

SECTION **DEF**  
**DEFOGGER**

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

#### Repair Work Flow

INFOID:000000001735601

#### 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.

>> GO TO 2

#### 2. 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 3

#### 3. IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"

Use "Symptom diagnosis" from the symptom inspection result in step 2 and then identify where to start performing the diagnosis based on possible causes and symptoms.

>> GO TO 4

#### 4. IDENTIFY THE MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"

Perform the diagnosis with "Component diagnosis" of the applicable system.

>> GO TO 5

#### 5. REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 6

#### 6. FINAL CHECK

Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 2.

Are the malfunctions corrected?

YES >> INSPECTION END

NO >> Refer to [GI-38. "Intermittent Incident"](#).

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# REAR WINDOW DEFOGGER SYSTEM

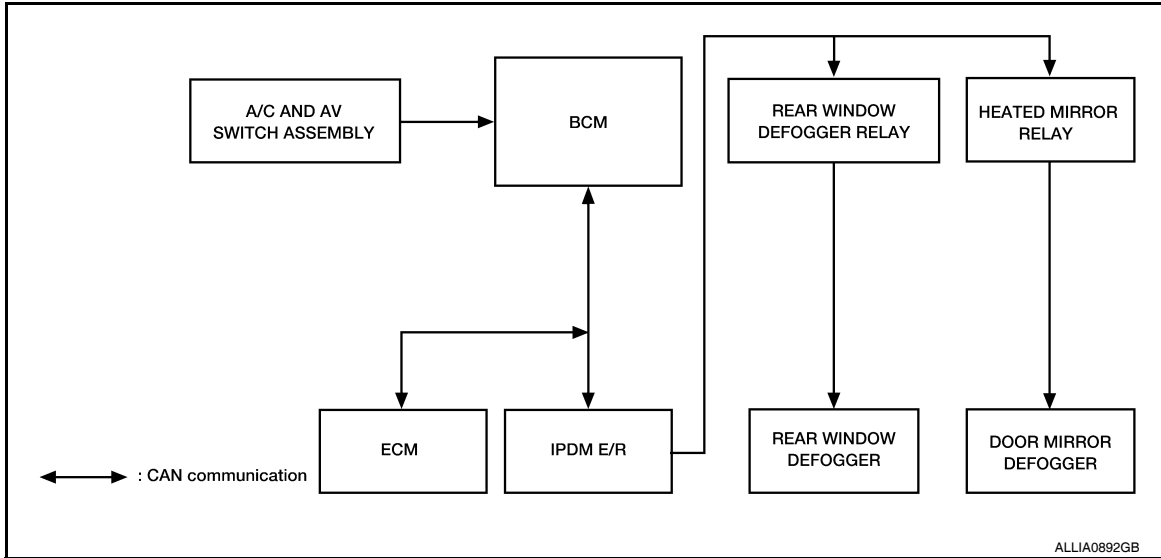
< FUNCTION DIAGNOSIS >

## FUNCTION DIAGNOSIS

### REAR WINDOW DEFOGGER SYSTEM

#### System Diagram

INFOID:000000001735602



#### System Description

INFOID:000000001735603

#### Operation Description

- Turn rear window defogger switch ON when the ignition switch is turned ON. Then A/C and AV switch assembly (rear window defogger switch) transmits rear window defogger switch signal to BCM.
- BCM transmits rear window defogger control signal to IPDM E/R and display unit via CAN communication when rear window defogger operates.
- IPDM E/R turns rear window defogger relay and heated mirror relay ON when rear window defogger switch signal is received.
- Rear window defogger and door mirror defogger are supplied with power and operate when rear window defogger relay and heated mirror relay turn ON.
- Rear window defogger ON is displayed when signal is received.

#### Timer function

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

#### INPUT/OUTPUT SIGNAL CHART

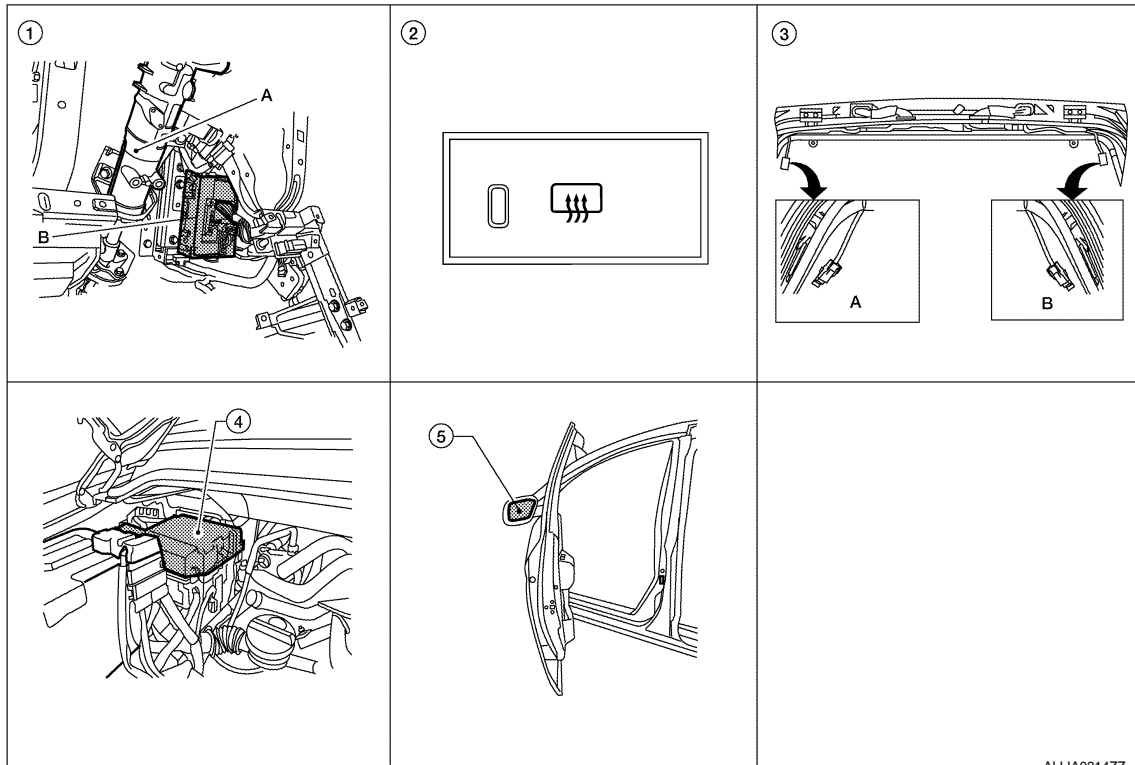
Switch	Input signal to BCM	BCM function	Acuator
Rear window defogger switch	Defogger switch signal	Rear window defogger & door mirror defogger control	Rear window defogger
Ignition switch	Ignition signal		Door mirror defogger

