

SECTION **DEF**  
**DEFOGGER**

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

#### Repair Work Flow

INFOID:000000004181532

#### 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-37. "Intermittent Incident"](#).

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# REAR WINDOW DEFOGGER SYSTEM

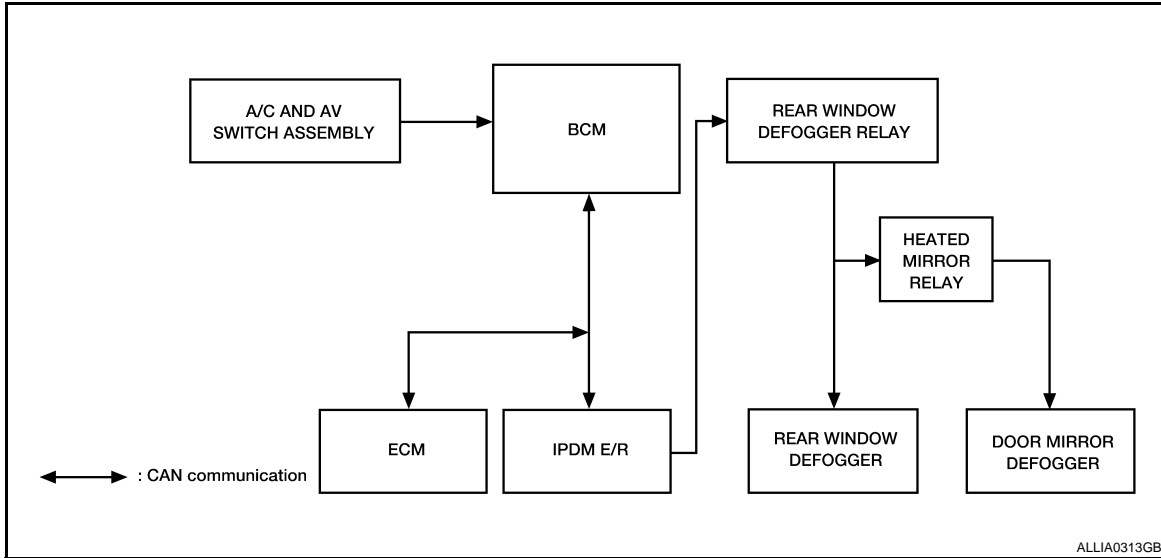
< FUNCTION DIAGNOSIS >

## FUNCTION DIAGNOSIS

### REAR WINDOW DEFOGGER SYSTEM

#### System Diagram

INFOID:000000003708828



#### System Description

INFOID:000000003708829

#### 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

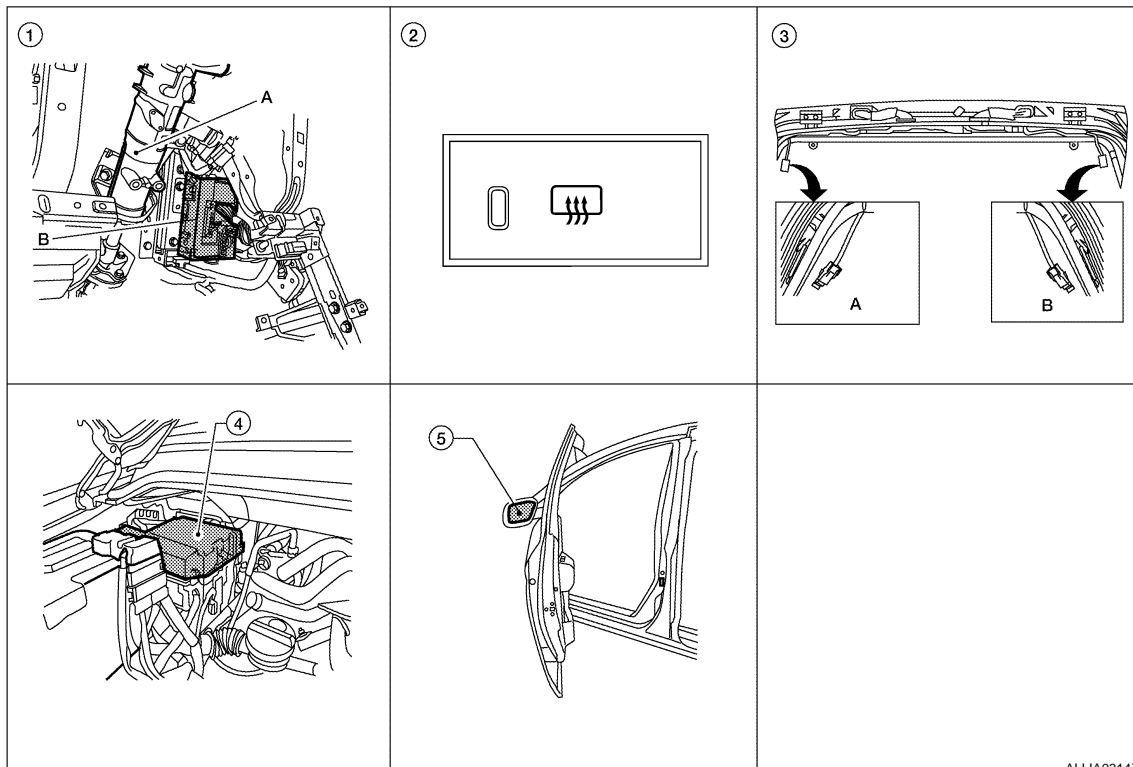
Switch	Input signal to BCM	BCM function	Acuator
Rear window defogger switch	Defogger switch signal	Rear window defogger & door mirror defogger control	Rear window defogger
Ignition switch	Ignition signal		Door mirror defogger

# REAR WINDOW DEFOGGER SYSTEM

< FUNCTION DIAGNOSIS >

## Component Parts Location

INFOID:000000003708830



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 (with automatic drive positioner)  
LH D6, RH D106 (without automatic drive positioner)

## Component Description

INFOID:000000003708831

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>

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:000000004181533

#### 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-53, "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	<ul style="list-style-type: none"> <li>Enables to read and save the vehicle specification.</li> <li>Enables to write the vehicle specification when replacing BCM.</li> </ul>

#### 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.

System	Sub system selection item	Diagnosis mode		
		WORK SUPPORT	DATA MONITOR	ACTIVE TEST
BCM	BCM	×		
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system*	INTELLIGENT KEY		×	
Combination switch	COMB SW		×	
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	×
RAP (retained accessory power)	RETAINED PWR	×	×	×
Signal buffer system	SIGNAL BUFFER		×	×
TPMS (tire pressure monitoring system)	AIR PRESSURE MONITOR	×	×	×
Vehicle security system	PANIC ALARM			×

\*: With Intelligent Key

## REAR WINDOW DEFOGGER

# DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

INFOID:000000004181534

### DATA MONITOR

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

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# CAN COMMUNICATION

< FUNCTION DIAGNOSIS >

## CAN COMMUNICATION

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### System Description

INFOID:000000003708834

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



# REAR WINDOW DEFOGGER SWITCH

< COMPONENT DIAGNOSIS >

## COMPONENT DIAGNOSIS

### REAR WINDOW DEFOGGER SWITCH

#### Description

INFOID:000000003708835

- 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:000000003708836

#### 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-9, "Diagnosis Procedure"](#).

#### Diagnosis Procedure

INFOID:000000003708837

#### 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).

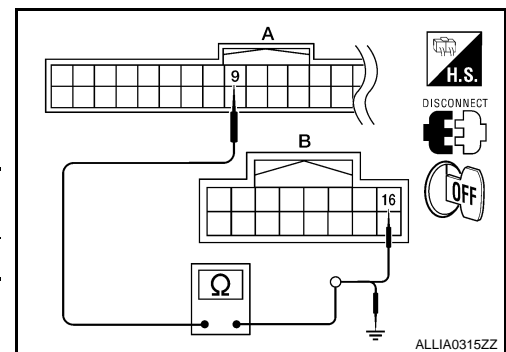
BCM connector	Terminal	A/C and AV switch assembly connector	Terminal	Continuity
M18 (A)	9	M98 (B)	16	Yes

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/V and AC switch assembly. Refer to [VTL-7, "Removal and Installation"](#).  
NO >> Repair or replace harness.



