# SECTION DEF DEFOGGER С

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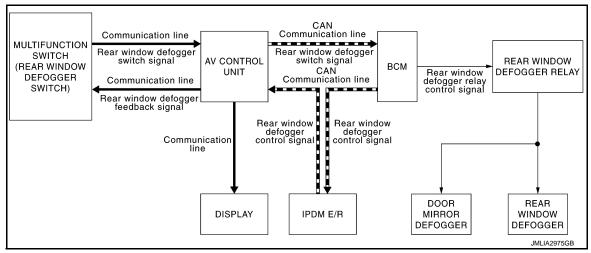
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DIAGNOSIS AND REFAIL WORKTLOW
< BASIC INSPECTION >
BASIC INSPECTION
DIAGNOSIS AND REPAIR WORK FLOW
Work Flow
DETAILED FLOW
1. OBTAIN INFORMATION ABOUT SYMPTOM
Interview the customer to obtain the malfunction information (conditions and environment when the malfunc- tion occurred) as much as possible when the customer brings the vehicle in.
>> GO TO 2.
2.CHECK DTC
Perform self diagnosis with CONSULT.
Is any DTC detected?
YES >> Refer to <u>BCS-84, "DTC Index"</u> . NO >> GO TO 3.
<b>3.</b> 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.
<b>4.</b> IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"
Use "Symptom diagnosis" from the symptom inspection result in step 3. Then identify where to start perform- ing the diagnosis based on possible causes and symptoms.
>> GO TO 5.
5. IDENTIFY MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"
Perform the diagnosis with "Component diagnosis" of the applicable system.
>> GO TO 6.
<b>O</b> .REPAIR OR REPLACE THE MALFUNCTIONING PARTS
Repair or replace the specified malfunctioning parts.
>> 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?
YES >> INSPECTION END NO >> GO TO 4.

# SYSTEM DESCRIPTION REAR WINDOW DEFOGGER SYSTEM

## System Diagram

INFOID:000000010991558



## System Description

INFOID:000000010991559

## OPERATION DESCRIPTION

- Turn rear window defogger switch ON while ignition switch is turned ON. Then multifunction switch (rear window defogger switch) transmits rear window defogger switch signal to AV control unit via AV communication. AV control unit transmits rear window defogger switch signal to BCM via CAN communication.
- BCM turns rear window defogger relay ON and transmits rear window defogger control signal to IPDM E/R via CAN communication when rear window defogger switch signal is received.
- Rear window defogger and door mirror defogger (with mirror defogger) are supplied with power and operate when rear window defogger relay turns ON.
- IPDM E/R transmits rear window defogger control signal to AV control unit via CAN communication.
- AV control unit transmits rear window defogger feedback signal to multifunction switch (rear window defogger switch) via AV communication.

#### TIMER FUNCTION

- BCM turns rear window defogger relay ON for approximately 15 minutes when rear window defogger switch is turned ON. It makes rear window defogger and door mirror defogger (with mirror defogger) operate.
- Timer is canceled after pressing rear window defogger switch again during timer operation. Then BCM turns
  rear window defogger relay OFF. The same reaction also occurs during timer operation, if the ignition switch
  is turned OFF.

## **Component Parts Location**

INFOID:000000010991560

## **REAR WINDOW DEFOGGER SYSTEM**

#### < SYSTEM DESCRIPTION >

	<b>(</b>	8	©	А
			3	В
				С
				D
	VOL meet			E
		6		F
				G
	<b>④</b>		JMLIA0003ZZ	Н
1.	Rear window defogger relay	2. BCM	3. IPDM E/R	
4.	Rear window defogger switch (built-in multifunction switch)	5. Rear window defogger connector	6. Condenser	
7.	AV control unit			
A.	Dash side lower (driver side)	B. Dash side lower (passenger side)	C. Engine room dash panel (RH)	J
D.	Behind rear pillar finisher (LH)	E. Behind cluster lid C		

# **Component Description**

> INFOID:000000010991561 Κ

BCM	<ul> <li>Operates the rear window defogger with the operation of rear window defogger switch</li> <li>Performs the timer control of rear window defogger</li> </ul>
Rear window defogger relay	Operates the rear window defogger and the door mirror defogger with BCM control
IPDM E/R	Transmits rear window defogger control signal to AV control unit via CAN communication
Multifunction switch (Rear window defogger switch)	<ul> <li>The rear window defogger switch is installed</li> <li>Turns the indicator lamp ON when detecting the operation of rear window defogger</li> </ul>
AV control unit	Displays the rear window defogger ON to the display when detecting the operation of rear win- dow defogger
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
Door mirror defogger*	Heats the heating wire with the power supply from the rear window defogger relay to prevent the door mirror from fogging up

\*: With mirror defogger

# DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000011401515

×: Applicable item

## 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	This function is not used even though it is displayed.

#### 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.

Sustam	Diagnosis mode			
System	Sub system selection item	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	×	×	×
	AIR CONDITONER*			
<ul><li>Intelligent Key system</li><li>Engine start system</li></ul>	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
IVIS - NATS	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk lid open	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

#### NOTE:

\*: This item is displayed, but is not used.

#### FREEZE FRAME DATA (FFD)

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

## DEF-6

## **DIAGNOSIS SYSTEM (BCM)**

#### < 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			r value) of the moment a particular DTC is detected		
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK"*)		
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)		
	LOCK>ACC		While turning power supply position from "LOCK"* to "ACC"		
	ACC>ON		While turning power supply position from "ACC" to "IGN"		
	RUN>ACC	Power position status of the moment a particular DTC is detected	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" (Emer- gency stop operation)		
	ACC>OFF		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	<ul> <li>The number of times that ignition switch is turned ON after DTC is detected</li> <li>The number is 0 when a malfunction is detected now.</li> <li>The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever ignition switch OFF → ON.</li> </ul>			

#### NOTE:

\*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position (A/T 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 supply 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)**

#### < 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
REAR DEF SW	This is displayed even when it is not equipped.
PUSH SW	Indicates [ON/OFF] condition of push switch.

#### ACTIVE TEST

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

## **REAR WINDOW DEFOGGER SWITCH**

< DTC/CIRCUIT DIAGNOSIS >	-
DTC/CIRCUIT DIAGNOSIS	А
REAR WINDOW DEFOGGER SWITCH	
Description	4 B
<ul> <li>The rear window defogger is operated by turning the rear window defogger switch ON.</li> <li>The indicator lamp in the rear window defogger illuminates when the rear window defogger is operating.</li> </ul>	С
Component Function Check	5
1. CHECK REAR WINDOW DEFOGGER SWITCH FUNCTION	D
Check that the indicator lamp of rear window defogger illuminates when rear window defogger switch ON. Is the inspection result normal? YES >> Rear window defogger switch function is OK.	E
NO >> Refer to <u>DEF-9, "Diagnosis Procedure"</u> .	
Diagnosis Procedure	6 F
1.CHECK MULTIFUNCTION SWITCH (REAR WINDOW DEFOGGER SWITCH)	_
<ul> <li>Does multifunction switch operate normally?</li> <li>Base audio with rear view camera. Refer to <u>AV-16, "On Board Diagnosis Function"</u>.</li> <li>BOSE audio with navigation. Refer to <u>AV-138, "On Board Diagnosis Function"</u>.</li> <li><u>Is the inspection result normal?</u></li> </ul>	G
YES >> INSPECTION END NO >> Replace multifunction switch (rear window defogger switch).	Н
	J
	K
	DE
	M
	Ν
	0
	Ρ

### **REAR WINDOW DEFOGGER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

## REAR WINDOW DEFOGGER RELAY

## Description

Power is supplied to the rear window defogger with BCM control.

#### **Component Function Check**

1. CHECK REAR WINDOW DEFOGGER RELAY POWER SUPPLY CIRCUIT

1. Perform Active Test ("REAR DEFOGGER") with 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 power supply circuit is OK.
- NO >> Refer to <u>DEF-10, "Diagnosis Procedure"</u>.

## **Diagnosis Procedure**

INFOID:000000010991569

INFOID:000000010991567

INFOID:000000010991568

## **1.**CHECK FUSE

- 1. Turn ignition switch off.
- 2. Check the following.
- 10A fuse [No.3, located in fuse block (J/B)]

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 REAR WINDOW DEFOGGER CIRCUIT 1

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

	(+) BCM				Condition		Voltage (V) (Approx.)	
Connector	Terminal							
M123	151	Ground	Rear window defogger	ON	0			
101123	151	Ground	switch	OFF	Battery voltage			

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 3.

## **3.**CHECK REAR WINDOW DEFOGGER CIRCUIT 2

1. Turn ignition switch OFF.

2. Disconnect BCM connector and rear window defogger relay.

3. Check continuity between BCM harness connector and fuse block (J/B) harness connector.

В	СМ	Fuse bl	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M123	151	M2	4B	Existed	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

**4.**CHECK REAR WINDOW DEFOGGER RELAY

Check rear window defogger relay. Refer to <u>DEF-11</u>, "Component Inspection". Is the inspection result normal?

# REAR WINDOW DEFOGGER RELAY

	REAR W T DIAGNOSIS >		GER RELA	Y	
YES >> GO	TO 5.				
	lace rear window defogg	er relay.			A
5.CHECK FUS	E BLOCK (J/B)				
2. Turn ignition	ear window defogger rela n switch ON. ge between fuse block (J	-	and ground.		E
	(+)				(
	Fuse block (J/B)		(—)	Voltage (Appr	
		minal			
N Is the inspection		4B	Ground	Battery v	oltage
6.CHECK INT	air or replace fuse block	(J/B).			F
	nt incident. <u>'Intermittent Incident"</u> . PECTION END				C
Component					INFOID:000000010991570
<b>1.</b> CHECK REA	R WINDOW DEFOGGEI	R RELAY			ŀ
2. Disconnect	n switch OFF. rear window defogger rel window defogger relay.	ay.			I
Terminal Rear window defogger rela	Condit	ion Co	ntinuity		
3	12 V direct current supp nals 1 and 2. No current supply	E	kisted existed		
Is the inspection	result normal?		0		
	PECTION END lace rear window defogg	er relay.		0	SEF497Y
					TA IN
					Ν

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#### < DTC/CIRCUIT DIAGNOSIS >

## REAR WINDOW DEFOGGER

## Description

Heats the heating wire with the power supply from the rear window defogger relay to prevent the rear window from fogging up.

## **Component Function Check**

## 1.CHECK REAR WINDOW DEFOGGER

1. Perform Active Test ("REAR DEFOGGER") with CONSULT.

2. Touch "ON".

3. Check that the rear window heating wire is getting warmer.

Is the inspection result normal?

YES >> Rear window defogger is OK.

NO >> Refer to <u>DEF-12</u>, "Diagnosis Procedure".

#### Diagnosis Procedure

## **1.**CHECK FUSE

1. Turn ignition switch OFF.

2. Check the following.

- 20A fuse [No.14, located in fuse block (J/B)]

- 20A fuse [No.15, located in fuse block (J/B)]

#### 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 POWER SUPPLY CIRCUIT

#### 1. Turn ignition switch ON.

2. Check voltage between rear window defogger connector and ground.

(+) Rear window defogger				Condition	
Connector	Terminal				(Approx.)
B401	1	Ground	Rear window defogger	ON	Battery voltage
B401	I	Ground	switch	OFF	0

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

# 3. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear window defogger connector.

3. Check continuity between rear window defogger harness connector and ground.

Rear windo	w defogger		Continuity
Connector	Connector Terminal		Continuity
B402	2		Existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

**4.**CHECK REAR WINDOW DEFOGGER CIRCUIT 1

INFOID:000000010991571

INFOID:000000010991572

INFOID:000000010991573

## **REAR WINDOW DEFOGGER**

#### < DTC/CIRCUIT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- 2. Disconnect condenser connector and rear window defogger connector.

