		(Approx.)
50 (GR)		Headlamp HI (LH)	Output	Ignition	Lighting switch OFF	0 V
	Ground			switch ON	Lighting switch HI Lighting switch PASS	Battery voltage
51 (R)		Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
	Ground				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		ritch OFF n a few seconds after turn- n switch OFF)	0 V
				Ignition switch ON Ignition switch OFF (For a few seconds after turning ignition switch OFF)		Battery voltage
EE	Ground	Fuel pump power supply	Output	Approximately 1 second or more than after turning the ignition switch ON		0 V
55 (P)				 Approximately 1 second after turning the ignition switch ON Engine running 		Battery voltage
	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 V
56 (SB)					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	Ground	Ignition relay power	Output	Ignition switch OFF		0 V
(R)	Ground	supply	Output	Ignition switch ON		Battery voltage
59	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(Y)				Ignition switch ON		Battery voltage
60	Ground	Ignition relay power	Output	Ignition switch OFF		0 V
(V)		supply		Ignition switch ON		Battery voltage
61 (W)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(vv)				Ignition switch ON		Battery voltage
62	Ground	Ignition relay power	Output	Ignition switch OFF Ignition switch ON		0 V

^{*2:} CVT models

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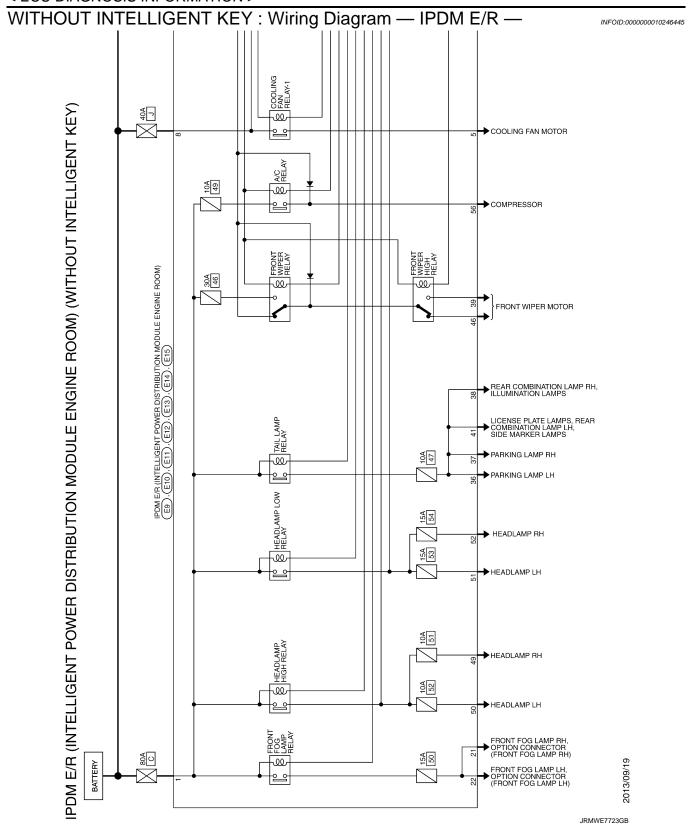
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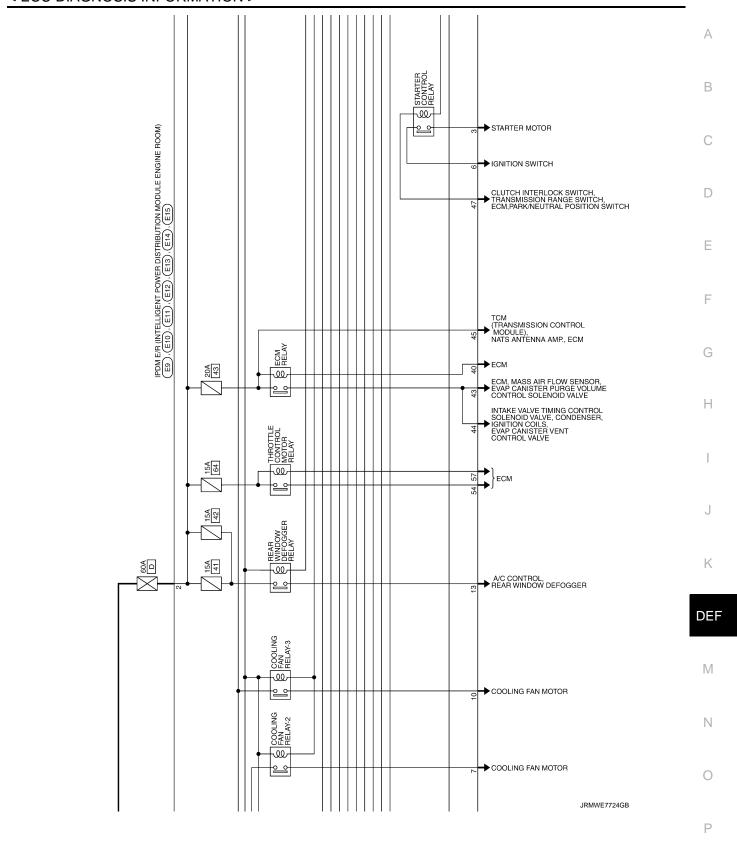
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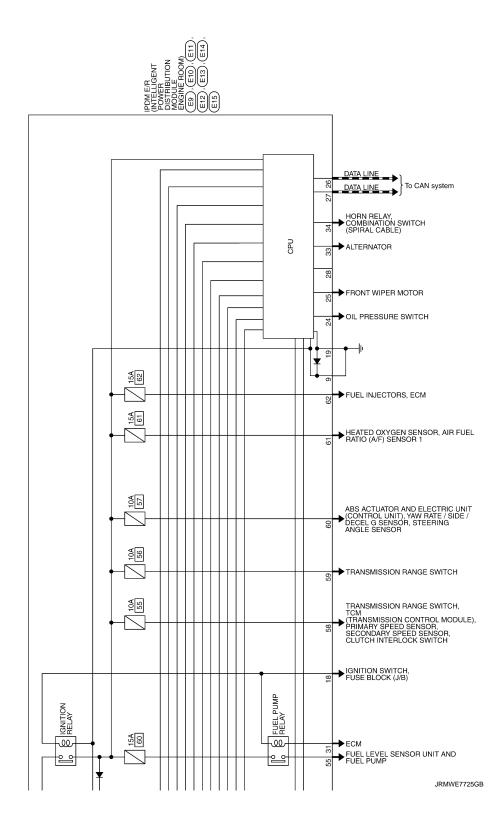
^{*3:} M/T models