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# REAR WINDOW DEFOGGER RELAY

< COMPONENT DIAGNOSIS >

## REAR WINDOW DEFOGGER RELAY

### Description

INFOID:000000003708838

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

### Component Function Check

INFOID:000000003708839

#### 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-10, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000003708840

#### 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

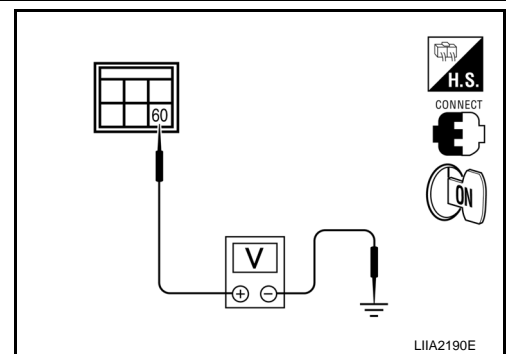
Is the inspection result normal?

- 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

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

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



Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-33, "Removal and Installation of IPDM E/R"](#).  
 NO >> GO TO 3

#### 3. CHECK INTERMITTENT INCIDENT

Check intermittent incident.  
 Refer to [GI-37, "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:000000003708841

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:000000003708842

### 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-11. "Diagnosis Procedure"](#).

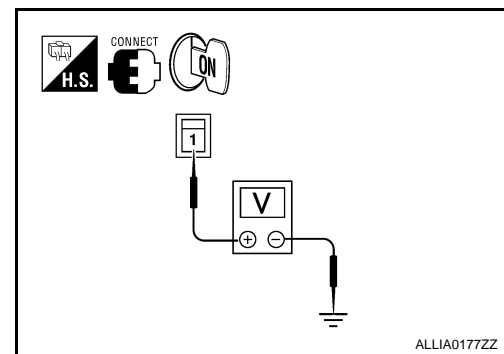
### Diagnosis Procedure

INFOID:000000003708843

#### 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



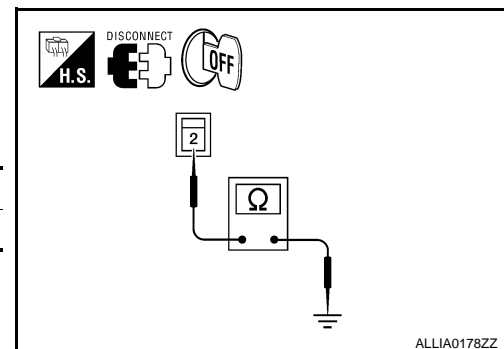
Is the inspection result normal?

- 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-12, "Component Inspection"](#).

Is the inspection result normal?

- YES >> Refer to [GI-37, "Intermittent Incident"](#).  
 NO >> Repair filament. Refer to [DEF-47, "Inspection and Repair"](#).

## 5. CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to [GI-37, "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:000000003708844

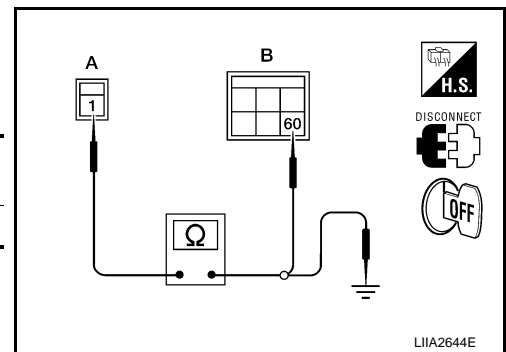
## 1. CHECK FILAMENT

Check the filament for damage or open circuits.

Refer to [DEF-47, "Inspection and Repair"](#).

Is the inspection result normal?

- YES >> Inspection End.  
 NO >> Repair filament. Refer to [DEF-47, "Inspection and Repair"](#).



# DOOR MIRROR DEFOGGER LH (WITHOUT AUTOMATIC DRIVE POSITIONER)

< COMPONENT DIAGNOSIS >

## DOOR MIRROR DEFOGGER LH (WITHOUT AUTOMATIC DRIVE POSITIONER)

### Description

INFOID:000000003708845

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:000000003708846

#### 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-13. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000003708847

#### 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

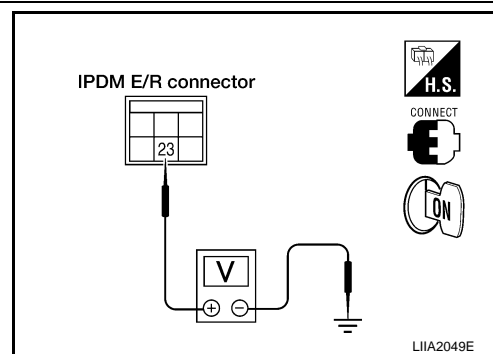
Is the inspection result normal?

- 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



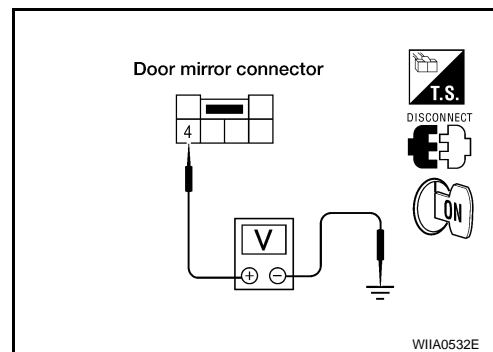
Is the inspection result normal?

- YES >> GO TO 3
- NO >> Replace IPDM E/R. Refer to [PCS-33. "Removal and Installation of IPDM E/R"](#).

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

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.)
	(+)	(-)		
D6	4	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0



Is the inspection result normal?

# DOOR MIRROR DEFOGGER LH (WITHOUT AUTOMATIC DRIVE POSITIONER)

## < COMPONENT DIAGNOSIS >

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

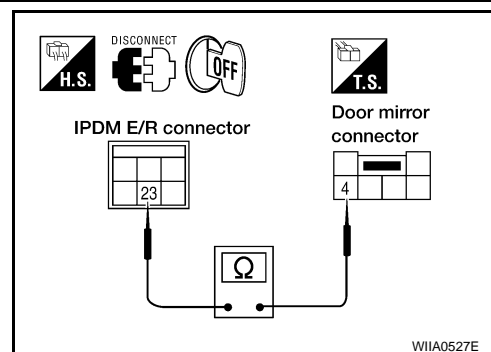
### 4. CHECK DOOR MIRROR DEFOGGER CIRCUIT

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 D6 terminal 4.

**23 - 4 : Continuity should exist.**

Is the inspection result normal?

- YES >> GO TO 5  
NO >> Repair or replace harness.



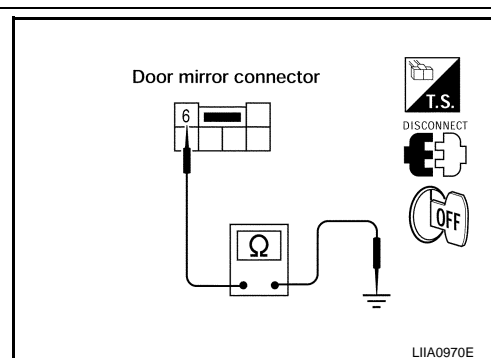
### 5. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

Check continuity between door mirror LH connector D6 terminal 6 and ground.

**6 - 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-14, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 7  
NO >> Replace door mirror. Refer to [MIR-19, "Door Mirror Assembly"](#).

### 7. CHECK INTERMITTENT INCIDENT

Check intermittent incident.  
Refer to [GI-37, "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:000000003708848

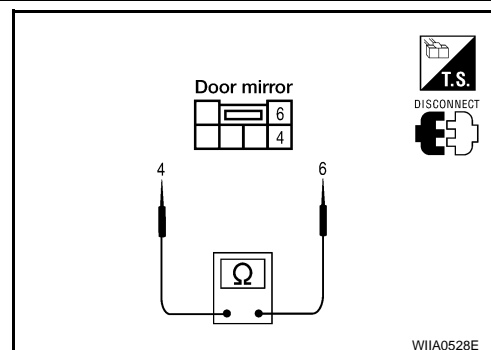
### 1. CHECK DOOR MIRROR DEFOGGER

Check continuity between door mirror LH terminals 4 and 6.