3. Check continuity between condenser (condenser side) and rear window defogger harness connector.

C	ondenser			Rear windo	w defogger		Continuity
Connector		Terminal	Cor	inector	Ter	minal	Continuity
B26		1	В	401		1	Existed
Check continuity	<sup>,</sup> betweer	n condenser	(condenser	side) conne	ctor and g	round.	
	Conde						Continuity
Connector		-	ninal	Ground			-
B26							Not existed
he inspection res ES >> GO TO O >> Replace CHECK REAR W Disconnect fuse Check continuity	5. condens INDOW block (J/	ser. Refer to DEFOGGER (B) connecto	CIRCUIT 2				
	e block (J/B			Conde			
Connector		Terminal	Cor	inector		minal	Continuity
		10G					
			E	B26 1		Existed	
B6 Check continuity	v betweer	11G n fuse block		s connector	and grou	nd.	
Check continuity	v betweer Fuse blo	n fuse block ck (J/B)	(J/B) harnes	s connector	and grou	nd.	Continuity
		n fuse block ck (J/B) Terr	(J/B) harnes	_	and grou	nd.	Continuity
Check continuity Connector B6	Fuse blo	n fuse block ck (J/B) Terr 1( 1	(J/B) harnes	_		nd.	Continuity Not existed
Check continuity Connector B6 he inspection res ES >> GO TO O >> Repair of CHECK FUSE BI Turn ignition swi Check voltage b	Fuse blo ult norma 5. r replace OCK (J/I tch ON. etween fi	n fuse block ck (J/B) Terr 1( 1 <sup>-</sup> 1 <sup>-</sup> 2 harness. B)	(J/B) harnes	- (	Ground	nd.	-
Check continuity Connector B6 he inspection res ES >> GO TO D >> Repair of CHECK FUSE BI Turn ignition swi Check voltage b	Fuse blo JIt norma 5. r replace OCK (J/I tch ON. etween fr	n fuse block ck (J/B) Terr 1( 1 <sup>-</sup> 1 <sup>-</sup> 2 harness. B)	(J/B) harnes ninal )G G B) (fuse bloc	- (	Ground		Not existed
Check continuity Connector B6 ne inspection res ES >> GO TO D >> Repair of CHECK FUSE BI Turn ignition swi Check voltage b	Fuse blo ult norma 5. oCK (J/l tch ON. etween fi bock (J/B)	n fuse block ck (J/B) Terr 1( 1 <sup>-</sup> 1 <sup>-</sup> 2 harness. B)	(J/B) harnes	- (	Ground		Not existed
Check continuity Connector B6 <u>ne inspection res</u> ES >> GO TO D >> Repair of CHECK FUSE BI Turn ignition swi Check voltage b ( Fuse bio	Fuse blo JIt norma 5. rr replace OCK (J/I tch ON. etween fu tch ON. etween fu bock (J/B) Term	n fuse block ck (J/B) Terr 1( 1 <sup>2</sup> a harness. B) use block (J/ ninal	(J/B) harnes ninal )G G B) (fuse bloc	- (	Ground		Not existed
Check continuity Connector B6 he inspection res ES >> GO TO D >> Repair of CHECK FUSE BI Turn ignition swi Check voltage b ( Fuse blo Connector	Fuse blo JIt norma 5. rr replace OCK (J/I tch ON. etween fu tch ON. etween fu bock (J/B) Term	n fuse block ck (J/B) Terr 10 11 12 e harness. B) use block (J/	(J/B) harnes	- (	Ground ground. Conditio	n	Not existed Voltage (V) (Approx.)
Check continuity Connector B6 he inspection res ES >> GO TO D >> Repair of CHECK FUSE BI Turn ignition swi Check voltage b ( Fuse bio	Fuse blo	n fuse block ck (J/B) Terr 1( 1 <sup>2</sup> a harness. B) use block (J/ ninal	(J/B) harnes ninal )G G B) (fuse bloc	ck side) and	Ground ground. Conditio	n ON	Not existed Voltage (V) (Approx.) Battery voltage

Check filament. Refer to <u>DEF-14</u>, "Component Inspection". <u>Is the inspection result normal?</u> А

## **REAR WINDOW DEFOGGER**

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 8. NO >> Repair filament.

8. CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

Component Inspection

**1.**CHECK FILAMENT

Check the filament for damage or blown. Refer to <u>DEF-78</u>, "Inspection and Repair". Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair filament.

INFOID:000000010991574

## DOOR MIRROR DEFOGGER

< DTC/CIRCUIT DIAG		२			
Description					INFOID:000000010991575
Power is supplied to the	ne door mirror defog	ger with BCN	A control.		
Component Func	tion Check				INFOID:000000010991576
1.CHECK DOOR MIR	ROR DEFOGGER				
	est ("REAR DEFOG	GER") with C	ONSULT.		
<ol> <li>Touch "ON".</li> <li>Check that both si</li> </ol>	ide door mirror glas	s is getting w	armer.		
Is the inspection result	•	0 0			
	or defogger is OK. DEF-15, "Diagnosis	Procedure".			
Diagnosis Proced	dure				INFOID:000000010991577
1.CHECK FUSE					
1. Turn ignition switc					
	No.13, located in fus	se block (J/B)	)].		
Is the inspection result					
YES >> GO TO 2. NO >> Replace the second sec		repairing the	affected circuit if a fu	ise is blown	
2. CHECK POWER S		repairing the			
2. Turn ignition switc			arness connector and	d ground.	
(+)					
Door mirror (d	river side)	()	Conditio	n	Voltage (V) (Approx.)
Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
D3	4	Ground	Rear window defogger	ON	Battery voltage
			switch	OFF	0
Is the inspection result	<u>t normal ?</u>				
<ol> <li>Turn ignition switc</li> <li>Disconnect fuse b</li> </ol>	IDE DOOR MIRRO h OFF.	r.		or mirror (driv	ver side) harness con-
NO >> GO TO 3. 3.CHECK DRIVER S 1. Turn ignition switc 2. Disconnect fuse b 3. Check continuity b nector.	DE DOOR MIRRO ch OFF. block (J/B) connecto between fuse block	r.	s connector and doc		
NO >> GO TO 3. 3.CHECK DRIVER S 1. Turn ignition switc 2. Disconnect fuse b 3. Check continuity b nector.	IDE DOOR MIRRO h OFF.	r. (J/B) harnes	s connector and doc		

4. Check continuity between fuse block (J/B) harness connector and ground.

Fuse blo	ock (J/B)		Continuity	
Connector	Terminal	Ground	Continuity	
M3	10C		Not existed	

Is the inspection result normal?

## DOOR MIRROR DEFOGGER

< DTC/CIRCUIT DIAGNOSIS >

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

**4.**CHECK FUSE BLOCK (J/B)

## 1. Turn ignition switch ON.

2. Check voltage between fuse block (J/B) (fuse block side) and ground.

(+) Fuse block (J/B)		()	Condition	Condition	
Connector	Terminal				(Approx.)
M3	10C	Ground	Rear window defogger	ON	Battery voltage
IVIS	100	Ground	switch	OFF	0

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace fuse block (J/B).

5. CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.

>> INSPECTION END

## DRIVER SIDE DOOR MIRROR DEFOGGER

< DTC/CIRCUIT DIAGNOSIS >	
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## DRIVER SIDE DOOR MIRROR DEFOGGER

## Description

Heats the heating wire with the power supply from the rear window defogger relay to prevent the door mirror В from fogging up.

#### Component Function Check

## 1.CHECK DRIVER SIDE DOOR MIRROR DEFOGGER

Perform Active Test ("REAR DEFOGGER") with CONSULT. 1.

2. Touch "ON".

Check that the driver side door mirror glass is getting warmer. 3.

Is the inspection result normal?

- YES >> Driver side door mirror defogger is OK.
- NO >> Refer to DEF-17, "Diagnosis Procedure".

#### Diagnosis Procedure

## 1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect door mirror (driver side) connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between door mirror (driver side) harness connector and ground.

_		+) (driver side)	(-)	Conditior	ı	Voltage (V) (Approx.)	1
	Connector	Terminal					I
_	D3	4	Ground	Rear window defogger	ON	Battery voltage	
	D3	4	Glound	switch	OFF	0	J

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2. CHECK DRIVER SIDE DOOR MIRROR DEFOGGER CIRCUIT

1. Turn ignition switch OFF.

DEF Check continuity between fuse block (J/B) harness connector and door mirror (driver side) harness con-2. nector.

M	Continuity	(driver side)	Door mirror	ock (J/B)	Fuse bl
	Continuity	Terminal	Connector	Terminal	Connector
N	Existed	4	D3	10C	M3

Check continuity between fuse block (J/B) harness connector and ground. 3.

Fuse blo	ock (J/B)		Continuity	0
Connector	Terminal	Ground	Continuity	
M3	10C		Not existed	_

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

Check continuity between door mirror (driver side) harness connector and ground. 2.

## **DEF-17**

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INFOID:000000010991580

## DRIVER SIDE DOOR MIRROR DEFOGGER

#### < DTC/CIRCUIT DIAGNOSIS >

Door mirror	(driver side)		Continuity
Connector	Terminal	Ground	Continuity
D3	8		Existed

Is the inspection result normal?

YES >> Replace door mirror glass (driver side). Refer to <u>MIR-20, "GLASS MIRROR : Disassembly and</u> <u>Assembly"</u>.

NO >> Repair or replace harness.

4. CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to GI-41, "Intermittent Incident".

Is the inspection result normal?

>> INSPECTION END

## PASSENGER SIDE DOOR MIRROR DEFOGGER

#### < DTC/CIRCUIT DIAGNOSIS > PASSENGER SIDE DOOR MIRROR DEFOGGER

## Description

Heats the heating wire with the power supply from the rear window defogger relay to prevent the door mirror В from fogging up.

#### Component Function Check

## 1.CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER

Perform Active Test ("REAR DEFOGGER") with CONSULT. 1.

2. Touch "ON".

Check that the passenger side door mirror glass is getting warmer. 3.

Is the inspection result normal?

- YES >> Passenger side door mirror defogger is OK.
- NO >> Refer to DEF-19, "Diagnosis Procedure".

#### Diagnosis Procedure

#### 1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

Disconnect door mirror (passenger side) connector. 2.

- 3. Turn ignition switch ON.
- 4. Check voltage between door mirror (passenger side) harness connector and ground.

_		+) bassenger side)	()	Condition		Voltage (V) (Approx.)	
	Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	I
	D33	4	Ground	Rear window defogger	ON	Battery voltage	
	033	4	Ground	switch	OFF	0	J

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2. CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER CIRCUIT

1. Turn ignition switch OFF.

DEF Check continuity between fuse block (J/B) harness connector and door mirror (passenger side) harness 2. connector.

M	Continuity	assenger side)	Door mirror (p	ock (J/B)	Fuse bl
	Continuity	Terminal	Connector	Terminal	Connector
N	Existed	4	D33	9C	M3

Check continuity between fuse block (J/B) harness connector and ground. 3.

 Fuse bl	ock (J/B)		Continuity	0
 Connector	Terminal	Ground	Continuity	
 M3	9C		Not existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

Check continuity between door mirror (passenger side) harness connector and ground. 2.

## **DEF-19**

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INFOID:000000010991582

INFOID:000000010991583

## PASSENGER SIDE DOOR MIRROR DEFOGGER

#### < DTC/CIRCUIT DIAGNOSIS >

Door mirror (p	assenger side)		Continuity
Connector	Terminal	Ground	Continuity
D33	8		Existed

Is the inspection result normal?