# REAR WINDOW DEFOGGER SYSTEM

< FUNCTION DIAGNOSIS >

## Component Parts Location

INFOID:000000001735604



ALLIA0314ZZ

1. A. Steering column assembly  
B. BCM M18, M20 (view with instrument panel removed)
2. A/C and AV switch assembly (rear window defogger switch) M98
3. A. Rear window defogger ground connector D604  
B. Rear window defogger connector D406
4. IPDM E/R E120, E122, E124
5. Door mirror (door mirror defogger) LH D4, RH D107

## Component Description

INFOID:000000001735605

BCM	<ul style="list-style-type: none"> <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	<ul style="list-style-type: none"> <li>Operates the rear window defogger and the door mirror defogger with the control signal from BCM.</li> </ul>
A/C and AV switch assembly (rear window defogger switch)	<ul style="list-style-type: none"> <li>The rear window defogger switch is turned ON.</li> <li>Turns the indicator lamp ON when detecting the operation of rear window defogger.</li> </ul>
Rear window defogger	<ul style="list-style-type: none"> <li>Heats the heating wire with the power supply from the rear window defogger relay to prevent the rear window from fogging up.</li> </ul>
Door mirror defogger	<ul style="list-style-type: none"> <li>Heats the heating wire with the power supply from the heated mirror relay to prevent the door mirror from fogging up.</li> </ul>

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# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:000000001735606

### APPLICATION ITEM

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

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM. Refer to <a href="#">BCS-50. "DTC Index"</a> .
CAN DIAG SUPPORT MNTR	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 subsystem selection items.

System	Sub system selection item	Diagnosis mode		
		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
Rear window defogger	REAR DEFOGGER		×	×
BCM	BCM	×		

## REAR WINDOW DEFOGGER

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

INFOID:000000001735607

### DATA MONITOR

Monitor Item	Description
REAR DEF SW	Indicates [ON/OFF] condition of rear defogger switch.
IGN SW	Indicates [ON/OFF] condition of ignition switch.

### ACTIVE TEST

Test Item	Description
REAR DEFOGGER	This test is able to check rear window defogger operation. Rear window defogger operates when "ON" on CONSULT-III screen is touched.

# CAN COMMUNICATION

< FUNCTION DIAGNOSIS >

## CAN COMMUNICATION

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### System Description

INFOID:000000001735608

Refer to [LAN-4, "System Description"](#).

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# REAR WINDOW DEFOGGER SWITCH

< COMPONENT DIAGNOSIS >

## COMPONENT DIAGNOSIS

### REAR WINDOW DEFOGGER SWITCH

#### Description

INFOID:000000001735609

- The rear window defogger is operated by turning the rear window defogger switch ON.
- Turns the indicator lamp in the rear window defogger switch ON when operating the rear window defogger.

#### Component Function Check

INFOID:000000001735610

#### 1. CHECK REAR WINDOW DEFOGGER SWITCH FUNCTION

Check that the indicator lamp of rear window defogger illuminates with rear window defogger switch ON.

Is the inspection result normal?

- YES >> Rear window defogger switch function is OK.  
NO >> Refer to [DEF-8, "Diagnosis Procedure"](#).

#### Diagnosis Procedure

INFOID:000000001735611

#### 1. CHECK A/C AND AV SWITCH ASSEMBLY (REAR WINDOW DEFOGGER SWITCH) CIRCUIT

Does rear window defogger switch operate normally?

Is the inspection result normal?

- YES >> Inspection End.  
NO >> GO TO 2

#### 2. CHECK HARNESS CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect BCM and A/C and AV switch assembly.
3. Check continuity between BCM connector (A) and A/C and AV switch assembly connector (B).

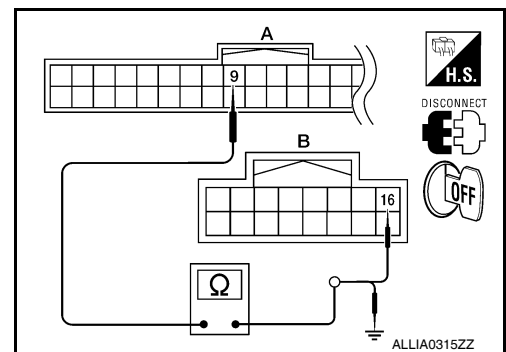
BCM connector	Terminal	A/C and AV switch assembly connector	Terminal	Continuity
M18 (A)	9	M98 (B)	16	Yes

4. Check continuity between BCM connector (A) and ground.

BCM connector	Terminal	Ground	Continuity
M18 (A)	9		No

Is the inspection result normal?

- YES >> Replace A/C and AV switch assembly. Refer to [VTL-7, "Removal and Installation"](#).  
NO >> Repair or replace harness.





# REAR WINDOW DEFOGGER RELAY

< COMPONENT DIAGNOSIS >

## REAR WINDOW DEFOGGER RELAY

### Description

INFOID:000000001735612

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

### Component Function Check

INFOID:000000001735613

#### 1. CHECK REAR WINDOW DEFOGGER RELAY POWER SUPPLY CIRCUIT

Check that an operation noise of rear window defogger relay (located in IPDM E/R) can be heard when turning the rear window defogger switch ON.

Is the inspection result normal?

- YES >> Rear window defogger relay power supply circuit is OK.
- NO >> Refer to [DEF-9. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000001735614

#### 1. CHECK FUSES

Check if any of the following fuses in the IPDM E/R are blown.

COMPONENT PARTS	AMPERE	FUSE NO.
IPDM E/R	15A	46
IPDM E/R	15A	47

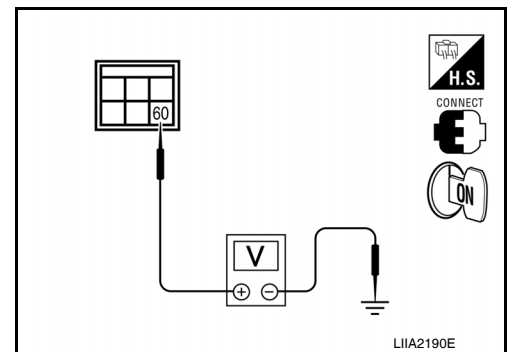
Is the inspection result normal?