**4 - 6 : 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-19, "Door Mirror Assembly"](#).



# DOOR MIRROR DEFOGGER LH (WITH AUTOMATIC DRIVE POSITIONER)

< COMPONENT DIAGNOSIS >

## DOOR MIRROR DEFOGGER LH (WITH AUTOMATIC DRIVE POSITIONER)

### Description

INFOID:000000003708849

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:000000003708850

#### 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-15. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000003708851

#### 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

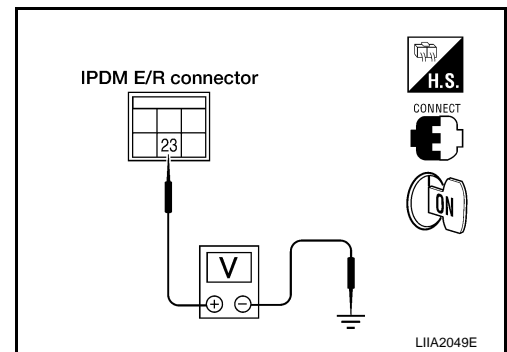
Is the inspection result normal?

- 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



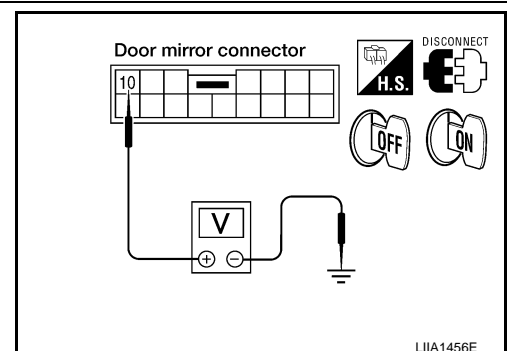
Is the inspection result normal?

- YES >> GO TO 3
- NO >> Replace IPDM E/R. Refer to [PCS-33. "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 (WITH AUTOMATIC DRIVE POSITIONER)

## < COMPONENT DIAGNOSIS >

NO >> Repair or replace harness.

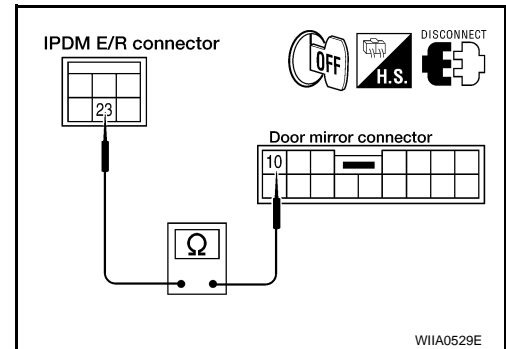
### 4. CHECK DOOR MIRROR DEFOGGER CIRCUIT

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.



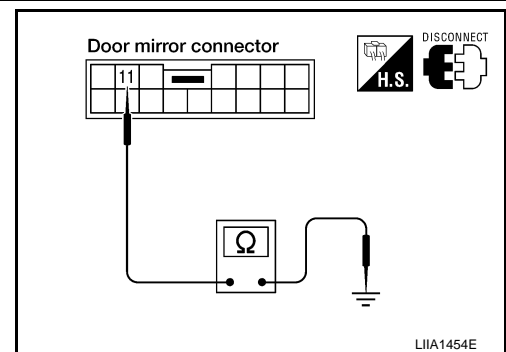
### 5. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

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-16. "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 7  
NO >> Replace door mirror. Refer to [MIR-19. "Door Mirror Assembly"](#).

### 7. CHECK INTERMITTENT INCIDENT

Check intermittent incident.  
Refer to [GI-37. "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:000000003708852

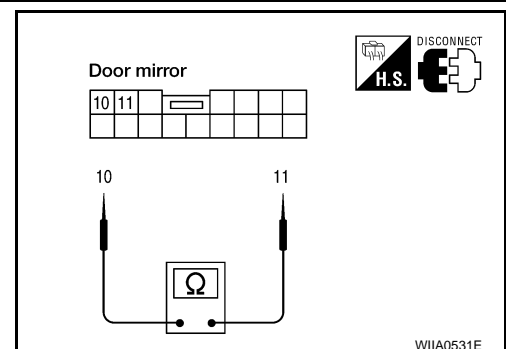
### 1. CHECK DOOR MIRROR DEFOGGER

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-19. "Door Mirror Assembly"](#).





# DOOR MIRROR DEFOGGER RH (WITHOUT AUTOMATIC DRIVE POSITIONER)

< COMPONENT DIAGNOSIS >

## DOOR MIRROR DEFOGGER RH (WITHOUT AUTOMATIC DRIVE POSITIONER)

### Description

INFOID:000000003708853

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:000000003708854

#### 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-17. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000003708855

#### 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

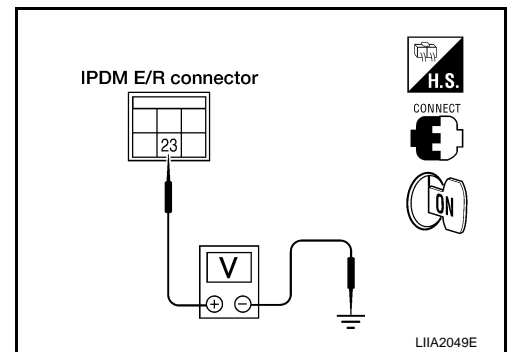
Is the inspection result normal?

- 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



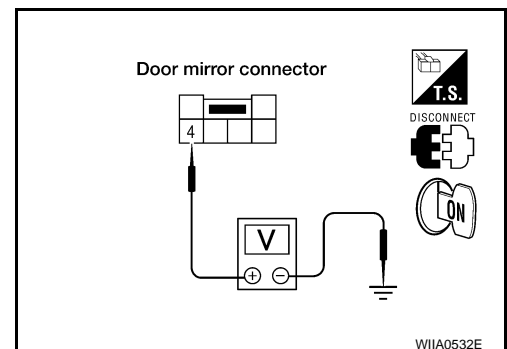
Is the inspection result normal?

- YES >> GO TO 3
- NO >> Replace IPDM E/R. Refer to [PCS-33. "Removal and Installation of IPDM E/R"](#).

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

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.)
	(+)	(-)		
D106	4	Ground	Rear window defogger switch ON	Battery voltage
			Rear window defogger switch OFF	0



Is the inspection result normal?

# DOOR MIRROR DEFOGGER RH (WITHOUT AUTOMATIC DRIVE POSITIONER)

## < COMPONENT DIAGNOSIS >

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

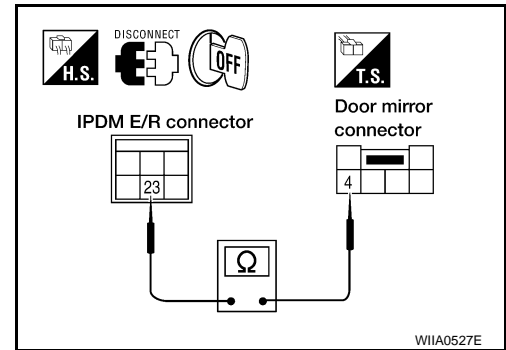
### 4. CHECK DOOR MIRROR DEFOGGER CIRCUIT

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 D106 terminal 4.

**23 - 4** : Continuity should exist.

Is the inspection result normal?

- YES >> GO TO 5  
NO >> Repair or replace harness.



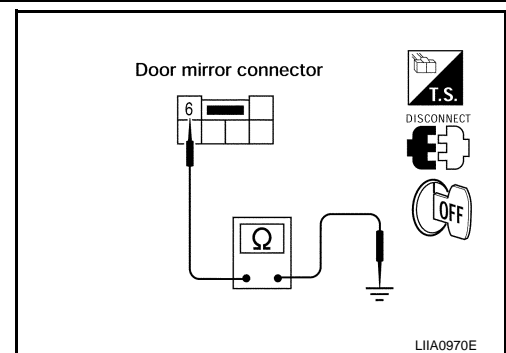
### 5. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

Check continuity between door mirror RH connector D106 terminal 6 and ground.

**6 - 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-18, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 7  
NO >> Replace door mirror. Refer to [MIR-19, "Door Mirror Assembly"](#).