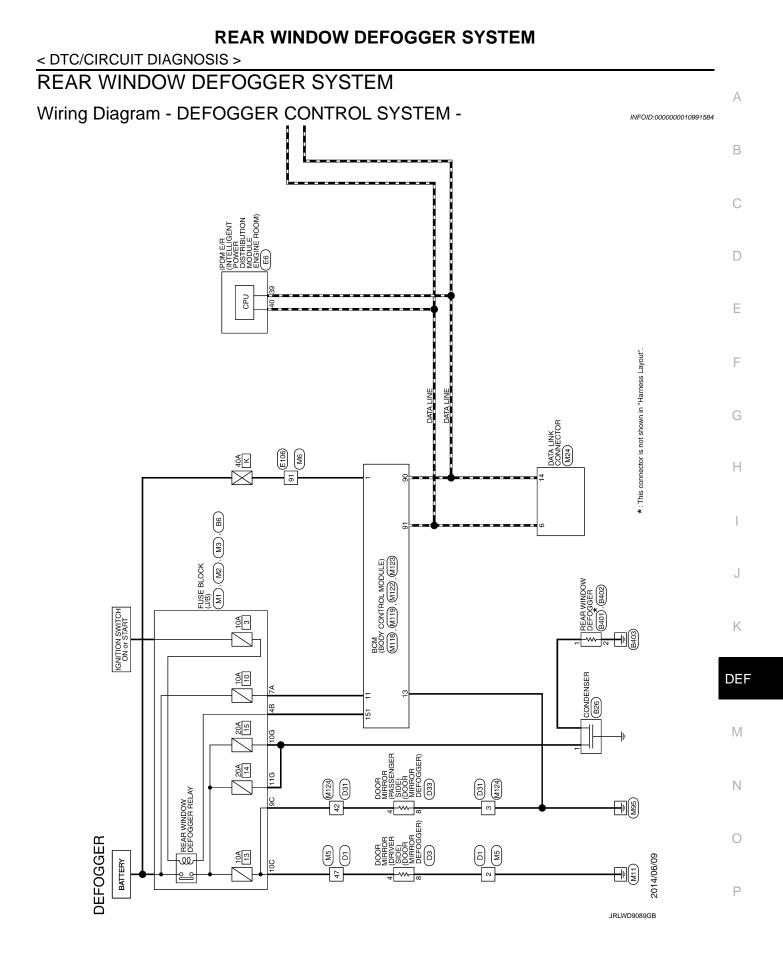
>> Replace door mirror glass (passenger side). Refer to MIR-20, "GLASS MIRROR : Disassembly YES and Assembly". >> Repair or replace harness.

NO

**4.**CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to GI-41, "Intermittent Incident".

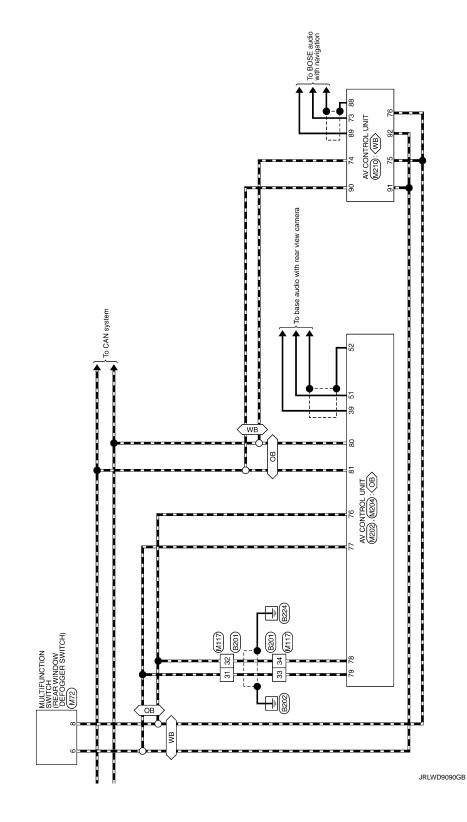
>> INSPECTION END



## **REAR WINDOW DEFOGGER SYSTEM**

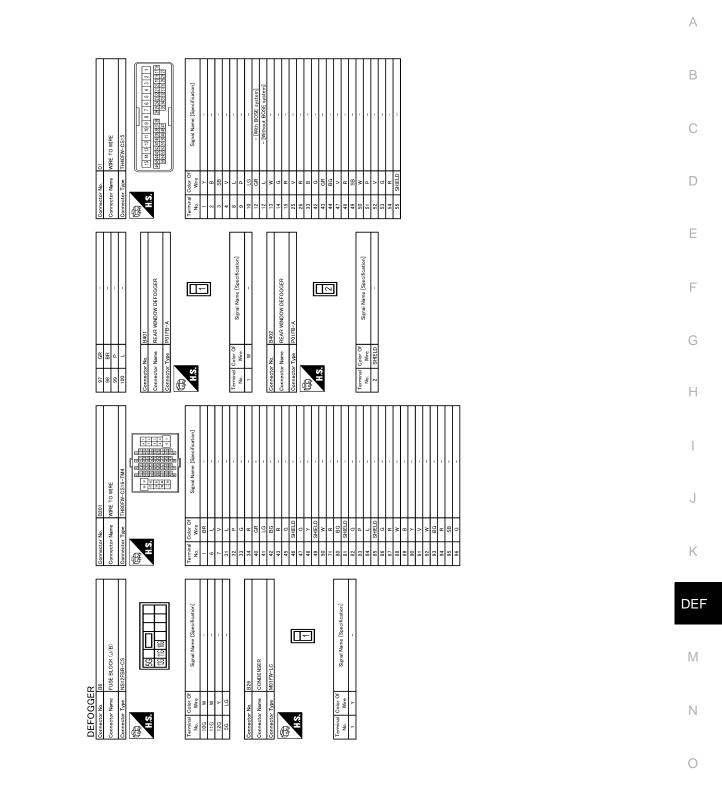
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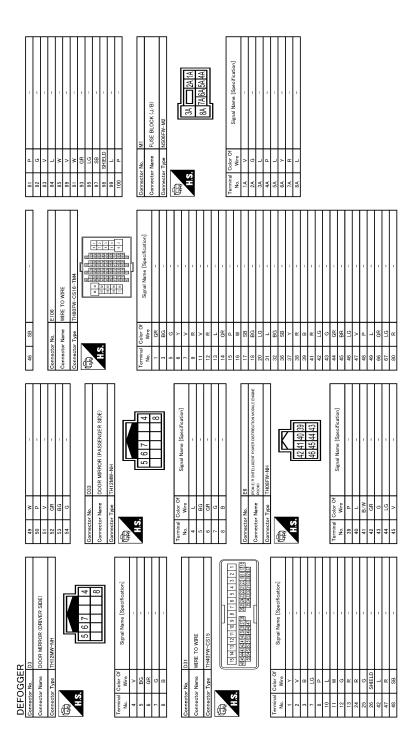
## REAR WINDOW DEFOGGER SYSTEM

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## **REAR WINDOW DEFOGGER SYSTEM**

#### < DTC/CIRCUIT DIAGNOSIS >

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84         L           89         GR           89         CR           89         LG           99         Shift.D           99         Shift.D           90         Shift.D           90         Shift.D           91         K           92         Shift.D           93         Shift.D           93         Shift.D           93         Shift.D           93         Shift.D           93         Shift.D           93         Shift.D           9         C           11         Shift.D           11         Shift.D           11         Shift.D           11         Shift.D	D
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	J
Commetity No.         Commetity No.           Connector Number         Connector Number           Connector Number         Tommetity No.           Tommetity No.         Tommetity No.	K
Ock (J, B)     Ock (J, B)       Ock (J, B)     Signal Name [Saveritation]       Signal Name [Saveritation]     -	DEF
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DEFOGGER       Connector Num     M2       Connector Num     M2       Connector Num     Nsi       Na     Na       Na     Na       Na        Na </td <td>Ν</td>	Ν
	<u>_</u>

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79 BR ROOM ANT 1+	GR		82 SB IGN RELAY (F/B) CONT	Y KEYLE	~	BG	90 P CAN-L	91 L CAN-H	92 LG KEY SLOT ILL CONT	93 GR ON IND	95 BG ACC RELAY CONT	GR A/T SHIFT SELI	æ	, ≻	101 P DRIVER DOOR REQUEST SW	102 BG BLOWER FAN MOTOR RELAY CONT	P KEYLESS EN	ΓC	ж	w CO	110 G HAZARD SW		0000 The second s		Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FG-NH	d		HS	12	140 140 140 140 140 140 141		Terminal Color Of		113 BG OPTICAL SENSOR	116 SB STOP LAMP SW 1	 119 SB DR DOOR UNLOCK SENSOR	121 SB KEY SLOT SW	123 V IGN F/B	124 R PASSENGER DOOR SW	129 BG TRUNK LID OPENER CANCEL SW	132 V POWER WINDOW SW COMM	L PUSH-BUTTON	ΓC	137 BG RECEIVER / SENSOR GND
Connector No. M119		Connector Name BCM (BODY CONTROL MODULE)	Connector Type NS16FW-CS	1				111 113 114 15 17 18 19				nal C	No. Wire	-	5 P PASSENGER DOOR UNLOCK OUTPUT	7 SB STEP LAMP CONT	8 V ALL DOOR, FUEL LID LOCK OUTPUT	G DRIVE	P REAR DC		œ	W PUSH-BUTTO	15 BG ACCIND 17 W THEN CLAND DU (FEDANT)	PC TUDN SIGNAL KR (FRONT)	V INT ROOM LAMP CONT	]		Connector No. M122	Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FB-NH	1		HS	91 90 88 87 83 82 81 80 77 76 75 74 73 72 			Terminal Color Of Simol Name [Secondination]	No. Wire Organization	72 R ROOM ANT 2-	73 G ROOM ANT 2+	74 SB PASSENGER DOOR ANT-	75 BR PASSENGER DOOR ANT+	>	LG DR	78 Y ROOM ANT 1-
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< DTC/CIRCUIT DIAGNOSIS >

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# **REAR WINDOW DEFOGGER SYSTEM** < DTC/CIRCUIT DIAGNOSIS >

Revision: 2014 June

# ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

#### **Reference Value**

INFOID:000000011401516

#### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

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

#### CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
FR WIFER LOW	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT/AUTO	Off
	Front wiper switch INT/AUTO	On
FR WIPER STOP	Front wiper is not in STOP position	Off
FR WIPER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper volume dial is in a dial position 1 - 7	Wiper volume dial posi tion
TURN SIGNAL R	Other than turn signal switch RH	Off
TURIN SIGINAL R	Turn signal switch RH	On
	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
	Other than lighting switch HI	Off
HI BEAM SW	Lighting switch HI	On
	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
HEAD LAIVIP SVV 2	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
RR FOG SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
DOON SW-AS	Passenger door opened	On

Monitor Item	Condition	Value/Status						
DOOR SW-RR	Rear RH door closed	Off						
DOOK SW-KK	Rear LH door opened	On						
DOOR SW-RL	Rear LH door closed	Off						
DOOK SWIKE	Rear LH door opened	On						
DOOR SW-BK	item is indicated, but not monitored.							
	Other than power door lock switch LOCK	Off						
CDL LOCK SW	Power door lock switch LOCK	On						
	Rear RH door closed         Rear LH door opened         Rear LH door closed         Rear LH door opened         NOTE:         The item is indicated, but not monitored.         Other than power door lock switch LOCK         Power door lock switch LOCK         Other than power door lock switch UNLOCK         Power door lock switch UNLOCK         Other than driver door key cylinder LOCK         NOTE:         The item is indicated, but not monitored.         Hazard switch is OFF         Hazard switch is OFF         Hazard switch of OFF         Trunk lid opener cancel switch OFF         Trunk lid opener switch OFF         While the trunk lid opener switch OFF         Trunk lid opener switch OFF         Trunk lid opened         NOTE:         The item is indicated, but not monitored.         LOCK button of the Intelligent Key is not pressed         LOCK button of the Intelligent Key is not pressed         UNLOCK button of the Intelligent Key is not pressed         UNLOCK button of the Intelligent Key is not pressed         PANIC button of the Intel	Off						
CDL UNLOCK SW	Power door lock switch UNLOCK	On						
	Other than driver door key cylinder LOCK	Off						
KEY CYL LK-SW	Driver door key cylinder LOCK	On						
	Other than driver door key cylinder UNLOCK	Off						
KEY CYL UN-SW	Driver door key cylinder LOCK	On						
EY CYL SW-TR	NOTE:	Off						
		Off						
HAZARD SW		On						
REAR DEF SW		Off						
	Trunk lid opener cancel switch OFF	Off						
FR CANCEL SW	Trunk lid opener cancel switch ON	On						
	Trunk lid opener switch OFF	Off						
R/BD OPEN SW	While the trunk lid opener switch is turned ON	On						
	Trunk lid closed	Off						
RNK/HAT MNTR	Trunk lid opened	On						
REVERSE SW		Off						
	LOCK button of the Intelligent Key is not pressed	Off						
RKE-LOCK	LOCK button of the Intelligent Key is pressed	On						
	UNLOCK button of the Intelligent Key is not pressed	Off						
RKE-UNLOCK	UNLOCK button of the Intelligent Key is pressed	On						
	TRUNK OPEN button of the Intelligent Key is not pressed	Off						
RKE-TR/BD	TRUNK OPEN button of the Intelligent Key is pressed	On						
	PANIC button of the Intelligent Key is not pressed	Off						
RKE-PANIC	PANIC button of the Intelligent Key is pressed	On						
		Off						
RKE-P/W OPEN	UNLOCK button of the Intelligent Key is pressed and held	On						
KE-MODE CHG		Off						
	LOCK/UNLOCK button of the Intelligent Key is pressed and held simultaneously	On						
		Close to 5 V						
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0 V						
	Driver door request switch is not pressed	Off						
REQ SW -DR	Driver door request switch is pressed	On						