- YES >> GO TO 2
- NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

#### 2. CHECK REAR WINDOW DEFOGGER RELAY POWER SUPPLY CIRCUIT

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

Terminals		(-)	Condition of rear window defogger switch	Voltage (V) (Approx.)
(+)	Terminal			
IPDM E/R connector		Ground	ON	Battery voltage
E124	60		OFF	0



Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-34. "Removal and Installation of IPDM E/R"](#).
- NO >> GO TO 3

#### 3. CHECK INTERMITTENT INCIDENT

Check intermittent incident.  
Refer to [GI-38. "Intermittent Incident"](#)

Is the inspection result normal?

- YES >> Check the following.
  - Battery power supply circuit.
  - IPDM E/R.
- NO >> Repair or replace the malfunctioning parts.

# REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

## REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

### Description

INFOID:000000001735615

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

INFOID:000000001735616

### 1. CHECK REAR WINDOW DEFOGGER

Check that the heating wire of rear window defogger is heated when turning the rear window defogger switch ON.

Is the inspection result normal?

- YES >> Rear window defogger is OK.
- NO >> Refer to [DEF-10, "Diagnosis Procedure"](#).

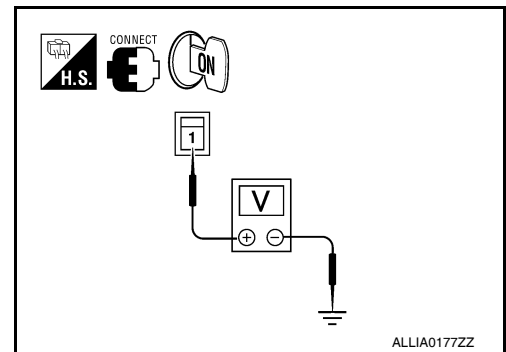
### Diagnosis Procedure

INFOID:000000001735617

#### 1. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between rear window defogger connector and ground.

Terminals		(-)	Condition of rear window defogger switch	Voltage (V) (Approx.)
(+)				
Rear window defogger connector	Terminal			
D406	1	Ground	ON	Battery voltage
			OFF	0



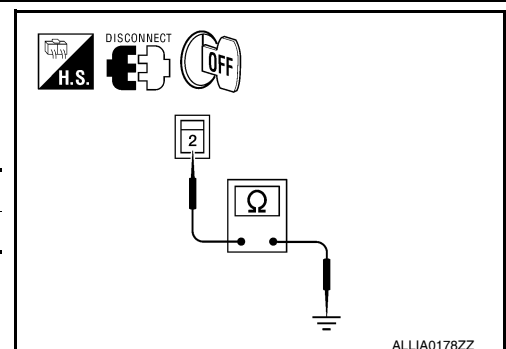
Is the inspection result normal?

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

#### 2. CHECK GROUND CIRCUIT

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

Rear window defogger connector	Terminal	Ground	Continuity
D604	2		



Is the inspection result normal?

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

#### 3. CHECK HARNESS CONTINUITY

# REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

## < COMPONENT DIAGNOSIS >

1. Disconnect IPDM E/R.
2. Check continuity between rear window defogger connector (A) and IPDM E/R connector (B).

Rear window defogger connector	Terminal	IPDM E/R connector	Terminal	Continuity
D406 (A)	1	E124 (B)	60	Yes

3. Check continuity between rear window defogger connector (A) and ground.

Rear window defogger connector	Terminal	Ground	Continuity
D406 (A)	1		No

Is the inspection result normal?

- YES >> GO TO 5  
 NO >> Replace or repair harness.

## 4. CHECK FILAMENT

Check filament.

Refer to [DEF-33, "Filament Check"](#).

Is the inspection result normal?

- YES >> Refer to [GI-38, "Intermittent Incident"](#).  
 NO >> Repair filament. Refer to [DEF-33, "Filament Repair"](#).

## 5. CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-38, "Intermittent Incident"](#).

Is the inspection result normal?

- YES >> Check the following.
- Battery power supply circuit.
  - IPDM E/R.
- NO >> Repair or replace the malfunctioning parts.

## Component Inspection

INFOID:000000001735618

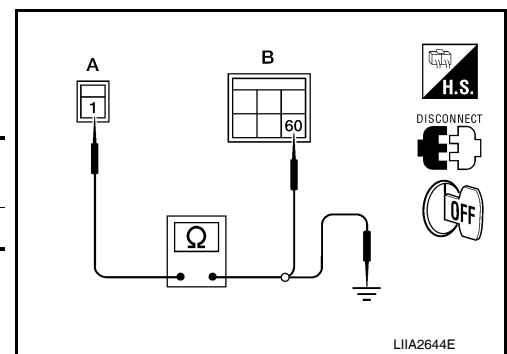
## 1. CHECK FILAMENT

Check the filament for damage or open circuits.

Refer to [DEF-33, "Filament Check"](#).

Is the inspection result normal?

- YES >> Inspection End.  
 NO >> Repair filament. Refer to [DEF-33, "Filament Repair"](#).



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# DOOR MIRROR DEFOGGER LH

< COMPONENT DIAGNOSIS >

## DOOR MIRROR DEFOGGER LH

### Description

INFOID:000000001735623

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

### Component Function Check

INFOID:000000001735624

#### 1. CHECK DOOR MIRROR DEFOGGER LH

Check that heating wire of door mirror defogger LH is heated when turning the rear window defogger switch ON.

Is the inspection result normal?

- YES >> Door mirror defogger is OK.
- NO >> Refer to [DEF-12. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000001735625

#### 1. CHECK POWER SUPPLY

Check if the following fuse in the IPDM E/R is blown.

COMPONENT PARTS	AMPERE	FUSE NO.
IPDM E/R	15A	43

Is the inspection result normal?

- YES >> GO TO 2
- NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

#### 2. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT

Check voltage between IPDM E/R connector and ground.

Connector	Terminal		Condition	Voltage (V) (Approx.)
	(+)	(-)		
E120	23	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

Is the inspection result normal?

- YES >> GO TO 3
- NO >> Replace IPDM E/R. Refer to [PCS-34. "Removal and Installation of IPDM E/R"](#).