### 7. CHECK INTERMITTENT INCIDENT

Check intermittent incident.  
Refer to [GI-37, "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:000000003708856

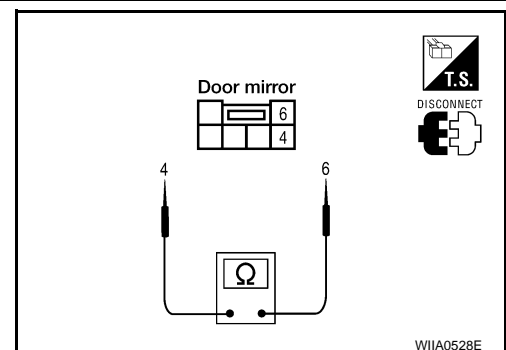
### 1. CHECK DOOR MIRROR DEFOGGER

Check continuity between door mirror RH terminals 4 and 6.

**4 - 6** : 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-19, "Door Mirror Assembly"](#).



# DOOR MIRROR DEFOGGER RH (WITH AUTOMATIC DRIVE POSITIONER)

< COMPONENT DIAGNOSIS >

## DOOR MIRROR DEFOGGER RH (WITH AUTOMATIC DRIVE POSITIONER)

### Description

INFOID:000000003708857

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:000000003708858

#### 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-19. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000003708859

#### 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

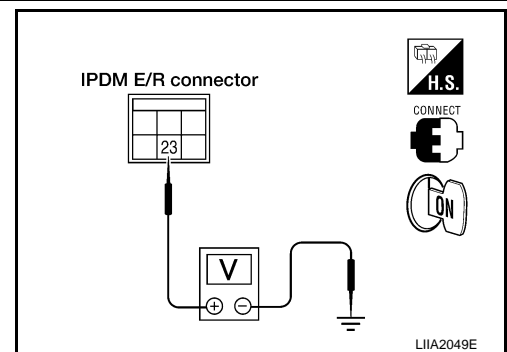
Is the inspection result normal?

- 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



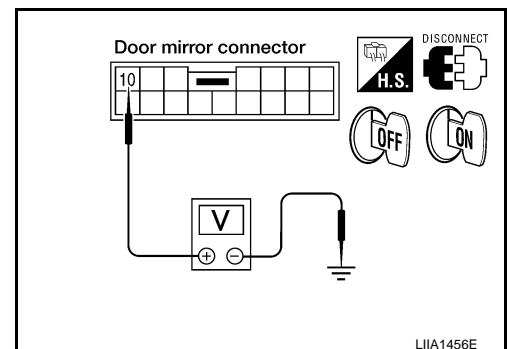
Is the inspection result normal?

- YES >> GO TO 3
- NO >> Replace IPDM E/R. Refer to [PCS-33. "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?

# DOOR MIRROR DEFOGGER RH (WITH AUTOMATIC DRIVE POSITIONER)

## < COMPONENT DIAGNOSIS >

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

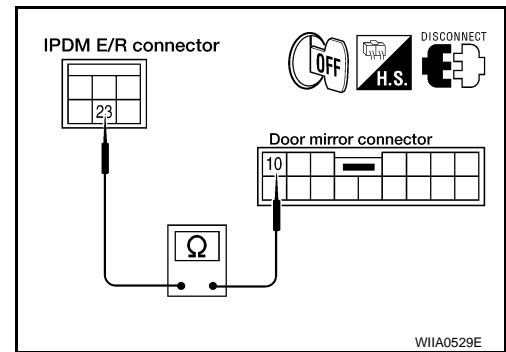
### 4. CHECK DOOR MIRROR DEFOGGER CIRCUIT

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.



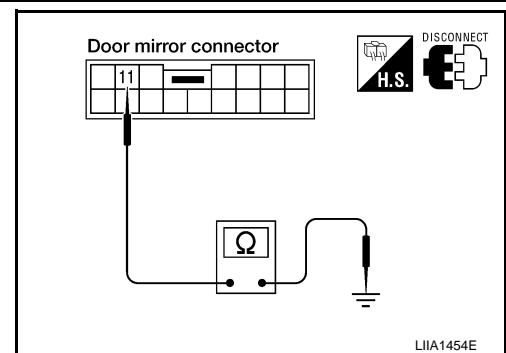
### 5. CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

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-20, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 7  
NO >> Replace door mirror. Refer to [MIR-19, "Door Mirror Assembly"](#).

### 7. CHECK INTERMITTENT INCIDENT

Check intermittent incident.  
Refer to [GI-37, "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:000000003708860

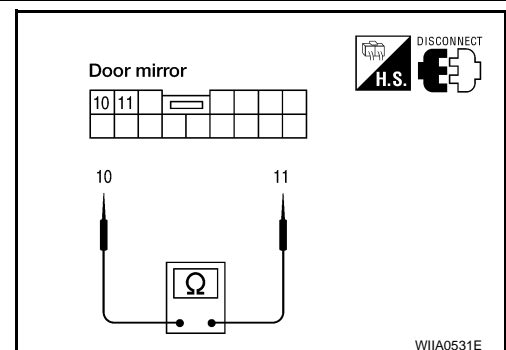
### 1. CHECK DOOR MIRROR DEFOGGER

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-19, "Door Mirror Assembly"](#).



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## ECU DIAGNOSIS

### BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000004181535

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
AIR COND SW	A/C switch OFF	OFF
	A/C switch ON	ON
AUT LIGHT SYS	Outside of the room is dark	OFF
	Outside of the room is bright	ON
AUTO LIGHT SW	Lighting switch OFF	OFF
	Lighting switch AUTO	ON
BACK DOOR SW	Back door closed	OFF
	Back door opened	ON
CDL LOCK SW	Door lock/unlock switch does not operate	OFF
	Press door lock/unlock switch to the LOCK side	ON
CDL UNLOCK SW	Door lock/unlock switch does not operate	OFF
	Press door lock/unlock switch to the UNLOCK side	ON
DOOR SW-AS	Front door RH closed	OFF
	Front door RH opened	ON
DOOR SW-DR	Front door LH closed	OFF
	Front door LH opened	ON
DOOR SW-RL	Rear door LH closed	OFF
	Rear door LH opened	ON
DOOR SW-RR	Rear door RH closed	OFF
	Rear door RH opened	ON
ENGINE RUN	Engine stopped	OFF
	Engine running	ON
FR FOG SW	Front fog lamp switch OFF	OFF
	Front fog lamp switch ON	ON
FR WASHER SW	Front washer switch OFF	OFF
	Front washer switch ON	ON
FR WIPER LOW	Front wiper switch OFF	OFF
	Front wiper switch LO	ON
FR WIPER HI	Front wiper switch OFF	OFF
	Front wiper switch HI	ON
FR WIPER INT	Front wiper switch OFF	OFF
	Front wiper switch INT	ON
FR WIPER STOP	Any position other than front wiper stop position	OFF
	Front wiper stop position	ON
HAZARD SW	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
LIGHT SW 1ST	Lighting switch OFF	OFF
	Lighting switch 1st	ON

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
HEADLAMP SW1	Headlamp switch OFF	OFF
	Headlamp switch 1st	ON
HEADLAMP SW2	Headlamp switch OFF	OFF
	Headlamp switch 1st	ON
HI BEAM SW	High beam switch OFF	OFF
	High beam switch HI	ON
H/L WASH SW	<b>NOTE:</b> The item is indicated, but not monitored	OFF
IGN ON SW	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
IGN SW CAN	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
I-KEY LOCK <sup>1</sup>	LOCK button of Intelligent Key is not pressed	OFF
	LOCK button of Intelligent Key is pressed	ON
I-KEY UNLOCK <sup>1</sup>	UNLOCK button of Intelligent Key is not pressed	OFF
	UNLOCK button of Intelligent Key is pressed	ON
KEY ON SW	Mechanical key is removed from key cylinder	OFF
	Mechanical key is inserted to key cylinder	ON
KEYLESS LOCK <sup>2</sup>	LOCK button of key fob is not pressed	OFF
	LOCK button of key fob is pressed	ON
KEYLESS UNLOCK <sup>2</sup>	UNLOCK button of key fob is not pressed	OFF
	UNLOCK button of key fob is pressed	ON
OIL PRESS SW	<ul style="list-style-type: none"> <li>• Ignition switch OFF or ACC</li> <li>• Engine running</li> </ul>	OFF
	Ignition switch ON	ON
PASSING SW	Other than lighting switch PASS	OFF
	Lighting switch PASS	ON
PUSH SW <sup>1</sup>	Return to ignition switch to LOCK position	OFF
	Press ignition switch	ON
REAR DEF SW	Rear window defogger switch OFF	OFF
	Rear window defogger switch ON	ON
RKE LOCK AND UNLOCK <sup>2</sup>	<b>NOTE:</b> The item is indicated, but not monitored	OFF
		ON
RR WASHER SW	Rear washer switch OFF	OFF
	Rear washer switch ON	ON
RR WIPER INT	Rear wiper switch OFF	OFF
	Rear wiper switch INT	ON
RR WIPER ON	Rear wiper switch OFF	OFF
	Rear wiper switch ON	ON
RR WIPER STOP	Rear wiper stop position	OFF
	Other than rear wiper stop position	ON
TAIL LAMP SW	Lighting switch OFF	OFF
	Lighting switch 1ST	ON