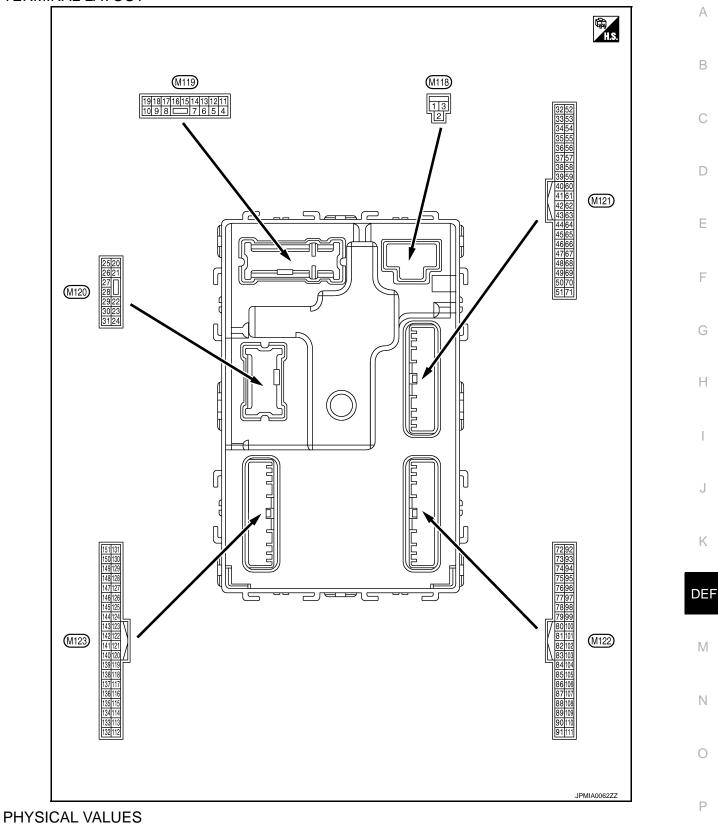
Monitor Item	Condition	Value/Status
REQ SW -AS	Passenger door request switch is not pressed	Off
	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Trunk lid opener request switch is not pressed	Off
	Trunk lid opener request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	NOTE: The item is indicated, but not monitored.	Off
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW 1	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is nor- mal	On
BRAKE SW 2	The brake pedal is not depressed	Off
	The brake pedal is depressed	On
DETE/CANCL SW	Selector lever in P position	Off
	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
S/L -LOCK	<b>NOTE:</b> The item is indicated, but not monitored.	Off
S/L -UNLOCK	<b>NOTE:</b> The item is indicated, but not monitored.	Off
S/L RELAY-F/B	NOTE: The item is indicated, but not monitored.	Off
UNLK SEN -DR	Driver door is unlocked	Off
	Driver door is locked	On
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off
	Push-button ignition switch (push-switch) is pressed	On
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
DETE SW -IPDM	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT PN -IPDM	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
SFT P -MET	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
	Selector lever in N position	On

Monitor Item	Condition	Value/Status
	Engine stopped	Stop
ENGINE STATE	While the engine stalls	Stall
	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-REQ	<b>NOTE:</b> 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 (60 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (60 seconds)	READY
	Passenger door is unlocked	UNLOCK
D OK FLAG	Driver side door is open after ignition switch is turned OFF (Shift position is in the P position)	Reset
	Ignition switch ON	Set
	The engine start is prohibited	Reset
PRMT ENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
	The Intelligent Key is not inserted into key slot	Off
KEY SW -SLOT	The Intelligent Key is inserted into key slot	On
RKE OPE COUN1	During the operation of the Intelligent Key	Operation frequency of the Intelligent Key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID reg- istered to BCM.	Yet
	The key ID that the key slot receives is recognized by the second key ID regis- tered to BCM.	Done

Monitor Item	Condition	Value/Status
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID regis- tered to BCM.	Yet
	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done
TP 4	The ID of fourth Intelligent Key is not registered to BCM	Yet
184	The ID of fourth Intelligent Key is registered to BCM	Done
TD 2	The ID of third Intelligent Key is not registered to BCM	Yet
TP 3	The ID of third Intelligent Key is registered to BCM	Done
TP 2	The ID of second Intelligent Key is not registered to BCM	Yet
TP 2	The ID of second Intelligent Key is registered to BCM	Done
TP 1	The ID of first Intelligent Key is not registered to BCM	Yet
IPI	The ID of first Intelligent 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 REGST FET	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
ID REGST FRT	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
ID REGOT KRT	ID of rear RH tire transmitter is not registered	Yet
	ID of rear LH tire transmitter is registered	Done
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet
	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

< ECU DIAGNOSIS INFORMATION >

**TERMINAL LAYOUT** 



Terminal No. (Wire color)		Description				Value
(vvire +		Signal name	Input/ Output	Condition		(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch (	DFF	12 V
3 (BG)	Ground	P/W power supply (RAP)	Output	Ignition switch (	NC	12 V
					mp battery saver is activated. or room lamp power supply)	0 V
4 (LG)	Ground	Interior room lamp power supply	Output	vated.	mp battery saver is not acti- erior room lamp power sup-	12 V
5	Ground	Passenger door UN-	Output	Passenger	UNLOCK (Actuator is activated)	12 V
(P)	Ground	LOCK	Output	door	Other than UNLOCK) Ac- tuator is not activated	0 V
7	Ground	Step lamp	Output	Step lamp	ON	0 V
(SB)	Ground		Output	Step lamp	OFF	12 V
8	Ground	All doors, fuel lid LOCK	Output	All doors, fuel lid	LOCK (Actuator is activated)	12 V
(V)	Ground				Other than LOCK (Actuator is not activated)	0 V
9	Ground	Driver door, fuel lid	Output	Driver door,	UNLOCK (Actuator is activated)	12 V
(G)	(G) Ground UNLOCK C	Output	fuel lid	Other than UNLOCK (Actuator is not activated)	0 V	
10	Ground	Rear RH door and rear LH door UN-	Output	Rear RH door and rear LH	UNLOCK (Actuator is activated)	12 V
(P)	Ground	LOCK	Output	door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch (	DFF	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch (	NC	0 V
					OFF	0 V
14	Ground	Push-button ignition Ground switch illumination ( ground	Output	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position.
(W)						10 0 2 ms JSNIA0010GB
15 (BG)	Ground	ACC indicator lamp	Output	Ignition switch	OFF (LOCK indicator is not illuminated)	Battery voltage
(DG)					ACC	0 V

Terminal No. (Wire color)		Description				Value	
(Wire +	color)	Signal name	Input/ Output	Condition		(Approx.)	
					Turn signal switch OFF	0 V	
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
					Turn signal switch OFF	0 V	
18 (BG)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 50 1 s 1 s 1 s 1 s 1 s 1 s 1 s 1 s	
19		Interior room lamp		Interior room	OFF	12 V	
(V)	Ground	control	Output	lamp	ON	0 V	
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch OFF		
23 (LG)	Ground	Trunk lid open	Output	Trunk lid	OPEN (Trunk lid opener actuator is activated) Other than OPEN (Trunk lid opener actuator	6.5 V 12 V 0 V	
					is not activated)		
					Turn signal switch OFF	0 V	
25 (Y)	Ground	Turn signal LH (Rear)	Output	lgnition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
30		<b>-</b>		Trunk room	ON	0 V	
(P)	Ground	Trunk room lamp	Output	lamp	OFF	12 V	

Terminal No. (Wire color)		Description				Value	
(VVire +	color)	Signal name	Input/ Output	Condition		(Approx.)	
34 (SB)	Ground	Trunk room antenna		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	
	Giouna	()	Output	OFF	When Intelligent Key is not in the passenger compart- ment JMKIA0063GB		
35	Ground	Trunk room antenna	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 15 0 15 0 15 0 15 0 15 0 15 15 10 15 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	
(V)		(+)		OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s 10 0 1 s 10 0 1 s 10 0 1 s 10 10 10 10 10 10 10 10 10 10 10 10 10	
38 (B) G	Ground	Rear bumper anten-Output Guest switch is					
	Sidurd	na (–)	Suput	operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area		

Terminal No. (Wire color)		Description				Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
39	Ground	Rear bumper anten-	Output	When the trunk lid opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(W)	Ground	na (+)	Output	quest switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
47		Ignition relay (IPDM			OFF or ACC	12 V
(Y)	Ground	E/R) control	Output	Ignition switch	ON	0 V
50 (BG)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (Trunk lid is closed)	(V) 15 0 10 10 ms JPMIA0011GB 11.8 V
					ON (Trunk lid is opened)	0 V
52				Ignition switch	When selector lever is in P or N position	12 V
(R)	Ground	Starter relay control	Output	ON ON	When selector lever is not in P or N position	0 V
60		Push-button ignition		Push-button ig-	Pressed	0 V
(BR)	Ground	switch (Push switch)	Input	nition switch (push switch)	Not pressed	Battery voltage
					ON (Pressed)	0 V
61 (SB)	Ground	Trunk lid opener re- quest switch	Input	Trunk lid open- er request switch	OFF (Not pressed)	(V) 15 0 10 ms JPMIA0016GB
		Intelligent Key warn-		Intelligent Key	Sounding	1.0 V 0 V
64	1	ing buzzer (Engine	Output		5	

	nal No.	Description				Value
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)
67 (GR)	Ground	Trunk lid opener switch	Input	Trunk lid open- er switch	Pressed Not pressed	0 V (V) 15 0 10 ms JPMIA0011GB 11.8 V
68 (BG)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closes) ON (When rear RH door	(V) 15 0 10 ms JPMIA0011GB 11.8 V 0 V
69 (L)	Ground	Rear LH door switch	Input	Rear LH door switch	opens) OFF (When rear LH door closes) ON (When rear LH door	(V) 15 0 10 ms JPMIA0011GB 11.8 V 0 V
72	Ground	Room antenna 2 (–)	Output	Ignition switch	opens) When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 1 1 5 0 J J J J J J J J J J J J J
(R)	Ciound	(Center console)	Suput	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 1 1 1 1 1 1 1 1 1 1 1 1 1

	nal No.	Description				Value	٨
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)	A
73	Ground	Room antenna 2 (+)	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	B C D
(G)	Ground	(Center console)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s 1 s JMKIA0063GB	E
74	Ground	Passenger door an-	Output	When the pas- senger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	G H
(SB)		tenna ()	- Cupu	quest switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	J K DEF
75	Ground	Passenger door an-	Output	When the pas- senger door re- quest switch is	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M
(BR)		tenna (+)	Catput	operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 10 50 1 s JMKIA0063GB	P

	nal No.	Description				Value	
(vvire +	color)	Signal name	Input/ Output		Condition	(Approx.)	
76	Ground	Driver door antenna	Output	When the driv- er door request	When Intelligent Key is in the antenna detection area	(V) 15 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
(V)	Giouna	()	Cutput	switch is oper- ated with igni- tion switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 0 1 s JMKIA0063GB	
77	Ground	Driver door antenna	Output	When the driv- er door request	When Intelligent Key is in the antenna detection area	(V) 15 0 5 0 1 s JMKIA0062GB	
(LG)	Clound	(+)	Cupu	switch is oper- ated with igni- tion switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 1 5 0 1 5 1 5 JMKIA0063GB	
78	Ground	Room antenna 1 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	(V) 15 0 1 s JMKIA0062GB	
(Y)	Siduid	(Instrument panel)			When Intelligent Key is not in the passenger compart- ment	(V) 15 10 0 1 s 10 1 s 10 1 s 10 1 s 10 1 s 10 1 s 10 10 10 10 10 10 10 10 10 10 10 10 10	