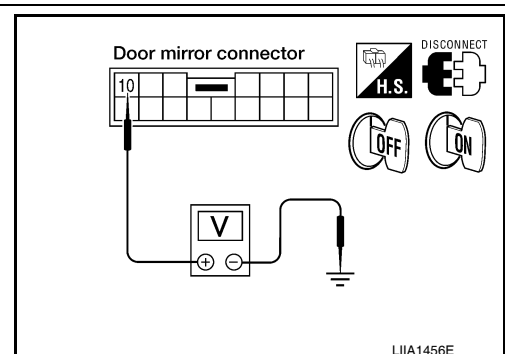
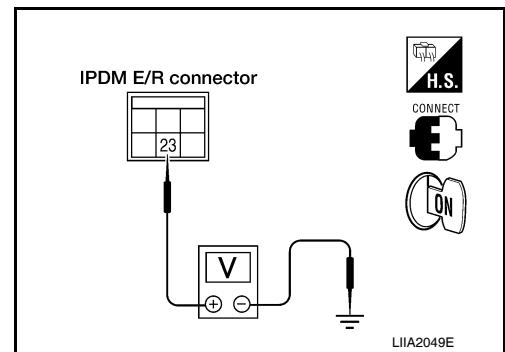
#### 3. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT 2

1. Turn ignition switch OFF.
2. Disconnect door mirror LH.
3. Turn ignition switch ON.
4. Check voltage between door mirror LH connector and ground.

Connector	Terminal		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D4	10	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

Is the inspection result normal?

- YES >> GO TO 4



# DOOR MIRROR DEFOGGER LH

## < COMPONENT DIAGNOSIS >

NO >> Repair or replace harness.

### 4. CHECK DOOR MIRROR DEFOGGER CIRCUIT

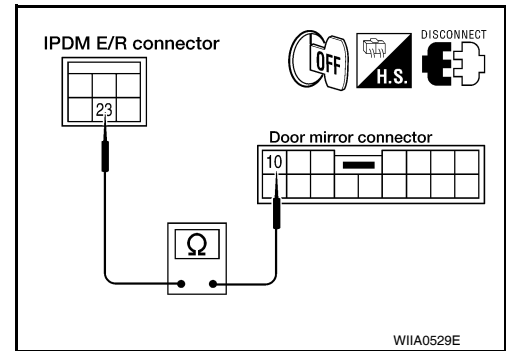
1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and door mirror LH.
3. Check continuity between IPDM E/R connector E120 terminal 23 and door mirror LH connector D4 terminal 10.

**23 - 10** : Continuity should exist.

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.



### 5. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

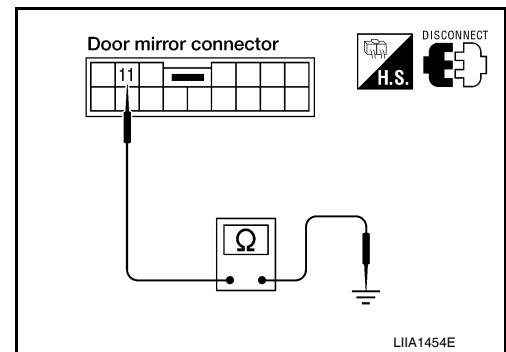
Check continuity between door mirror LH connector D4 terminal 11 and ground.

**11 - Ground** : Continuity should exist.

Is the inspection result normal?

YES >> GO TO 6

NO >> Repair or replace harness.



### 6. CHECK DOOR MIRROR DEFOGGER LH

Check door mirror defogger LH.

Refer to [DEF-13, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 7

NO >> Replace door mirror. Refer to [MIR-11, "Door Mirror Assembly"](#).

### 7. CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-38, "Intermittent Incident"](#).

Is the inspection result normal?

YES >> Check the following.

- Battery power supply circuit.
- IPDM E/R.

NO >> Repair or replace the malfunctioning parts.

## Component Inspection

INFOID:000000001735626

### 1. CHECK DOOR MIRROR DEFOGGER

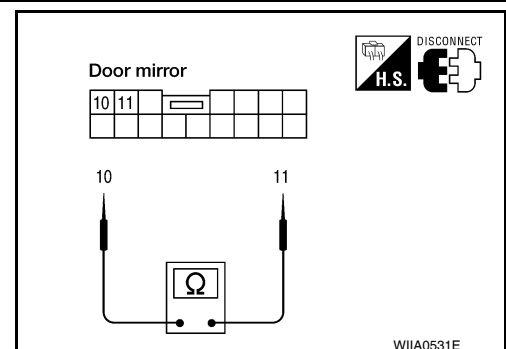
Check continuity between door mirror LH terminals 10 and 11.

**10 - 11** : Continuity should exist.

Is the inspection result normal?

YES >> Check the condition of the harness and the connector.

NO >> Replace malfunctioning door mirror LH. Refer to [MIR-11, "Door Mirror Assembly"](#).



# DOOR MIRROR DEFOGGER RH

< COMPONENT DIAGNOSIS >

## DOOR MIRROR DEFOGGER RH

### Description

INFOID:000000001735631

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

### Component Function Check

INFOID:000000001735632

#### 1. CHECK DOOR MIRROR DEFOGGER RH

Check that the heating wire of door mirror defogger RH is heated when turning the rear window defogger switch ON.

Is the inspection result normal?

- YES >> Door mirror defogger RH is OK.
- NO >> Refer to [DEF-14. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000001735633

#### 1. CHECK POWER SUPPLY

Check if the following fuse in the IPDM E/R is blown.

COMPONENT PARTS	AMPERE	FUSE NO.
IPDM E/R	15A	43

Is the inspection result normal?

- YES >> GO TO 2
- NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

#### 2. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT

Check voltage between IPDM E/R connector and ground.

Connector	Terminal		Condition	Voltage (V) (Approx.)
	(+)	(-)		
E120	23	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

Is the inspection result normal?

- YES >> GO TO 3
- NO >> Replace IPDM E/R. Refer to [PCS-34. "Removal and Installation of IPDM E/R"](#).

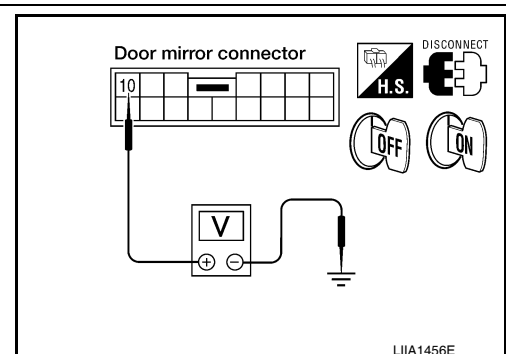
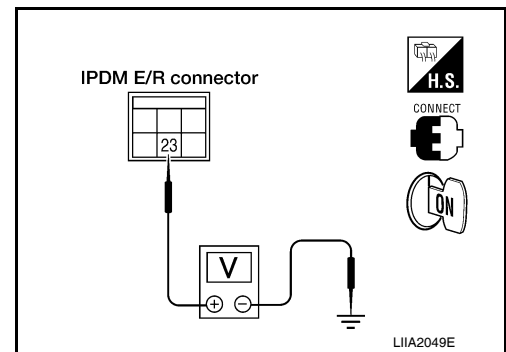
#### 3. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT 2

1. Turn ignition switch OFF.
2. Disconnect door mirror RH.
3. Turn ignition switch ON.
4. Check voltage between door mirror RH connector and ground.