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
TRNK OPNR SW	When back door opener switch is not pressed	OFF
	When back door opener switch is pressed	ON
TURN SIGNAL L	Turn signal switch OFF	OFF
	Turn signal switch LH	ON
TURN SIGNAL R	Turn signal switch OFF	OFF
	Turn signal switch RH	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

1: With Intelligent Key

2: With remote keyless entry system

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DEF

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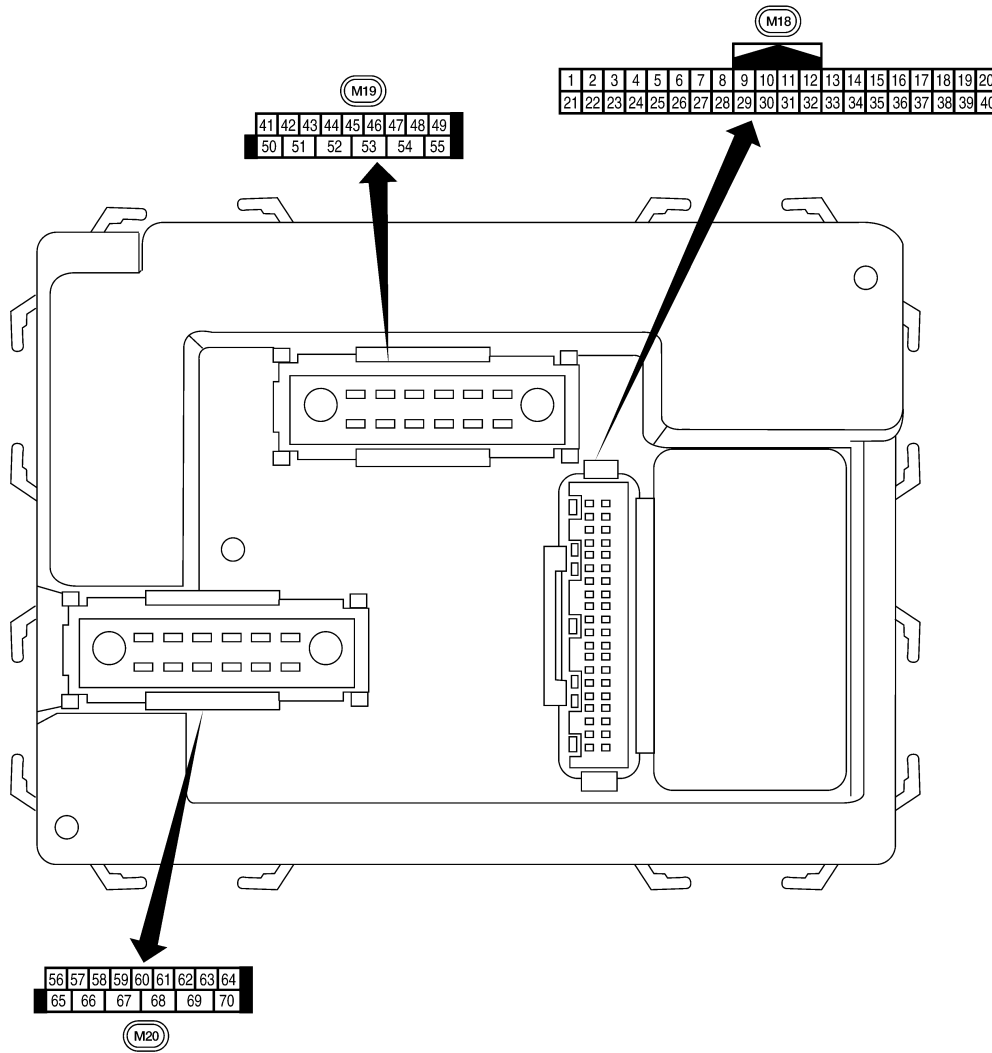
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## Terminal Layout

INFOID:000000004181536



Physical Values


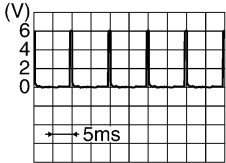

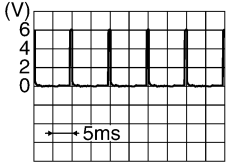
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INFOID:000000004181537



# BCM (BODY CONTROL MODULE)

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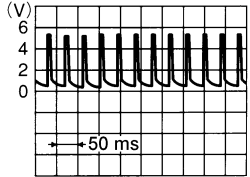
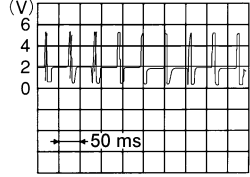
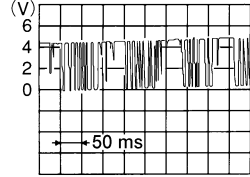
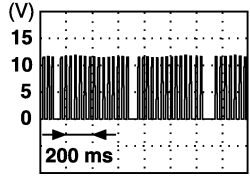
Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
1	BR/W	Ignition keyhole illumination	Output	OFF	Door is locked (SW OFF)	Battery voltage
					Door is unlocked (SW ON)	0V
2	SB	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
3	G/Y	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
4	Y	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
5	G/B	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
6	V	Combination switch input 1				
9	GR/R	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
10	G	Hazard lamp flash	Input	OFF	ON (opening or closing)	0V
					OFF (other than above)	Battery voltage
11	O	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	R/L	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	GR	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	L/W	Tire pressure warning check connector	Input	OFF	—	5V
18	P	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	—	0V

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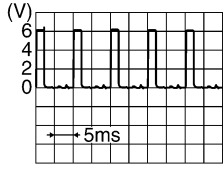
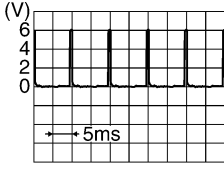
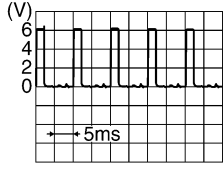

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V/W	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 <p style="text-align: right; font-size: small;">LIIA1893E</p>
20	G/W	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	 <p style="text-align: right; font-size: small;">LIIA1894E</p>
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 <p style="text-align: right; font-size: small;">LIIA1895E</p>
21	G	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	W/V	BUS	—	—	Ignition switch ON or power window timer operates	 <p style="text-align: right; font-size: small;">PIIA2344E</p>
23	G/O	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
26	Y/L	Rear wiper auto stop switch 2	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
					Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Fluctuating
27	W/R	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

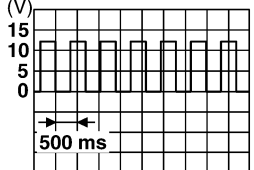
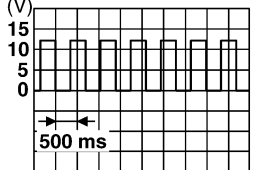
Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
28	L/R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	W/B	Hazard switch	Input	OFF	ON	0V
					OFF	5V
32	R/G	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
33	R/Y	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
34	L	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
35	O/B	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
36	R/W	Combination switch output 1				
37 <sup>1</sup>	B/R	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key inserted	0V
37 <sup>2</sup>	B/R	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key inserted	0V
38	W/L	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
42	GR	Glass hatch ajar switch	Input	ON	Glass hatch open	0
					Glass hatch closed	Battery
43	R/B	Back door switch (without power back door) or back door latch (door ajar switch) (with power back door)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

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DEF

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
44	O	Rear wiper auto stop switch 1	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
					Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating
47	SB	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	R/Y	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	R	Cargo lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
51	G/Y	Trailer turn signal (right)	Output	ON	Turn right ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>
52	G/B	Trailer turn signal (left)	Output	ON	Turn left ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>
54	Y	Rear wiper output circuit 2	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	0V
					Forward sweep (counterclockwise direction)	0V
					B Position (full counterclockwise stop position)	Battery voltage
					Reverse sweep (clockwise direction)	Battery voltage
55	SB	Rear wiper output circuit 1	Output	ON	OFF	0
					ON	Battery voltage
56	R/G	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	Y/R	Battery power supply	Input	OFF	—	Battery voltage