< ECU DIAGNOSIS INFORMATION >

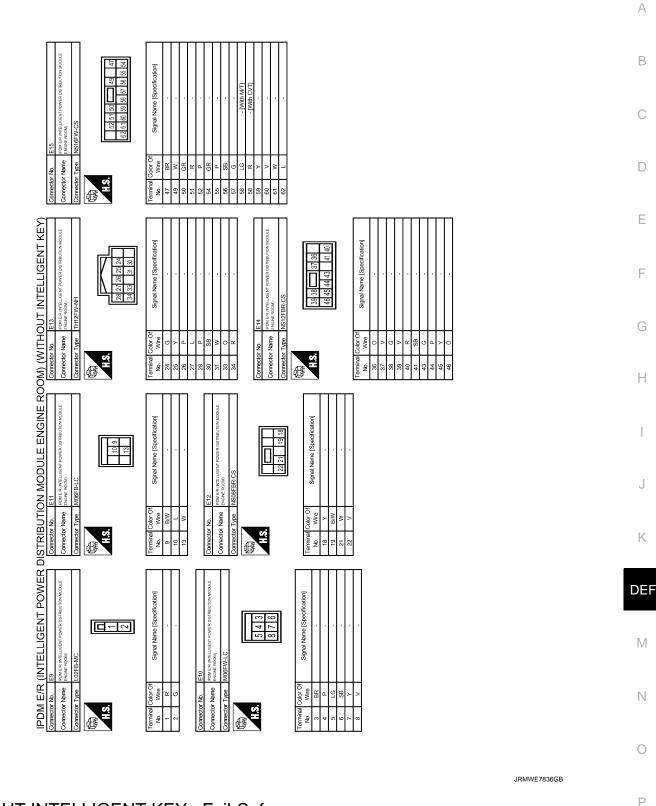


< ECU DIAGNOSIS INFORMATION >





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WITHOUT INTELLIGENT KEY: Fail-Safe

CAN COMMUNICATION CONTROL

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

INFOID:0000000010246446

If No CAN Communication Is Available With ECM

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< ECU DIAGNOSIS INFORMATION >

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 lampsSide marker lampsLicense plate lampsIlluminationsTail 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				
Ignition relay contact side	Ignition switch status from BCM	IPDM E/R judgment	Operation	
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.

< ECU DIAGNOSIS INFORMATION >

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.