## < ECU DIAGNOSIS INFORMATION >

+	e color)		Input/		Condition	
	-	Signal name	Input/ Output		Contanion	(Approx.)
79	0	Room antenna 1 (+)	0.4-14	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0062GB
(BR)	Ground	(Instrument panel)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s 10 1 s 10 1 1 s 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
82 (SB)	Ground	Ignition relay [Fuse block (J/B)] control	Output	Ignition switch	OFF or ACC ON	0 V 12 V
83	Ground	Remote keyless entry receiver communica-	Input/	During waiting		(V) 15 10 5 0 1 1 1 1 ms JMKIA0064GB
(Y) Ground Teceiver committion		Output	When operating either button on the Intelli- gent Key		(V) 15 10 5 0 1 ms JMKIA0065GB	

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	nal No.	Description				Value
(vvire +	color) –	Signal name Input/ Output			Condition	(Approx.)
					All switches OFF (Wiper volume dial 4)	(V) 15 10 5 0 2.ms JPMIA0041GB 1.4 V
87 (Y)	Ground	Combination switch INPUT 5	Input	Combination switch	Front fog lamp switch ON (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V
					Any of the conditions be- low with all switches OFF • Wiper volume dial 1 • Wiper volume dial 2 • Wiper volume dial 6 • Wiper volume dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V

#### Terminal No. Description Value А (Wire color) Condition Input/ (Approx.) Signal name + \_ Output В (V 15 10 All switches OFF С (Wiper volume dial 4) 2 ms JPMIA0041GB D 1.4 V $( \setminus$ 15 10 Ε Lighting switch HI ſ (Wiper volume dial 4) F 2 ms JPMIA0036GB 1.3 V 88 Combination switch Combination Ground Input (BG) **INPUT 3** switch 15 10 Н Lighting switch 2ND ٢ (Wiper volume dial 4) 2 ms JPMIA0037GB 1.3 V J 15 Any of the conditions be-10 low with all switches OFF ſ · Wiper volume dial 1 Κ · Wiper volume dial 2 · Wiper volume dial 3 2 ms JPMIA0040GB 1.3 V DEF 90 Input/ CAN-L Ground (P) Output Μ 91 Input/ Ground CAN-H \_\_\_\_ (L) Output OFF 12 V Ν (V 15 10 5 92 Key slot illumi-Key slot illumination Output Blinking Ground (LG) nation 1 s Ρ JPMIA0015GB 6.5 V ON 0 V OFF (LOCK indicator is Battery voltage 93 not illuminated) Ground ON indicator lamp Output Ignition switch (GR) ON 0 V

# **BCM (BODY CONTROL MODULE)**

	nal No.	Description				Value
(vvire +	color) –	Signal name	Input/ Output	Condition		(Approx.)
95	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
(BG)	Ground	ACC relay control	Output	Ignition switch	ACC or ON	12 V
96 (GR)	Ground	A/T shift selector (De- tention switch) power supply	Output		_	12 V
99	Ground	Selector lever P posi-	Input	Selector lever	P position	0 V
(R)	Croana	tion switch	mput		Any position other than P	12 V
					ON (Pressed)	0 V
100 (Y)	Ground	Passenger door re- quest switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 10 10 10 ms JPMIA0016GB 1.0 V
					ON (Pressed)	0 V
101 (P)	Ground	Driver door request switch	Input	Driver door re- quest switch	OFF (Not pressed)	(V) 15 10 10 10 10 10 10 10 10 10 10
102	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V
(BG)		lay control	Juiput		ON	12 V
103 (P)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch (	DFF	12 V

#### Terminal No. Description Value А (Wire color) Condition Input/ (Approx.) Signal name + \_ Output В (V 15 10 Ō All switches OFF С 2 ms JPMIA0041GB D 1.4 V (V) 15 10 Ε 0 Turn signal switch LH F 2 ms JPMIA0037GB 1.3 V G (V 15 10 Combination Н 107 Combination switch switch Ground Input Turn signal switch RH 0 **INPUT 1** (LG) (Wiper volume dial 4) 2 ms JPMIA0036GB 1.3 V J (V 15 10 0 Front wiper switch LO Κ 2 ms JPMIA0038GB DEF 1.3 V (V 15 Μ 10 5 0 Front washer switch ON Ν 2 ms JPMIA0039GB 1.3 V Ο

# **BCM (BODY CONTROL MODULE)**

#### < ECU DIAGNOSIS INFORMATION >

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	nal No. color)	Description	1			Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper volume dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
108	Ground	Combination switch	Input	Combination	Lighting switch AUTO (Wiper volume dial 4)	(V) 15 10 2 ms JPMIA0038GB 1.3 V
(R)		INPUT 4		switch	Lighting switch 1ST (Wiper volume dial 4)	(V) 15 0 2 ms JPMIA0036GB 1.3 V
					Any of the conditions be- low with all switches OFF • Wiper volume dial 1 • Wiper volume dial 5 • Wiper volume dial 6	(V) 15 0 2 ms JPMIA0039GB 1.3 V

#### Terminal No. Description Value А (Wire color) Condition Input/ (Approx.) Signal name + \_ Output В (V 15 10 č All switches OFF С 2 m s JPMIA0041GB D 1.4 V (V) 15 10 Ε C Lighting switch PASS F 2 m s JPMIA0037GB 1.3 V G (V 15 10 Combination Н 109 Combination switch switch Lighting switch 2ND n Ground Input **INPUT 2** (W) (Wiper volume dial 4) 2 ms JPMIA0036GB 1.3 V J (V 15 10 Front wiper switch INT/ 0 Κ AUTO 2 ms JPMIA0038GB DEF 1.3 V (V 15 Μ 10 5 Front wiper switch HI 0 Ν 2 ms JPMIA0040GB 1.3 V Ο ON 0 V Ρ 10 110 Ground Hazard switch Input Hazard switch 5 (G) OFF 10 ms JPMIA0012GB 1.1 V

# BCM (BODY CONTROL MODULE)

	nal No.	Description				Value
(vvire +	e color) —	Signal name	Input/ Output		Condition	(Approx.)
113	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(BG)			mpor	ON	When dark outside of the vehicle	Close to 0 V
116 (SB)	Ground	Stop lamp switch 1	Input		_	Battery voltage
		Stop lamp switch 2		Stop lamp	OFF (Brake pedal is not depressed)	0 V
118	Ground	(Without ICC)	Input	switch	ON (Brake pedal is de- pressed)	Battery voltage
(BR)		Stop lamp switch 2	•	depressed) and	h OFF (Brake pedal is not ICC brake hold relay OFF	0 V
		(With ICC)			h ON (Brake pedal is de- brake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 10 10 10 10 10 11 10 10 10
				When the Intellia	UNLOCK status (Unlock switch sensor ON)	0 V
121			1	When the Intellig	gent Key is inserted into key	12 V
(SB)	Ground	Key slot switch	Input	When the Intelli key slot	gent Key is not inserted into	0 V
123 (V)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC ON	0 V Battery voltage
124 (R)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	(V) 15 10 10 10 10 11.8 V
					ON (Door open)	0 V
129 (BG)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid open- er cancel switch	CANCEL	(V) 15 10 10 10 ms JPMIA0012GB
						1.1 V
					ON	0 V

Terminal No. (Wire color)		Description		-		Value
(vvire +	color)	Signal name	Input/ Output		Condition	(Approx.)
132 (V)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 10 10 10 10.2 V
				Ignition switch C	OFF or ACC	12 V
					ON (Tail lamps OFF)	9.5 V
122		Puch hutton ignition		Push-button ig-		NOTE: The pulse width of this wave is varied by the illumination bright- ening/dimming level.
133 (L) Ground Push-button ignition switch illumination	Output	nition switch il- lumination	ON (Tail lamps ON)	15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
				OFF	0 V	
134	Onessed		Quitaut	LOCK indicator	OFF	Battery voltage
(LG)	Ground	LOCK indicator lamp	Output	lamp	ON	0 V
137 (BG)	Ground	Receiver and sensor ground	Input	Ignition switch C	DN	0 V
138	Ground	Receiver and sensor	Output	Ignition switch	OFF	0 V
(V)	Ground	power supply	Output	Ignition switch	ACC or ON	5.0 V
139	Ground	Tire pressure receiv-	Input/	Ignition switch ON	Standby state	(V) 6 4 2 0 • • 0.2s OCC3881D
(L)		er communication	Output		When receiving the signal from the transmitter	(V) 6 2 0 • • 0.2s OCC3880D
	1					
140		Selector lever P/N			P or N position	12 V

	nal No.	Description				) (alua
(Wire +	color)	Signal name	Input/ Output		Condition	Value (Approx.)
					ON	0 V
141 (W)	Ground	Security indicator lamp	Output	Security indica- tor lamp	Blinking	(V) 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 10 10 10 10 10 10 10 10 10 10 10 10
					OFF	12 V
					All switches OFF	0 V
					Lighting switch 1ST	
				Combination	Lighting switch HI	(V) 15
142 (BR)	Ground	Combination switch	Output	switch	Lighting switch 2ND	
(BI()	Ground	OUTPUT 5	Output	(Wiper volume dial 4)	Turn signal switch RH	0 2 ms 10.7 V
					All switches OFF (Wiper volume dial 4)	0 V
					Front wiper switch HI (Wiper volume dial 4)	(V)
143 (P)	Ground	Combination switch OUTPUT 1	Output	Output Combination switch	Any of the conditions be- low with all switches OFF • Wiper volume dial 1 • Wiper volume dial 2 • Wiper volume dial 3 • Wiper volume dial 6 • Wiper volume dial 7	15 15 15 15 10 10 10 10 10 10 10 10 10 10
					All switches OFF (Wiper volume dial 4)	0 V
					Front washer switch ON (Wiper volume dial 4)	(V) 15
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	Any of the conditions be- low with all switches OFF • Wiper volume dial 1 • Wiper volume dial 5 • Wiper volume dial 6	15 0 0 2 ms JPMIA0033GB 10.7 V
					All switches OFF	0 V
					Front wiper switch INT/ AUTO	(V)[]
145		Combination switch	<b>Q</b> ( )	Combination switch	Front wiper switch LO	
(L)	Ground	OUTPUT 3	Output	(Wiper volume dial 4)	Lighting switch AUTO	2 ms JPMIA0034GB
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## < ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire +	color) –	Signal name	Input/ Output	Condition		(Approx.)
					All switches OFF	0 V
					Front fog lamp switch ON	
				Combination	Lighting switch 2ND	(V) 15
Ground	Combination switch	Output	switch	Lighting switch PASS		
(SB)	Clouid	OUTPUT 4	Output (Wiper volume dial 4)	Turn signal switch LH	0 2 ms JPMIA0035GB 10.7 V	
150 (GR)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V
					ON (Door open)	0 V
151	Ground	Rear window defog-	Output	Rear window	Active	0 V
(G)	Giouna	ger relay control	Output	defogger	Not activated	Battery voltage