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS >

Terminal	Wire color	Signal name	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
58	W/R	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	G	Front door lock assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
60	G/B	Turn signal (left)	Output	ON	Turn left ON	
61	G/Y	Turn signal (right)	Output	ON	Turn right ON	
62	R/W	Step lamp LH and RH	Output	OFF	ON (any door open)	0V
					OFF (all doors closed)	Battery voltage
63	L	Interior room/map lamp	Output	OFF	Any door switch ON (open)	0V
					OFF (closed)	Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)	0V
					ON (lock)	Battery voltage
66	G/Y	Front door lock actuator RH, rear door lock actuators LH/RH and back door lock actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage
67	B	Ground	Input	ON	—	0V
68	W/L	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69	W/R	Power window power supply	Output	—	—	Battery voltage
70	W/B	Battery power supply	Input	OFF	—	Battery voltage

1: With Intelligent Key system

2: With remote keyless entry system

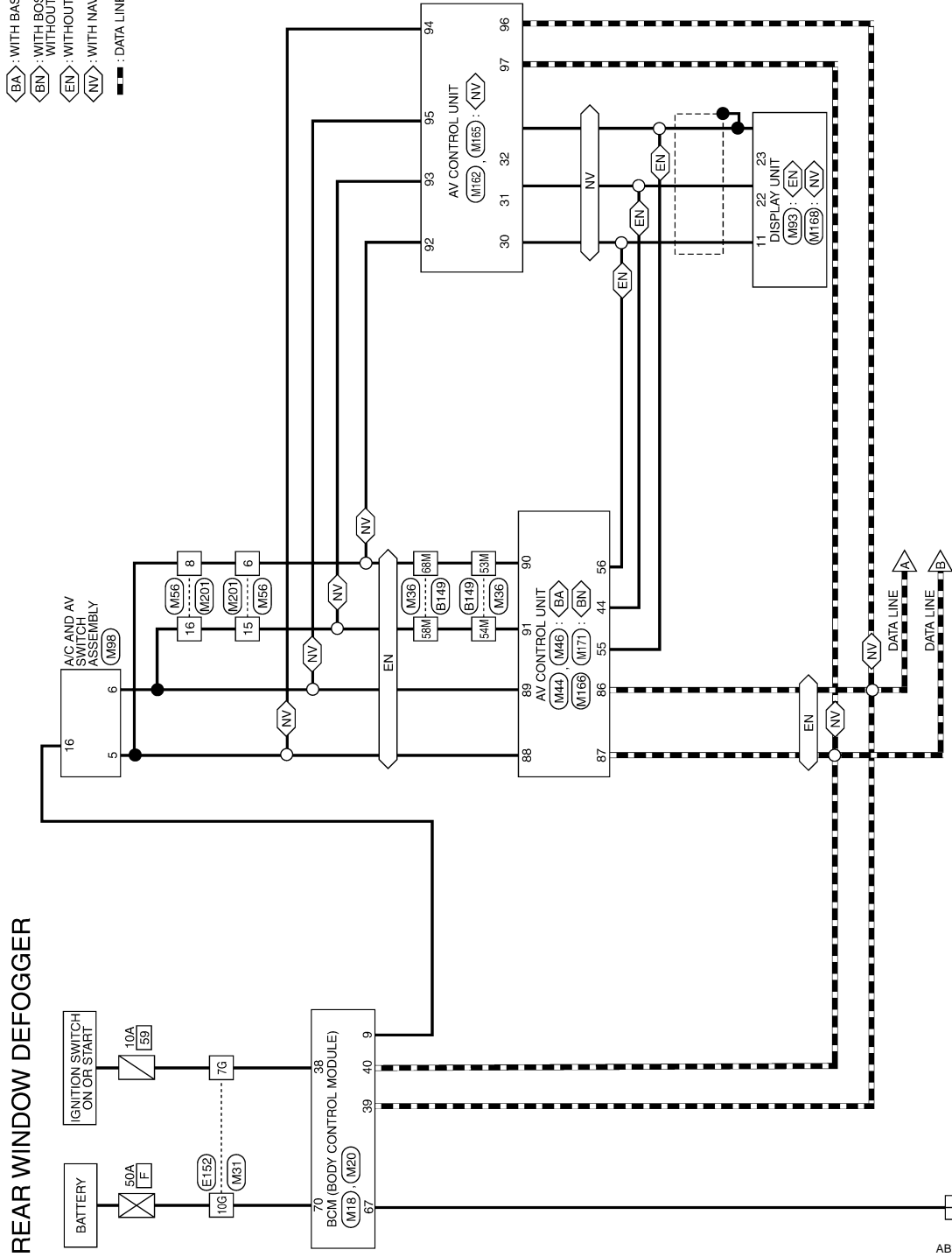
# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

## Wiring Diagram

INFOID:000000003708862

- ◁BA▷ : WITH BASE AUDIO SYSTEM
- ◁BN▷ : WITH BOSE AUDIO SYSTEM,  
WITHOUT NAVI
- ◁EN▷ : WITHOUT NAVI
- ◁NV▷ : WITH NAVI
- : DATA LINE



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# BCM (BODY CONTROL MODULE)