Connector	Terminal		Condition	Voltage (V) (Approx.)
	(+)	(-)		
D107	10	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0

Is the inspection result normal?

- YES >> GO TO 4



# DOOR MIRROR DEFOGGER RH

## < COMPONENT DIAGNOSIS >

NO >> Repair or replace harness.

### 4. CHECK DOOR MIRROR DEFOGGER CIRCUIT

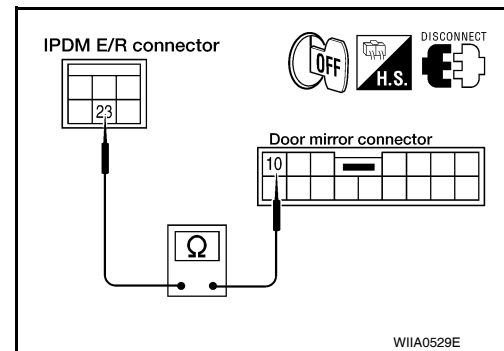
1. Turn ignition switch OFF.
2. Disconnect IPDM E/R and door mirror RH.
3. Check continuity between IPDM E/R connector E120 terminal 23 and door mirror RH connector D107 terminal 10.

**23 - 10** : Continuity should exist.

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.



### 5. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

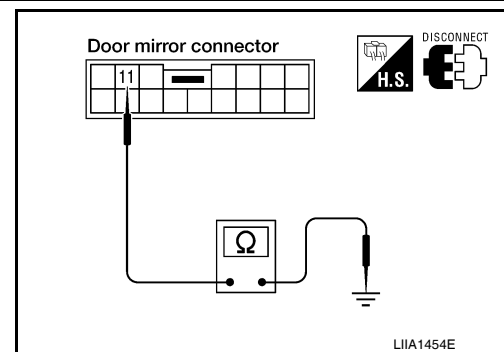
Check continuity between door mirror RH connector D107 terminal 11 and ground.

**11 - Ground** : Continuity should exist.

Is the inspection result normal?

YES >> GO TO 6

NO >> Repair or replace harness.



### 6. CHECK DOOR MIRROR DEFOGGER RH

Check door mirror defogger RH.

Refer to [DEF-15, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 7

NO >> Replace door mirror. Refer to [MIR-11, "Door Mirror Assembly"](#).

### 7. CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-38, "Intermittent Incident"](#).

Is the inspection result normal?

YES >> Check the following.

- Battery power supply circuit.
- IPDM E/R.

NO >> Repair or replace the malfunctioning parts.

## Component Inspection

INFOID:000000001735634

### 1. CHECK DOOR MIRROR DEFOGGER

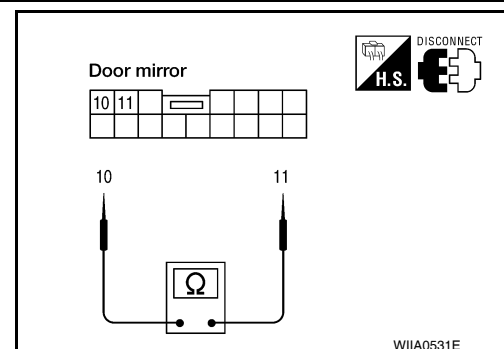
Check continuity between door mirror RH terminals 10 and 11.

**10 - 11** : Continuity should exist.

Is the inspection result normal?

YES >> Check the condition of the harness and the connector.

NO >> Replace malfunctioning door mirror RH. Refer to [MIR-11, "Door Mirror Assembly"](#).



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## ECU DIAGNOSIS

### BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000001735635

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
REAR DEF SW	<b>NOTE:</b> The item is indicated, but not monitored.	OFF

### TERMINAL LAYOUT

Refer to [BCS-40, "Terminal Layout"](#).

### PHYSICAL VALUES

Refer to [BCS-40, "Physical Values"](#).