WITHOUT INTELLIGENT KEY: DTC Index

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NOTE:

- The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.
- The number increases like 1 \rightarrow 2 \cdots 38 \rightarrow 39 after returning to the normal condition whenever IGN OFF \rightarrow 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

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REAR WINDOW DEFOGGER DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

REAR WINDOW DEFOGGER DOES NOT OPERATE

Description INFOID:0000000009945472

For models without door mirror defogger.

Diagnosis Procedure

INFOID:0000000009945473

${f 1}$.CHECK REAR WINDOW DEFOGGER SWITCH

Check rear window defogger switch.

- With auto A/C: Refer to <u>DEF-20</u>, "<u>WITH AUTO A/C</u>: <u>Component Function Check</u>".
 Without manual A/C: Refer to <u>DEF-21</u>, "<u>WITH MANUAL A/C</u>: <u>Component Function Check</u>".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK REAR WINDOW DEFOGGER RELAY

Check rear window defogger relay.

Refer to DEF-24, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK REAR WINDOW DEFOGGER

Check rear window defogger.

Refer to DEF-25, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

f 4.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

>> Check intermittent incident. Refer to GI-40, "Intermittent Incident". YES

NO >> GO TO 1.

REAR WINDOW DEFOGGER INDICATOR DOES NOT ILLUMINATE

< SYMPTOM DIAGNOSIS >

REAR WINDOW DEFOGGER INDICATOR DOES NOT ILLUMINATE Α Diagnosis Procedure INFOID:0000000009945484 1. CHECK REAR WINDOW DEFOGGER FEEDBACK SIGNAL В Check rear window defogger feedback signal. With auto A/C: Refer to DEF-27, "WITH AUTO A/C: Component Function Check". • With manual A/C: Refer to DEF-27, "WITH MANUAL A/C: Component Function Check". Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. D 2.CONFIRM THE OPERATION Confirm the operation again. Е Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident". NO >> GO TO 1. F Н K DEF M Ν

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PRECAUTION

PRECAUTIONS

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

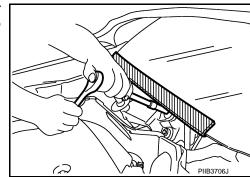
Always observe the following items for preventing accidental activation.

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

Precaution for Procedure without Cowl Top Cover

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



PRECAUTIONS

< PRECAUTION >

Precautions for Removing of Battery Terminal

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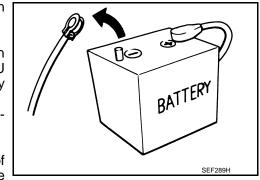
 When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

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.

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REMOVAL AND INSTALLATION

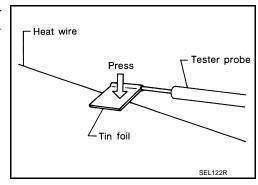
FILAMENT

Inspection and Repair

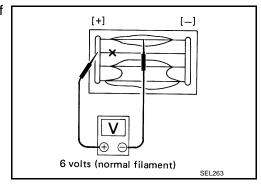
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INSPECTION

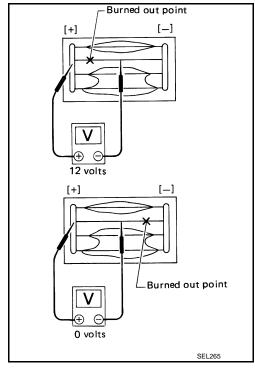
1. When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



2. Attach probe circuit tester (in Volt range) to middle portion of each filament.



- If a filament is burned out, circuit tester registers 0 or battery voltage.
- To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.



REPAIR

REPAIR EQUIPMENT

• Conductive silver composition (Dupont No. 4817 or equivalent)

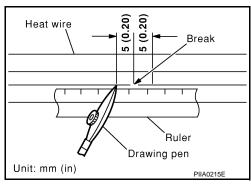
FILAMENT

< REMOVAL AND INSTALLATION >

- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

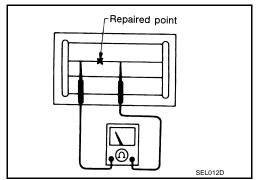
REPAIRING PROCEDURE

- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- 2. Apply a small amount of conductive silver composition to tip of drawing pen.
 - Shake silver composition container before use.
- Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



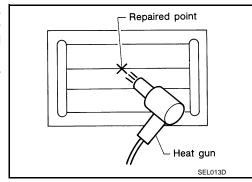
After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.



 Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.

If a heat gun is not available, let the repaired area dry for 24 hours.



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