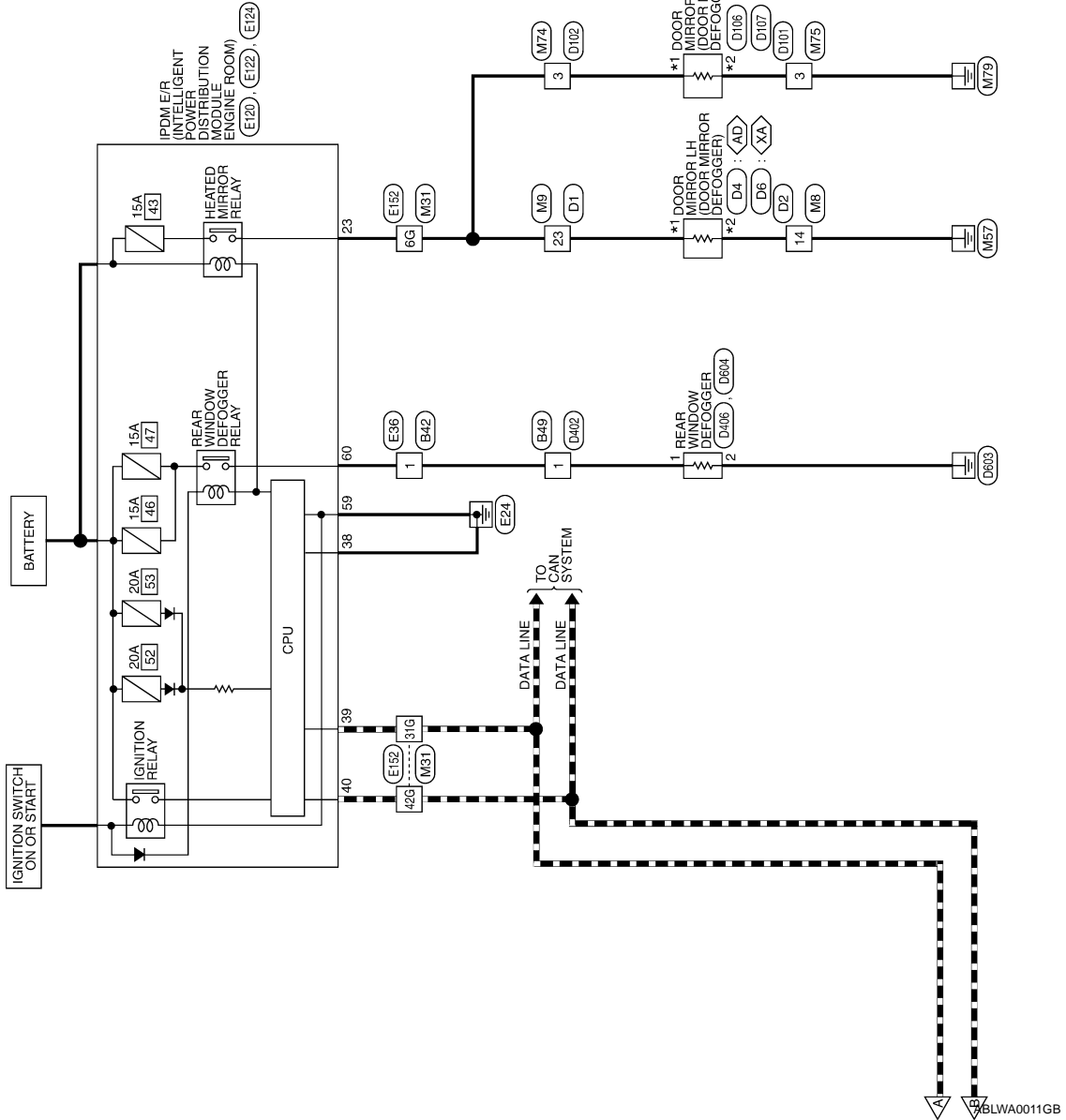
< ECU DIAGNOSIS >

◊AD◊ : WITH AUTOMATIC DRIVE POSITIONER  
 ◊XA◊ : WITHOUT AUTOMATIC DRIVE POSITIONER

\*1 : 10  
 \*2 : 4

\*1 : 11  
 \*2 : 6

■ : DATA LINE



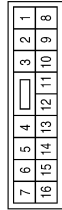
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

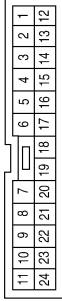
## REAR WINDOW DEFOGGER CONNECTORS

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



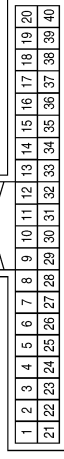
Terminal No.	14	Color of Wire	B	Signal Name	-
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Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	BROWN



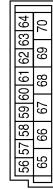
Terminal No.	23	Color of Wire	GR/W	Signal Name	-
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Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



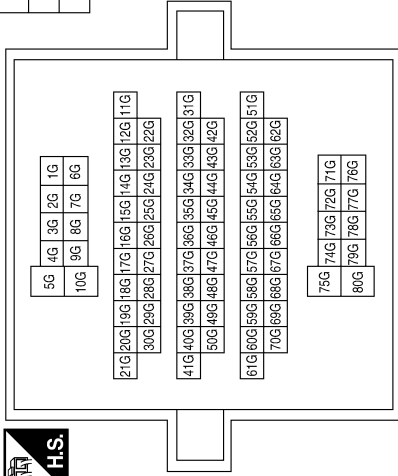
Terminal No.	Color of Wire	Signal Name
9	GR/R	REAR DEFOGGER SW
38	W/L	IGN SW
39	L	CAN-H
40	P	CAN-L

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



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

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



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

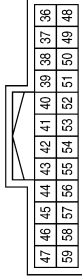
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# BCM (BODY CONTROL MODULE)

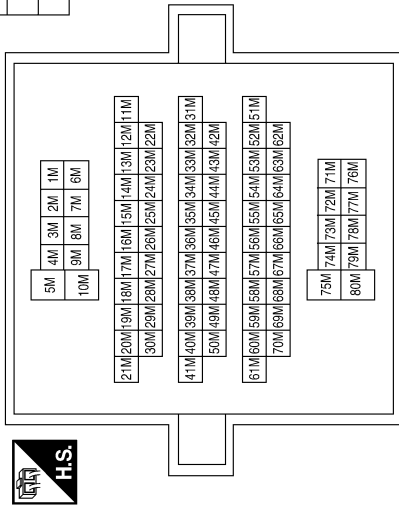
< ECU DIAGNOSIS >

Connector No.	M44
Connector Name	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
44	LG	DISP_IT
55	SHIELD	SHIELD
56	V	IT_DISP

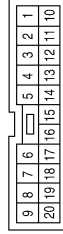
Terminal No.	Color of Wire	Signal Name
53M	L/W	-
54M	B/P	-
58M	P/B	-
68M	W/L	-



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

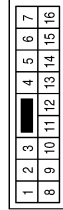


Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	BROWN



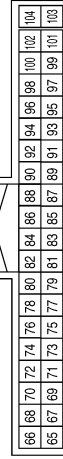
Terminal No.	Color of Wire	Signal Name
3	GR/W	-

Connector No.	M56
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	L/W	-(WITH NAVI)
6	W/L	-(WITHOUT NAVI)
8	W/L	-
15	B/P	-(WITH NAVI)
15	P/B	-(WITHOUT NAVI)
16	P/B	-

Connector No.	M46
Connector Name	AV CONTROL UNIT (WITH BASE AUDIO SYSTEM)
Connector Color	WHITE



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

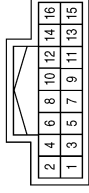
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# BCM (BODY CONTROL MODULE)

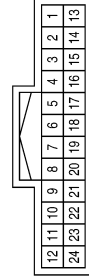
< ECU DIAGNOSIS >

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



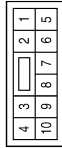
Terminal No.	Color of Wire	Signal Name
5	W/L	M_CAN1-H
6	P/B	M_CAN1-L
16	GR/R	RR DEFOG

Connector No.	M93
Connector Name	DISPLAY UNIT (WITHOUT NAVI)
Connector Color	WHITE



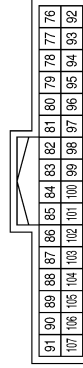
Terminal No.	Color of Wire	Signal Name
11	V	IT_DISP
22	LG	DISP_IT
23	SHIELD	SHIELD

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



Terminal No.	Color of Wire	Signal Name
3	B	-

Connector No.	M166
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM-WITHOUT NAVI)
Connector Color	WHITE



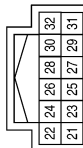
Terminal No.	Color of Wire	Signal Name
86	L	CAN-H
87	P	CAN-L
88	W/L	M_CAN1-H
89	P/B	M_CAN1-L
90	L/W	M_CAN2-H
91	B/P	M_CAN2-L

Connector No.	M166
Connector Name	AV CONTROL UNIT (WITH NAVI)
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

Connector No.	M162
Connector Name	AV CONTROL UNIT (WITH NAVI)
Connector Color	WHITE



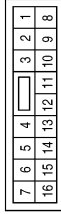
Terminal No.	Color of Wire	Signal Name
30	V	IT_DISP
31	LG	DISP_IT
32	SHIELD	SHIELD

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# BCM (BODY CONTROL MODULE)

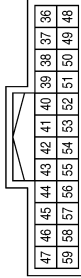
< ECU DIAGNOSIS >

Connector No.	M201
Connector Name	WIRE TO WIRE
Connector Color	WHITE



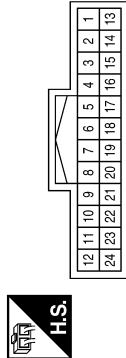
Terminal No.	Color of Wire	Signal Name
6	L/W	– (WITH NAVI)
6	W/L	– (WITHOUT NAVI)
8	W/L	–
15	B/P	– (WITH NAVI)
15	P/B	– (WITHOUT NAVI)
16	P/B	–

Connector No.	M171
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM-WITHOUT NAVI)
Connector Color	WHITE



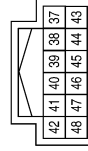
Terminal No.	Color of Wire	Signal Name
44	L/G	DISP IT
55	SHIELD	SHIELD
56	V	IT DISP

Connector No.	M168
Connector Name	DISPLAY UNIT (WITH NAVI)
Connector Color	WHITE



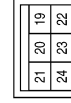
Terminal No.	Color of Wire	Signal Name
11	V	IT-DISP
22	LG	DISP-IT
23	SHIELD	–

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 (SIGNAL)
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	HEATED MIRROR

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



Terminal No.	Color of Wire	Signal Name
1	B	–

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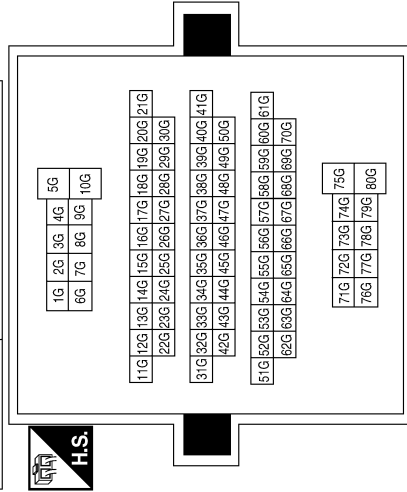
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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