# BCM (BODY CONTROL MODULE)

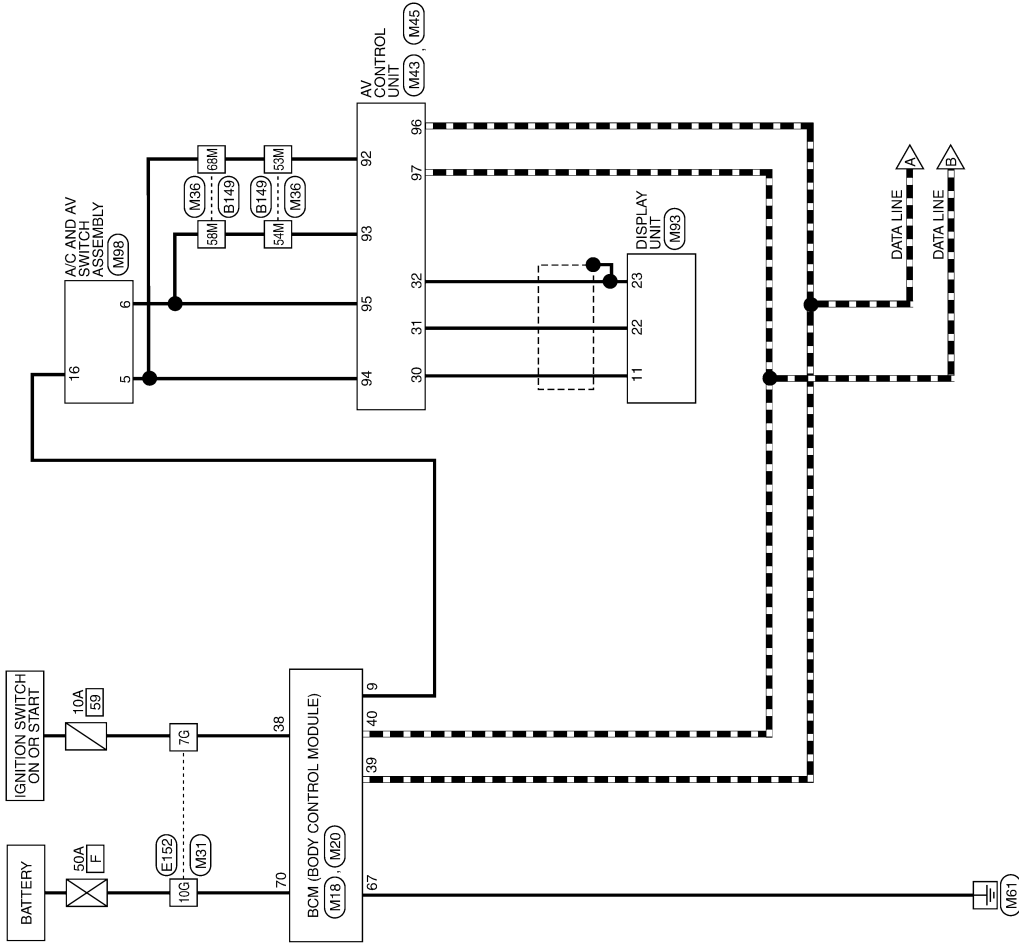
< ECU DIAGNOSIS >

## Wiring Diagram

INFOID:000000001735636

### REAR WINDOW DEFOGGER

--- : DATA LINE



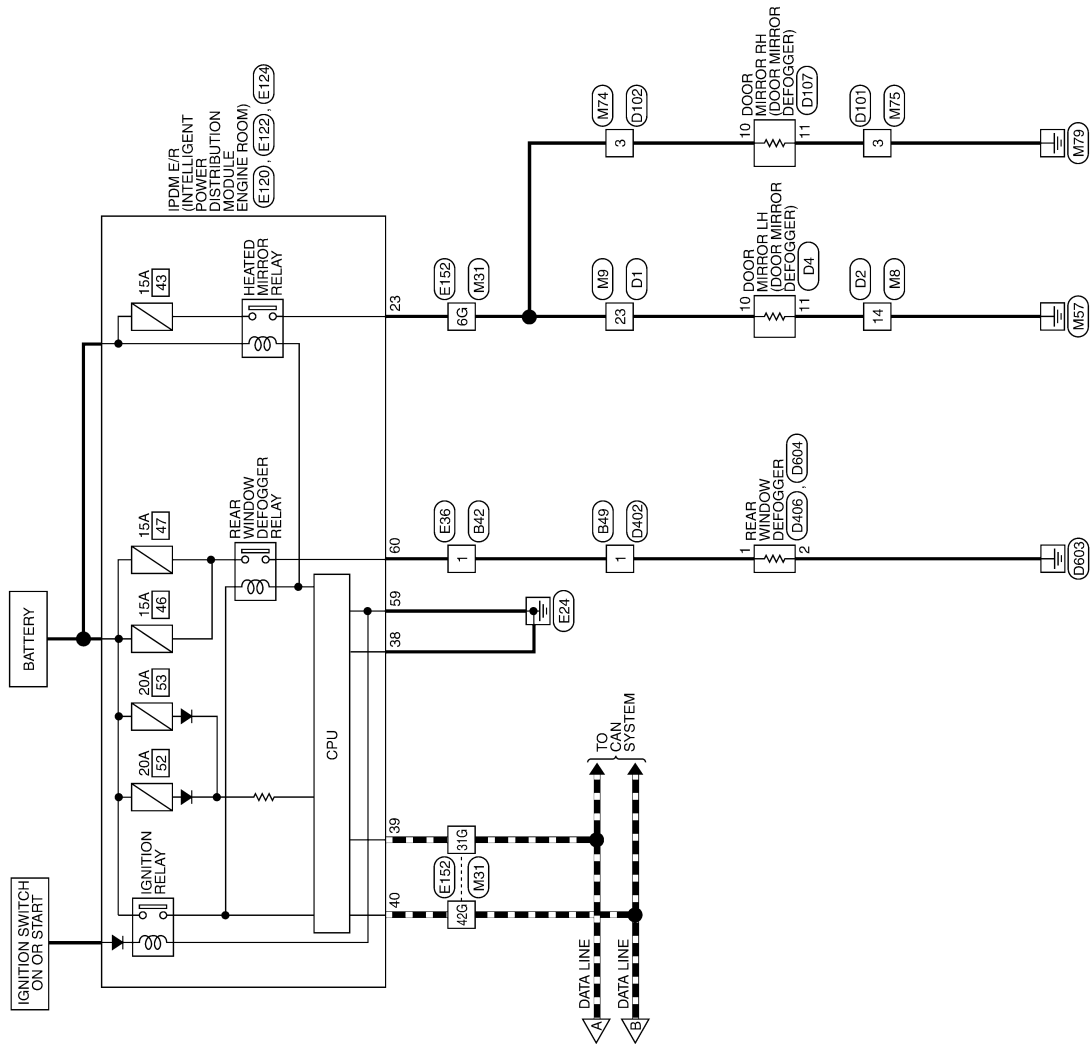
A  
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

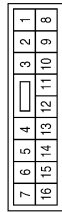
■ : DATA LINE



ALLWA0059GB

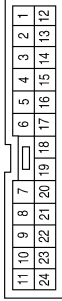
## REAR WINDOW DEFOGGER CONNECTORS

Connector No.	M8
Connector Name	WIRE TO WIRE
Connector Color	WHITE



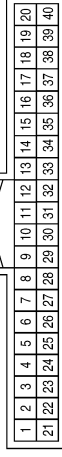
Terminal No.	Color of Wire	Signal Name
14	B	-

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	BROWN



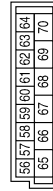
Terminal No.	Color of Wire	Signal Name
23	GR/W	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



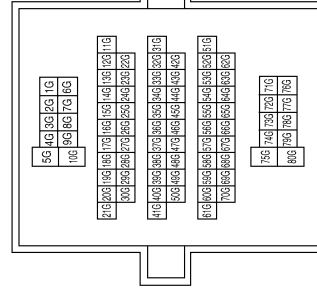
Terminal No.	Color of Wire	Signal Name
9	GR/R	RR DEF SW
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
70	W/B	BATT (FL)

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



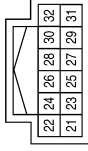
Terminal No.	Color of Wire	Signal Name
6G	GR/W	-
7G	W/L	-
10G	W/B	-
31G	L	-
42G	P	-

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

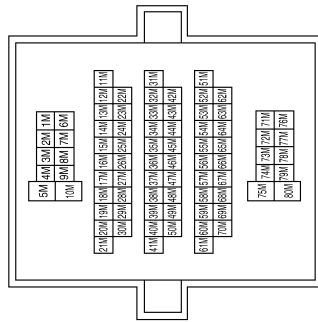
Connector No.	M43
Connector Name	AV CONTROL UNIT
Connector Color	WHITE