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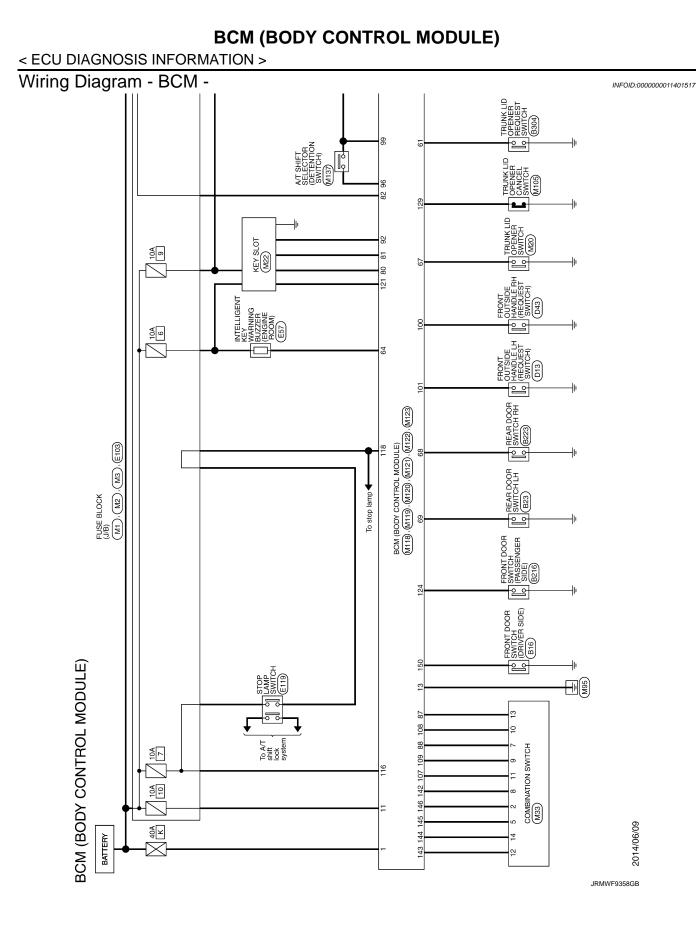
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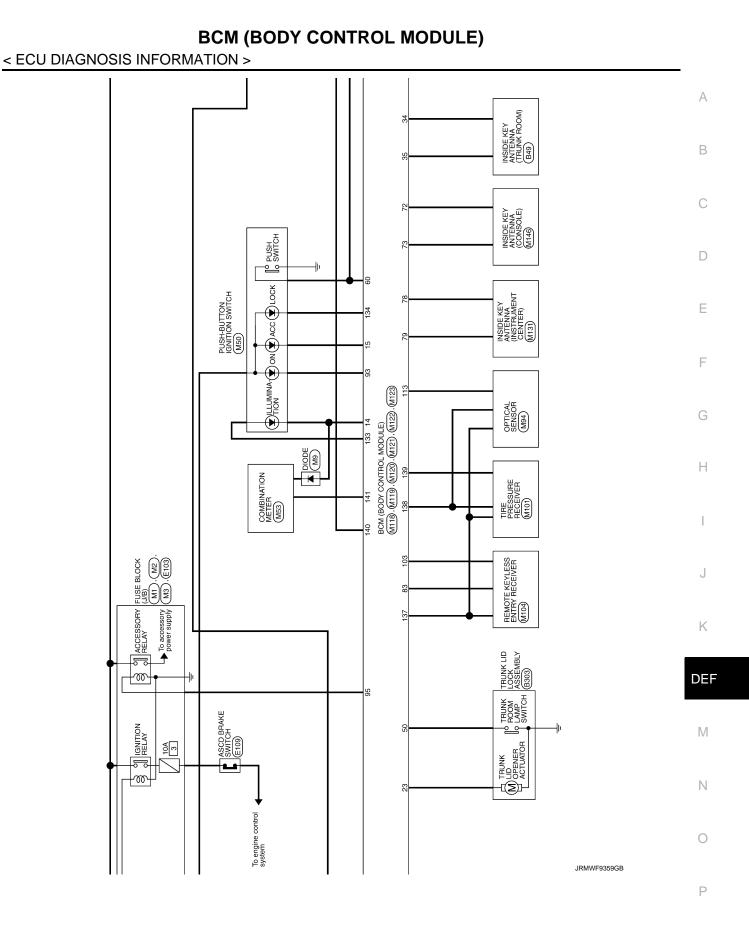
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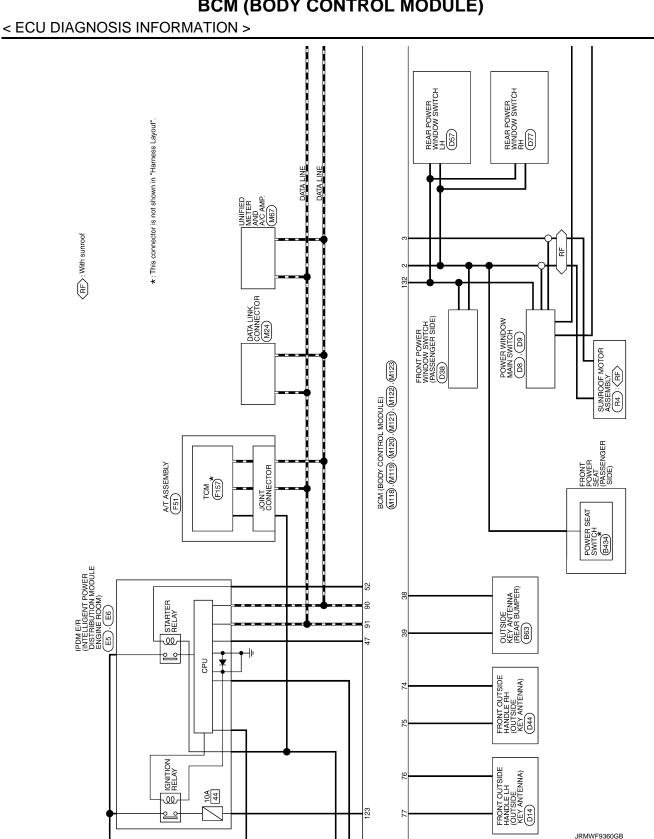
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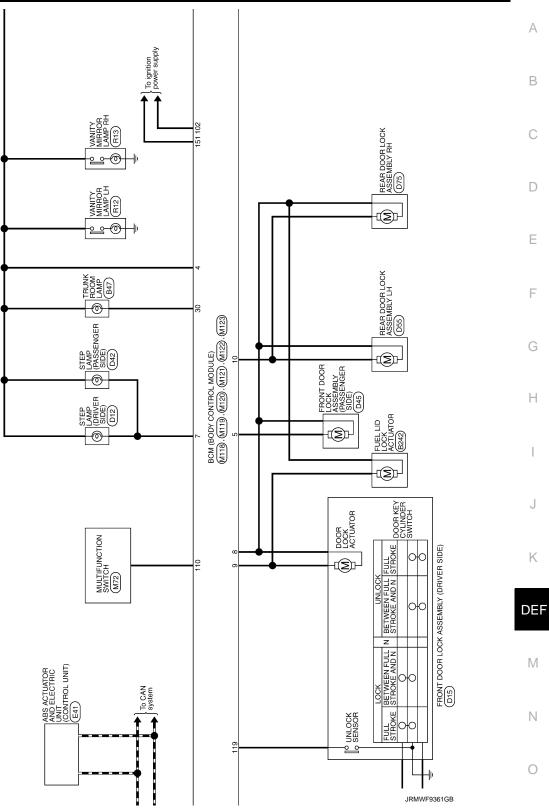
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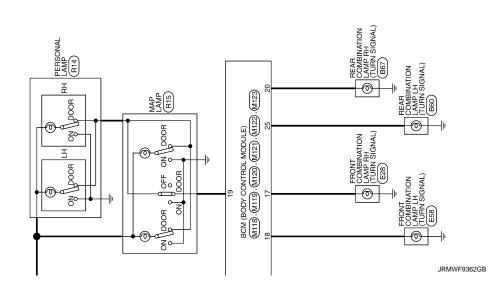


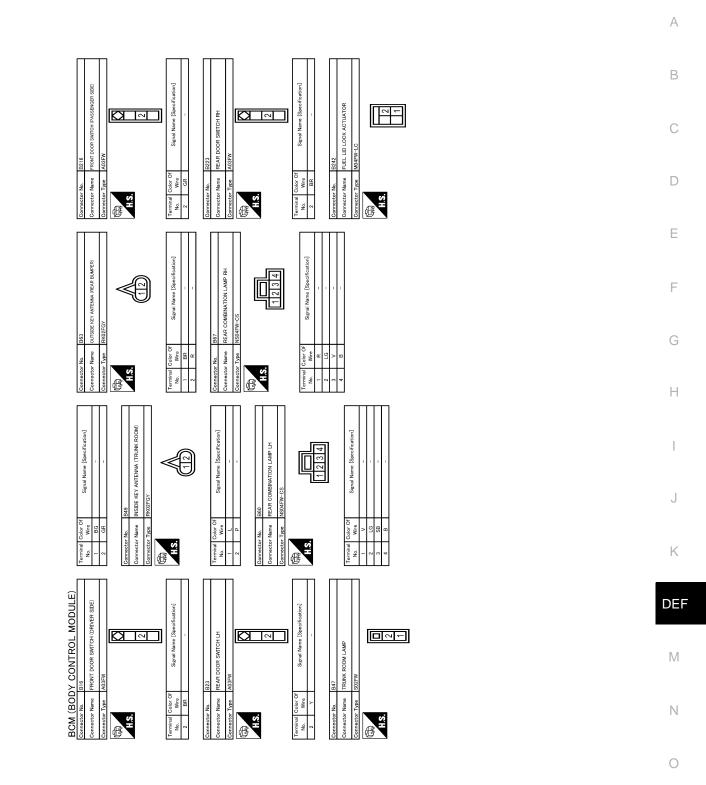
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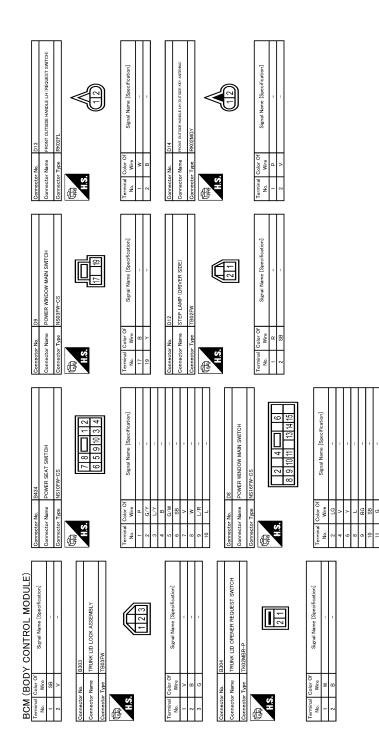
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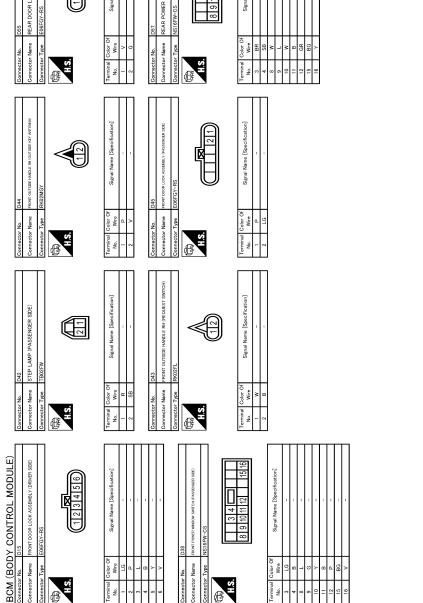
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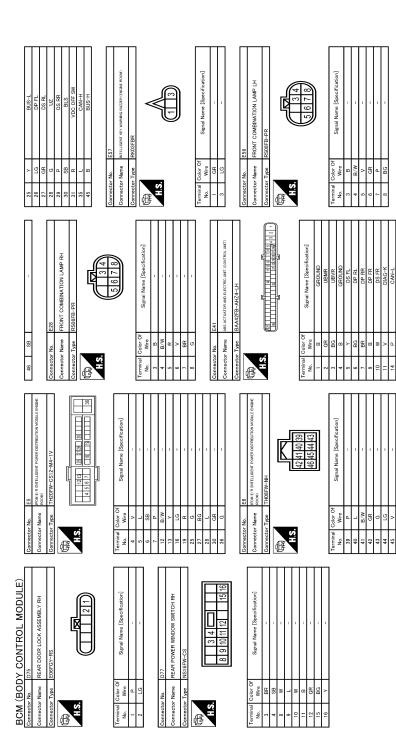
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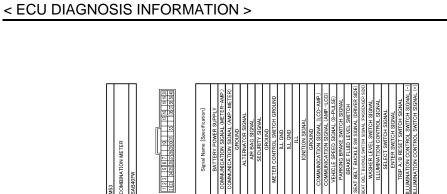
# **BCM (BODY CONTROL MODULE)** < ECU DIAGNOSIS INFORMATION >

А В Signal Name [Specification] Signal Name [Specification] 6B 5B 48 38 9988 6 M3 FUSE BLOCK (J/B) С FUSE BLOCK (J/B) M2 Color Of Wire D ctor Name в · Name Mire H.S. Terminal No. HS. 6B 8B 9B 22 08 05 12C 6C 110 Ø Ø Ε Signal Name [Specification] Signal Name [Specification] F 7A 6A FUSE BLOCK (J/B) 3A 8A TCM G SHIELD SHIELC SHIELC SHIELC nector Name Connector Name Wire sctor No. H.S. H.S. 3 Z 7A 8A ermina No. E ß Н Signal Name [Specification] Signal Name [Specification] 1 2 3 4 98 STOP LAMP SWITCH F51 A/T ASSEMBLY J Connector No. Connector Name ₽ R nector Name Vire Vire H.S. H.S. Terminal No. Κ no. No. e 0 9 ∞ n 🛱 E Ē BCM (BODY CONTROL MODULE) DEF 9F 8F 2F 1F Signal Name [Specification] cation] Signal Name [Specifi Π ASCD BRAKE SWITCH 6F 4F FUSE BLOCK (J/B) Μ 10101 109 Connector Type S02FI Jor Of Wire SB Name > ೮ ೫ Connector Name Connector No. Ν H.S. H.S.H ß ß

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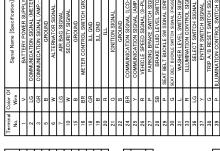
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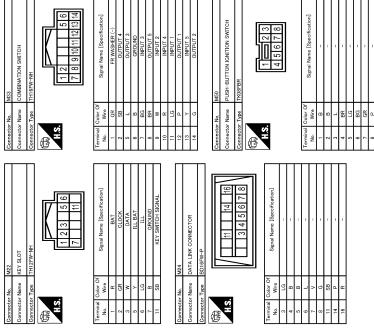
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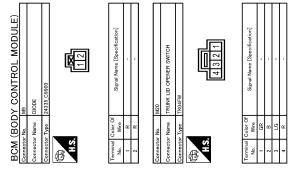


# COMBINATION METER SAB40FM M53

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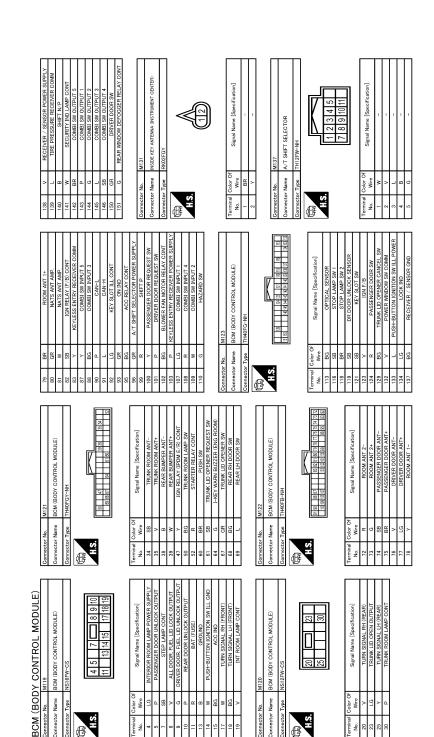
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effeation] offeation] offeation] supply (RAP) R Supply (RAP)	В
MIG FRUMK LID OPERER CANCEL SWITCH SURPH SURPH MII MII MII POWER MINDOW FOWER SUPPLY (MAT) POWER MINDOW FOWER SUPPLY (MAT) POWER MINDOW FOWER SUPPLY (MAT)	С
Connector Name     M       Connector Name     1       Terminal Color     8       Connector Name     8       Signal     9       Signal     0	D
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MIOI TROAFW TROAFW REMOTE KEYLESS ENTRY RECEIVER REMOTE KEYLESS ENTRY RECEIVER BATTERY BATTERY BATTERY BATTERY BATTERY BATTERY	F
Connector No.     Manual       Connector Name     T       Connector Name     T       T     T       T     Connector Name	G H
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M2 MuLTIFLMCTION SMITCH ITHLERVE-NHI THLERVE-NHI Sgraf Nume [Speafication] Sgraf Nume [Speafication] Sgraf Nume [Speafication] Sgraf Nume [Speafication] Sgraf Nume [Speafication] Sgraf Nume [Speafication]	J
Connector Name Connector Name Low Connector Name Connector Name Nor Connector Name Connector Name	K
C AMP.     C AMP.       C AMP.     C AMP.       DULLE)     Benfination1       benfination1     Benfination1       Benfination2     Benfination1       Benfination2     Benfination1       Benfination2     Benfination1       Benfination3     Benfination1       Benfination3     Benfination1       Benfination3     Benfination3       Benfination3     Benfination3       Benfination3     Benfination3       Benfination3     Benfination3       Benfination3     Benfination3	DEF
BCM (BODY CONTROL MODULE)       Connector Na.     Mo7       Connector Name     Signal Name [Saecrification]       Name [Saecrification]     Mo7       Name [Saecrification]     Mo7       Name [Saecrification]     Mo7       Name [Saecrification]     Mo7       Name [Saecrification]     Mo1	M
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# **BCM (BODY CONTROL MODULE)** < ECU DIAGNOSIS INFORMATION >



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# **BCM (BODY CONTROL MODULE)**

< ECU DIAGNOSIS INFORMATION >

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Connector Name

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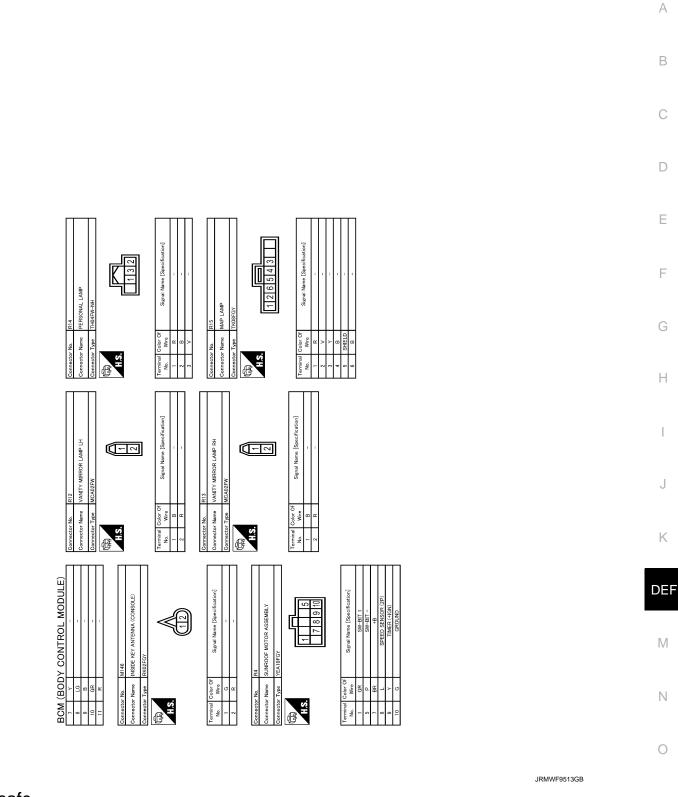
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#### < ECU DIAGNOSIS INFORMATION >



INFOID:000000011401518

# 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 $ON \rightarrow OFF$
B2560: STARTER CONT RELAY	Inhibit engine cranking	<ul><li>500 ms after the following CAN signal communication status becomes consistent</li><li>Starter control relay signal</li><li>Starter relay status signal</li></ul>
B2608: STARTER RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following signal communication status becomes consistent</li> <li>Starter motor relay control signal</li> <li>Starter relay status signal (CAN)</li> </ul>
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (12 V)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	<ul><li>When any of the following conditions are fulfilled</li><li>Power position changes to ACC</li><li>Receives engine status signal (CAN)</li></ul>
B2617: BCM	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization

# DTC Inspection Priority Chart

INFOID:000000011401519

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     U1010: CONTROL UNIT(CAN)
3	<ul> <li>B2190: NATS ANTENNA AMP</li> <li>B2191: DIFFERENCE OF KEY</li> <li>B2192: ID DISCORD BCM-ECM</li> <li>B2193: CHAIN OF BCM-ECM</li> <li>B2195: ANTI-SCANNING</li> </ul>

# < ECU DIAGNOSIS INFORMATION >

Priority	DTC	
	B2553: IGNITION RELAY     B2555: STOP LAMP	
	<ul> <li>B2556: PUSH-BTN IGN SW</li> <li>B2557: VEHICLE SPEED</li> <li>B2560: STARTER CONT RELAY</li> <li>B2601: SHIFT POSITION</li> </ul>	
	<ul> <li>B2602: SHIFT POSITION</li> <li>B2603: SHIFT POSI STATUS</li> <li>B2604: PNP/CLUTCH SW</li> <li>B2605: PNP/CLUTCH SW</li> </ul>	
4	<ul> <li>B2608: STARTER RELAY</li> <li>B260A: IGNITION RELAY</li> <li>B260F: ENG STATE SIG LOST</li> <li>B2614: BCM</li> </ul>	
	<ul> <li>B2615: BCM</li> <li>B2616: BCM</li> <li>B2617: BCM</li> <li>B2618: BCM</li> </ul>	
	<ul> <li>B261A: PUSH-BTN IGN SW</li> <li>B261E: VEHICLE TYPE</li> <li>B26EA: KEY REGISTRATION</li> <li>C1729: VHCL SPEED SIG ERR</li> <li>U0415: VEHICLE SPEED</li> </ul>	
	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> </ul>	
5	<ul> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> </ul>	
	<ul> <li>C1718: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RL</li> <li>C1734: CONTROL UNIT</li> </ul>	
6	<ul> <li>B2621: INSIDE ANTENNA</li> <li>B2622: INSIDE ANTENNA</li> <li>B2623: INSIDE ANTENNA</li> </ul>	

# DTC Index

#### 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>DEF-6. "COM-MON ITEM : CONSULT Function (BCM - COMMON ITEM)"</u>.