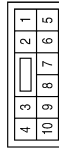
Terminal No.	Color of Wire	Signal Name
30	V	IT DISP
31	LG	DISP IT
32	SHIELD	SHIELD

Terminal No.	Color of Wire	Signal Name
53M	L/W	-
54M	B/P	-
58M	P/B	-
68M	W/L	-

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

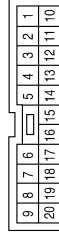


Connector No.	M75
Connector Name	WIRE TO WIRE
Connector Color	WHITE



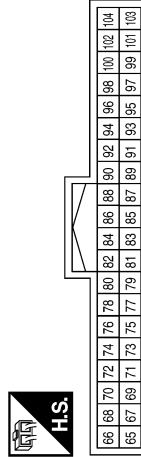
Terminal No.	3	Color of Wire	B	Signal Name	-
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Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	3	Color of Wire	GR/W	Signal Name	-
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Connector No.	M45
Connector Name	AV CONTROL UNIT
Connector Color	WHITE



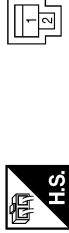
Terminal No.	Color of Wire	Signal Name
92	L/W	M-CAN2-H
93	B/P	M-CAN2-L
94	W/L	M-CAN1-H
95	P/B	M-CAN1-L
96	L	CAN-H
97	P	CAN-L

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# BCM (BODY CONTROL MODULE)

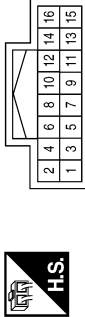
< ECU DIAGNOSIS >

Connector No.	E36
Connector Name	WIRE TO WIRE
Connector Color	WHITE



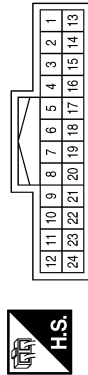
Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	M98
Connector Name	A/C AND AV SWITCH ASSEMBLY
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	W/L	M-CAN1-H
6	P/B	M-CAN1-L
16	GR/R	RR DEFOG

Connector No.	M93
Connector Name	DISPLAY UNIT
Connector Color	WHITE



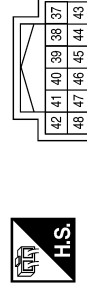
Terminal No.	Color of Wire	Signal Name
11	V	IT-DISP
22	LG	DISP-IT
23	SHIELD	SHIELD

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
59	B	GND(PWR)
60	B/W	RR_DEF

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
38	B	GND(SIG)
39	L	CAN-H
40	P	CAN-L

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
23	GR/W	HEAT_MIRROR

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A  
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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

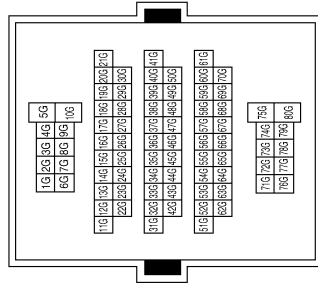
Connector No.	B42
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-

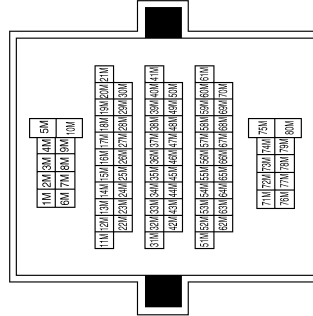
Terminal No.	Color of Wire	Signal Name
6G	GR/W	-
7G	W/L	-
10G	W/B	-
31G	L	-
42G	P	-

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
53M	W/L	-
54M	P/B	-
58M	P/B	-
68M	W/L	-

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	B49
Connector Name	WIRE TO WIRE
Connector Color	WHITE



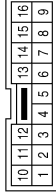
Terminal No.	Color of Wire	Signal Name
1	B	-

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# BCM (BODY CONTROL MODULE)

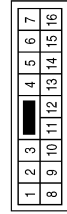
< ECU DIAGNOSIS >

Connector No.	D4
Connector Name	DOOR MIRROR LH
Connector Color	WHITE



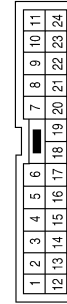
Terminal No.	Color of Wire	Signal Name
10	GR/W	-
11	B	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
14	B	-

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	WHITE



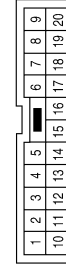
Terminal No.	Color of Wire	Signal Name
23	GR/W	-

Connector No.	D107
Connector Name	DOOR MIRROR RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
10	GR/W	-
11	B	-

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
3	GR/W	-

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	B	-

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Connector No.	D604
Connector Name	REAR WINDOW DEFOGGER
Connector Color	BLACK



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

Connector No.	D406
Connector Name	REAR WINDOW DEFOGGER
Connector Color	BLACK



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

Connector No.	D402
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	1	Color of Wire	B	Signal Name	-
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AALIA0179GB



# REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPERATE.

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPERATE.

### Diagnosis Procedure

INFOID:000000001735637

#### 1. CHECK REAR WINDOW DEFOGGER SWITCH

Check rear window defogger switch.

Refer to [DEF-10. "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 [DEF-9. "Component Function Check"](#).

Is the inspection result normal?

YES >> Refer to [GI-38. "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.

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# REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH OF DOOR MIRROR DEFOGGER OPERATE.

< SYMPTOM DIAGNOSIS >

---

REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH OF DOOR MIRROR DEFOGGER OPERATE.

## Diagnosis Procedure

INFOID:000000001735638

### 1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

---

Check rear window defogger power supply and ground circuit.

Refer to [DEF-10, "Component Function Check"](#).

Is the inspection result normal?

YES >> Refer to [GI-38, "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.

# BOTH DOORS MIRROR DEFOGGER DON'T OPERATE BUT REAR WINDOW DEFOGGER OPERATES

< SYMPTOM DIAGNOSIS >

## BOTH DOORS MIRROR DEFOGGER DON'T OPERATE BUT REAR WINDOW DEFOGGER OPERATES

### Diagnosis Procedure

INFOID:000000001735639

#### 1. CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-38. "Intermittent Incident"](#).

Is the inspection result normal?

- YES >> Check the following.
- Battery power supply circuit.
  - IPDM E/R.
- NO >> Repair or replace the malfunctioning parts.

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## DRIVER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

< SYMPTOM DIAGNOSIS >

---

## DRIVER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

### Diagnosis Procedure

INFOID:000000001735640

#### 1. CHECK DOOR MIRROR DEFOGGER LH

---

Check door mirror defogger LH.

Refer to [DEF-12, "Component Function Check"](#).