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	0
No DTC is detected. further testing may be required.	_	_	_	_	_	Ρ
U1000: CAN COMM	—	—	—	—	BCS-36	
U1010: CONTROL UNIT(CAN)	—	—	—	—	BCS-37	
U0415: VEHICLE SPEED	—	—	—	—	BCS-38	
B2190: NATS ANTENNA AMP	×	—	—	—	<u>SEC-43</u>	

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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	
B2191: DIFFERENCE OF KEY	×	_	_	_	<u>SEC-46</u>	
B2192: ID DISCORD BCM-ECM	×	_	_	_	<u>SEC-47</u>	
B2193: CHAIN OF BCM-ECM	×	_		_	<u>SEC-49</u>	
B2195: ANTI-SCANNING	×	_	_	_	<u>SEC-50</u>	
B2553: IGNITION RELAY	_	×			PCS-49	
B2555: STOP LAMP	_	×		_	<u>SEC-51</u>	
B2556: PUSH-BTN IGN SW	_	×	×	_	<u>SEC-53</u>	
B2557: VEHICLE SPEED	×	×	×	_	<u>SEC-55</u>	
B2560: STARTER CONT RELAY	×	×	×	_	<u>SEC-56</u>	
B2562: LOW VOLTAGE	_	×		_	BCS-39	
B2601: SHIFT POSITION	×	×	×	_	<u>SEC-57</u>	
B2602: SHIFT POSITION	×	×	×	_	<u>SEC-60</u>	
B2603: SHIFT POSI STATUS	×	×	×	_	<u>SEC-63</u>	
B2604: PNP/CLUTCH SW	×	×	×	_	<u>SEC-66</u>	
B2605: PNP/CLUTCH SW	×	×	×	_	<u>SEC-68</u>	
B2608: STARTER RELAY	×	×	×	_	<u>SEC-70</u>	
B260A: IGNITION RELAY	×	×	×	_	PCS-51	
B260F: ENG STATE SIG LOST	×	×	×	_	<u>SEC-72</u>	
B2614: BCM	_	×	×	_	PCS-53	
B2615: BCM	_	×	×		PCS-55	
B2616: BCM		×	×	_	PCS-57	
B2617: BCM	×	×	×	_	<u>SEC-74</u>	
B2618: BCM	×	×	×	_	PCS-59	
B261A: PUSH-BTN IGN SW	_	×	×	_	PCS-60	
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	_	<u>SEC-76</u>	
B2621: INSIDE ANTENNA	_	×		_	DLK-59	
B2622: INSIDE ANTENNA	_	×		_	DLK-61	
B2623: INSIDE ANTENNA		×		_	DLK-63	
B26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	_	<u>SEC-73</u>	
C1704: LOW PRESSURE FL	_	_	—	×		
C1705: LOW PRESSURE FR	_	_	—	×	WT OF	
C1706: LOW PRESSURE RR		_	_	×	<u>WT-25</u>	
C1707: LOW PRESSURE RL	_			×	-	
C1708: [NO DATA] FL	_	-	—	×		
C1709: [NO DATA] FR	_	_	_	×	WT of	
C1710: [NO DATA] RR	_	-	_	×	<u>WT-27</u>	
C1711: [NO DATA] RL		_	_	×	-	
C1716: [PRESSDATA ERR] FL			_	×		
C1717: [PRESSDATA ERR] FR	_	_	_	×		
C1718: [PRESSDATA ERR] RR	_	-	—	×	<u>WT-30</u>	
C1719: [PRESSDATA ERR] RL	_	-	—	×	-	

# < 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	А
C1729: VHCL SPEED SIG ERR	—	—	—	×	<u>WT-31</u>	В
C1734: CONTROL UNIT		—		×	<u>WT-32</u>	

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# **REAR WINDOW DEFOGGER DOES NOT OPERATE**

#### < SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS REAR WINDOW DEFOGGER DOES NOT OPERATE

**Diagnosis** Procedure

INFOID:000000010991590

**1.**CHECK REAR WINDOW DEFOGGER SWITCH

Check rear window defogger switch. Refer to <u>DEF-9</u>, "Component Function Check".

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 <u>DEF-10, "Component Function Check"</u>.

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 <u>DEF-12, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

**4.**CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.

#### REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPER-ATE.

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT

OPERATE.		А
Diagnosis Procedure	IFOID:0000000010991591	В
1.CHECK REAR WINDOW DEFOGGER SWITCH		D
Check rear window defogger switch. Refer to <u>DEF-9</u> , "Component Function Check".		С
Is the inspection result normal?         YES       >> GO TO 2.         NO       >> Repair or replace the malfunctioning parts.		D
2.CHECK REAR WINDOW DEFOGGER RELAY Check rear window defogger relay. Refer to <u>DEF-10</u> , "Component Function Check".		E
Is the inspection result normal?         YES       >> GO TO 3.         NO       >> Repair or replace the malfunctioning parts.		F
3.CONFIRM THE OPERATION		G
Confirm the operation again.		
<u>Is the inspection result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> . NO >> GO TO 1.		Н

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< SYMPTOM DIAGNOSIS >

# REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH DOOR MIRROR DEFOGGERS OPERATE

< SYMPTOM DIAGNOSIS >

# REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH DOOR MIRROR DEFOGGERS OPERATE

**Diagnosis Procedure** 

INFOID:000000010991592

1.CHECK REAR WINDOW DEFOGGER

Check rear window defogger. Refer to <u>DEF-12, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CONFIRM THE OPERATION

Confirm the operation again

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

DOOR MIRROR DEFOGGER DOES NOT OPERATE	
<u>&lt; SYMPTOM DIAGNOSIS &gt;</u> DOOR MIRROR DEFOGGER DOES NOT OPERATE BOTH SIDES	
BOTH SIDES : Diagnosis Procedure	INFOID:000000010991593
1. CHECK DOOR MIRROR DEFOGGER	
$\begin{array}{llllllllllllllllllllllllllllllllllll$	
Confirm the operation again. <u>Is the inspection result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> . NO >> GO TO 1. DRIVER SIDE	
DRIVER SIDE : Diagnosis Procedure	INFOID:000000010991594
1. CHECK DRIVER SIDE DOOR MIRROR DEFOGGER	
$\begin{array}{llllllllllllllllllllllllllllllllllll$	
Confirm the operation again. <u>Is the inspection result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> . NO >> GO TO 1. PASSENGER SIDE	
PASSENGER SIDE : Diagnosis Procedure	INFOID:000000010991595
<b>1.</b> CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER.	-
Check passenger side door mirror defogger. Refer to <u>DEF-19, "Component Function Check"</u> .	
Is the inspection result normal?         YES       >> GO TO 2.         NO       >> Repair or replace the malfunctioning parts.	
2.CONFIRM THE OPERATION	
Confirm the operation again. <u>Is the inspection result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> . NO >> GO TO 1.	

# ON IS NOT DISPLAYED WHEN PRESSING REAR WINDOW DEFOGGER SWITCH BUT IT IS OPERATED

< SYMPTOM DIAGNOSIS >

# ON IS NOT DISPLAYED WHEN PRESSING REAR WINDOW DEFOGGER SWITCH BUT IT IS OPERATED

**Diagnosis Procedure** 

INFOID:000000010991596

**1.**CHECK AV CONTROL UNIT FUNCTION

Check that the AV control unit is operating normally. Base audio with rear view camera refer to <u>AV-60</u>, "<u>Work Flow</u>". BOSE audio with navigation refer to <u>AV-183</u>, "<u>Work Flow</u>".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

**2.**CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

# REAR WINDOW DEFOGGER INDICATOR DOES NOT ILLUMINATE

## < SYMPTOM DIAGNOSIS >

# REAR WINDOW DEFOGGER INDICATOR DOES NOT ILLUMINATE

# Diagnosis Procedure INFOIL CONCOMPOSITION SWITCH (REAR WINDOW DEFOGGER SWITCH) B Check rear window defogger operate. C YES >> Replace multifunction switch (rear window defogger switch). C NO >> Check rear window defogger system. Refer to DEF-3, "Work Flow". D E F F

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# < PRECAUTION >

# 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:

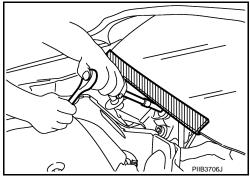
Always observe the following items for preventing accidental activation.

- 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

INFOID:000000011287242

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



#### Precautions For Xenon Headlamp Service

INFOID:000000011287243

#### WARNING:

Comply with the following warnings to prevent any serious accident.

- Disconnect the battery cable (negative terminal) or the power supply fuse before installing, removing, or touching the xenon headlamp (bulb included). The xenon headlamp contains high-voltage generated parts.
- Never work with wet hands.
- Check the xenon headlamp ON-OFF status after assembling it to the vehicle. Never turn the xenon headlamp ON in other conditions. Connect the power supply to the vehicle-side connector.

# PRECAUTIONS

#### < PRECAUTION >

- (Turning it ON outside the lamp case may cause fire or visual impairments.)
- Never touch the bulb glass immediately after turning it OFF. It is extremely hot.

#### **CAUTION:**

- Comply with the following cautions to prevent any error and malfunction.
- Install the xenon bulb securely. (Insufficient bulb socket installation may melt the bulb, the connector, the housing, etc. by high-voltage leakage or corona discharge.)
- Never perform HID circuit inspection with a tester.
- Never touch the xenon bulb glass with hands. Never put oil and grease on it.
- Dispose of the used xenon bulb after packing it in thick vinyl without breaking it.
- Never wipe out dirt and contamination with organic solvent (thinner, gasoline, etc.).

## Precautions for Removing Battery Terminal

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

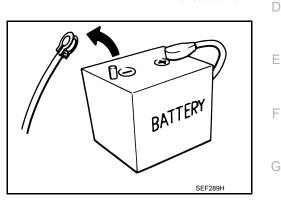
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

• 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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INFOID:000000011287244

# < REMOVAL AND INSTALLATION >

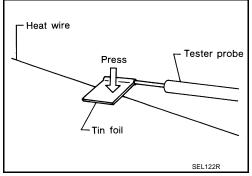
# REMOVAL AND INSTALLATION FILAMENT

# Inspection and Repair

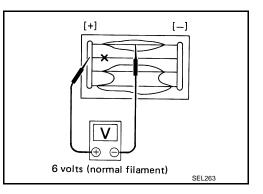
INFOID:000000010991599

#### INSPECTION

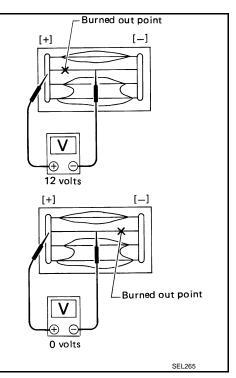
1. When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



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



- 3. If a filament is burned out, circuit tester registers 0 or battery voltage.
- 4. 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

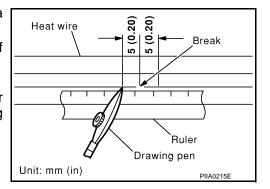
#### REPAIRING PROCEDURE

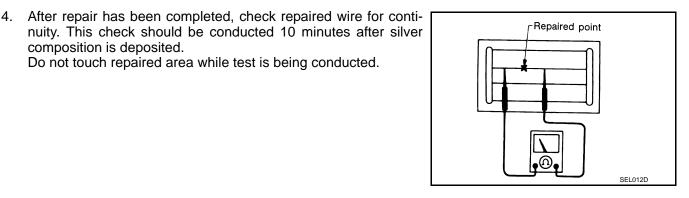
composition is deposited.

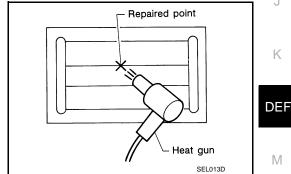
- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- 2. Apply a small amount of conductive silver composition to tip of drawing pen.

Shake silver composition container before use.

3. 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.







Do not touch repaired area while test is being conducted.

5. 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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# < REMOVAL AND INSTALLATION >

# CONDENSER

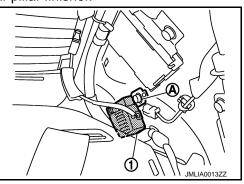
**Exploded View** 

Refer to INT-15, "Exploded View".

Removal and Installation

## REMOVAL

- 1. Remove the rear seat cushion and the rear seatback. Refer to <u>SE-76, "Removal and Installation"</u>.
- 2. Remove the rear kicking plate, rear wheel well garnish and the rear pillar finisher. Refer to <u>INT-15, "Removal and Installation"</u>.
- 3. Remove bolt (A), and then remove condenser (1) from the vehicle body.



INSTALLATION Install in the reverse order of removal. INFOID:000000010991600

INFOID:000000010991601

Revision: 2014 June