Is the inspection result normal?

YES >> Refer to [GI-38, "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.

# PASSENGER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

< SYMPTOM DIAGNOSIS >

---

## PASSENGER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

### Diagnosis Procedure

INFOID:000000001735641

#### 1. CHECK DOOR MIRROR DEFOGGER RH

---

Check door mirror defogger RH.

Refer to [DEF-14, "Component Function Check"](#).

Is the inspection result normal?

YES >> Refer to [GI-38, "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.

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# REAR WINDOW DEFOGGER SWITCH DOES NOT LIGHT, BUT REAR WINDOW DEFOGGER OPERATES

< SYMPTOM DIAGNOSIS >

---

## REAR WINDOW DEFOGGER SWITCH DOES NOT LIGHT, BUT REAR WINDOW DEFOGGER OPERATES

### Diagnosis Procedure

INFOID:000000001735642

#### 1. CHECK A/C AND AV SWITCH ASSEMBLY (REAR WINDOW DEFOGGER SWITCH)

---

Check that the A/C and AV switch assembly (rear window defogger switch) is operating normally.

Is the inspection result normal?

- YES >> Refer to [GI-38, "Intermittent Incident"](#).
- NO >> Refer to [DEF-8, "Diagnosis Procedure"](#).

# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000004894308

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 SR and SB section of this Service Manual.

#### **WARNING:**

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

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

#### **WARNING:**

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

#### Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000004894309

#### **NOTE:**

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

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## PRECAUTIONS

### < PRECAUTION >

---

5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.

### Handling for Adhesive and Primer

INFOID:000000001608214

- Do not use an adhesive which is past its usable date. Shelf life of this product is limited to six months after the date of manufacture. Carefully adhere to the expiration or manufacture date printed on the box.
- Keep primers and adhesive in a cool, dry place. Ideally, they should be stored in a refrigerator.
- Open the seal of the primer and adhesive just before application. Discard the remainder.
- Before application, be sure to shake the primer container to stir the contents. If any floating material is found, do not use it.
- If any primer or adhesive contacts the skin, wipe it off with gasoline or equivalent and wash the skin with soap.
- When using primer and adhesive, always observe the precautions in the instruction manual.



# REAR WINDOW DEFOGGER

< ON-VEHICLE REPAIR >

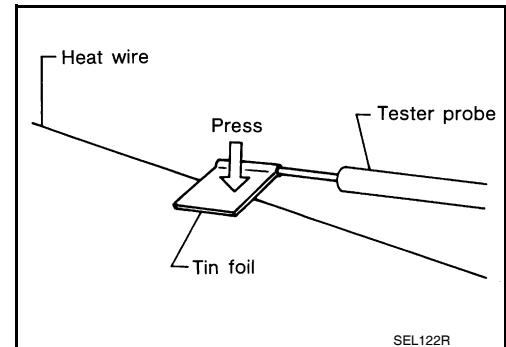
## ON-VEHICLE REPAIR

### REAR WINDOW DEFOGGER

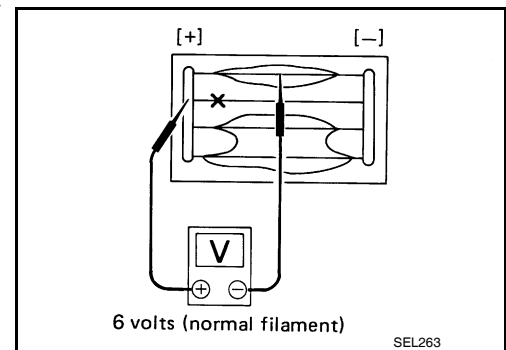
#### Filament Check

INFOID:000000001608215

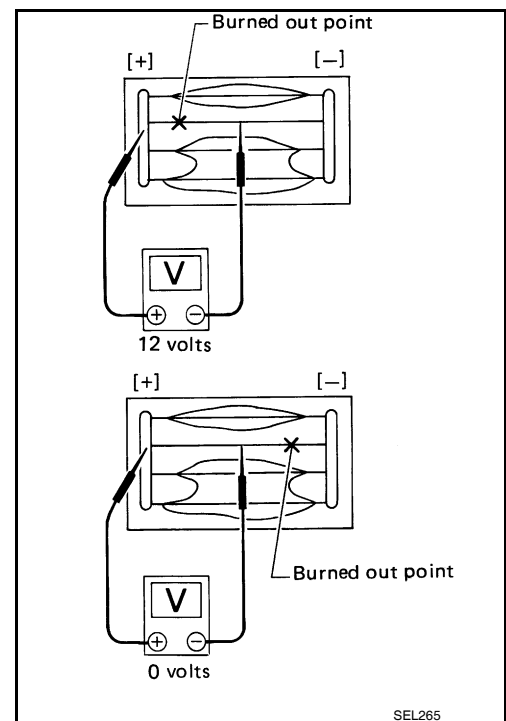
1. When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



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.



#### Filament Repair

INFOID:000000001608216

#### REPAIR EQUIPMENT

- Conductive silver composition (DuPont No. 4817 or equivalent)
- Ruler 30 cm (11.8 in) long

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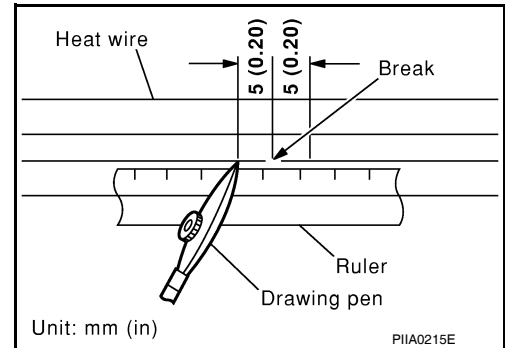
# REAR WINDOW DEFOGGER

## < ON-VEHICLE REPAIR >

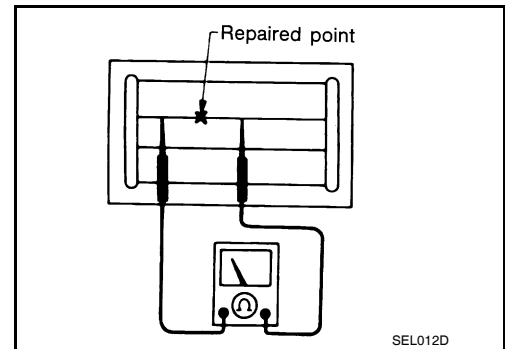
- Drawing pen
- Heat gun
- Alcohol
- Cloth

### 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.
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.



4. 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.



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.