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



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 (POWER)
60	B/W	RR DEF

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



Terminal No.	Color of Wire	Signal Name
1	B	-

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



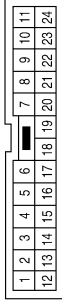
Terminal No.	Color of Wire	Signal Name
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

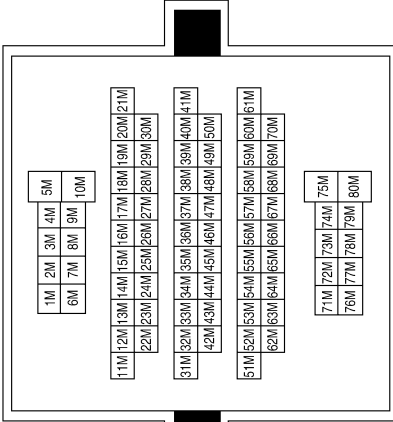
Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
53M	W/L	-
54M	P/B	-(WITH BOSE AUDIO SYSTEM)
54M	Y/L	-(WITH BASE AUDIO SYSTEM)
58M	P/B	-(WITH BOSE AUDIO SYSTEM)
58M	Y/L	-(WITH BASE AUDIO SYSTEM)
68M	W/L	-

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

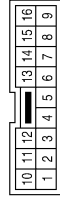


Connector No.	D6
Connector Name	DOOR MIRROR LH (WITHOUT AUTOMATIC DRIVE POSITIONER)
Connector Color	WHITE



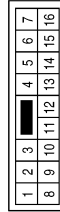
Terminal No.	Color of Wire	Signal Name
4	GR/W	-
6	B	-

Connector No.	D4
Connector Name	DOOR MIRROR LH (WITH AUTOMATIC DRIVE POSITIONER)
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	-



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# BCM (BODY CONTROL MODULE)


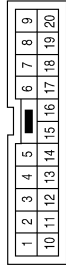
< ECU DIAGNOSIS >

Connector No.	D106
Connector Name	DOOR MIRROR RH (WITHOUT AUTOMATIC DRIVE POSITIONER)
Connector Color	WHITE


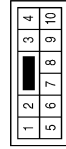
Terminal No.	Color of Wire	Signal Name
4	GRW	-
6	B	-

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



Terminal No.	Color of Wire	Signal Name
3	GRW	-

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



Terminal No.	Color of Wire	Signal Name
3	B	-

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


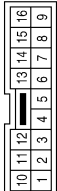
Terminal No.	Color of Wire	Signal Name
1	B	-

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

Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	D107
Connector Name	DOOR MIRROR RH (WITH AUTOMATIC DRIVE POSITIONER)
Connector Color	WHITE

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

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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



Terminal No.	Color of Wire	Signal Name
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# REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPERATE.

< SYMPTOM DIAGNOSIS >

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## SYMPTOM DIAGNOSIS

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPERATE.

Diagnosis Procedure

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### 1. CHECK REAR WINDOW DEFOGGER SWITCH

---

Check rear window defogger switch.

Refer to [DEF-11, "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-10, "Component Function Check"](#).

Is the inspection result normal?

YES >> Refer to [GI-37, "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.



# 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:000000003708864

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

Check rear window defogger power supply and ground circuit.

Refer to [DEF-11, "Component Function Check"](#).

Is the inspection result normal?

YES >> Refer to [GI-37, "Intermittent Incident"](#).

NO >> Repair or replace the malfunctioning parts.

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:000000003708865

## 1. CHECK INTERMITTENT INCIDENT

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Check intermittent incident.

Refer to [GI-37, "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.

# DRIVER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

< SYMPTOM DIAGNOSIS >

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## DRIVER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

### Diagnosis Procedure

INFOID:000000003708866

#### 1. CHECK DOOR MIRROR DEFOGGER LH

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Check door mirror defogger LH.

Refer to [DEF-13, "Component Function Check"](#) (without automatic drive positioner) or [DEF-15, "Component Function Check"](#) (with automatic drive positioner).

Is the inspection result normal?

- YES >> Refer to [GI-37, "Intermittent Incident"](#).
- NO >> Repair or replace the malfunctioning parts.

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## PASSENGER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

< SYMPTOM DIAGNOSIS >

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## PASSENGER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

### Diagnosis Procedure

INFOID:000000003708867

#### 1. CHECK DOOR MIRROR DEFOGGER RH

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Check door mirror defogger RH.

Refer to [DEF-17, "Component Function Check"](#) (without automatic drive positioner) or [DEF-19, "Component Function Check"](#) (with automatic drive positioner).

Is the inspection result normal?

- YES >> Refer to [GI-37, "Intermittent Incident"](#).
- NO >> Repair or replace the malfunctioning parts.

# 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:000000003708868

#### 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-37, "Intermittent Incident"](#).
- NO >> Refer to [DEF-9, "Diagnosis Procedure"](#).

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# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000004187514

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.**

#### Handling for Adhesive and Primer

INFOID:000000004187515

- 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.

# FILAMENT

< ON-VEHICLE REPAIR >

## ON-VEHICLE REPAIR

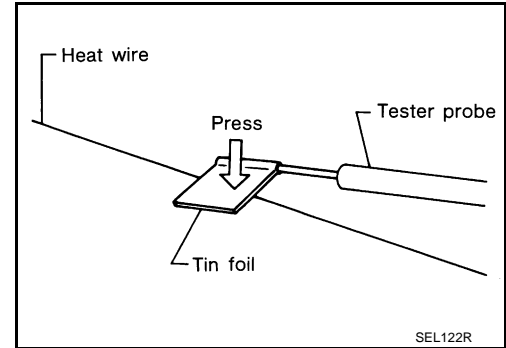
### FILAMENT

#### Inspection and Repair

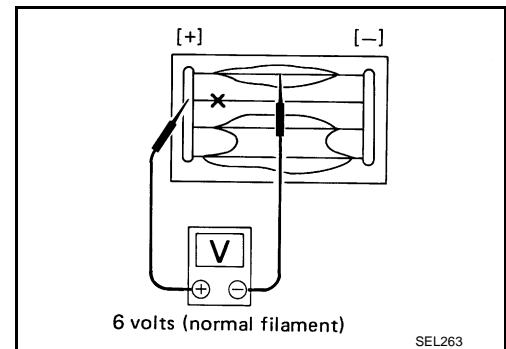
INFOID:000000003708870

#### INSPECTION

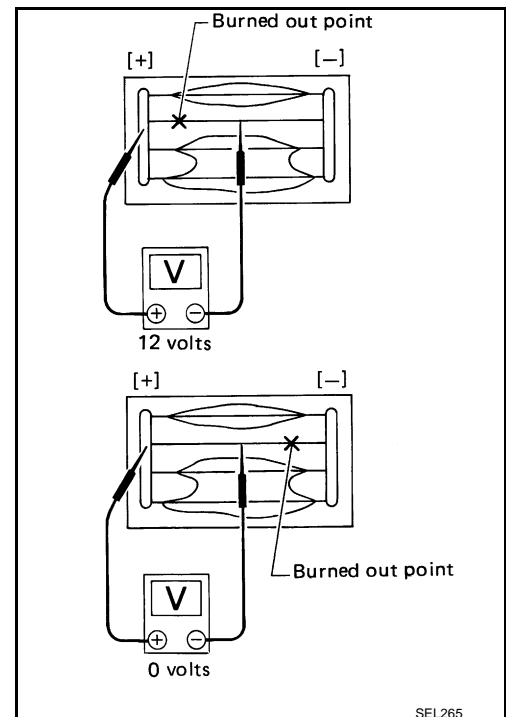
1. When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



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)

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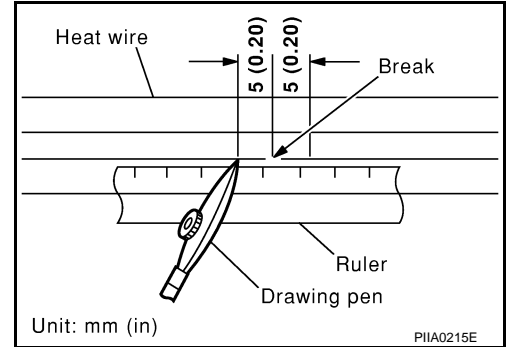
# FILAMENT

## < ON-VEHICLE REPAIR >

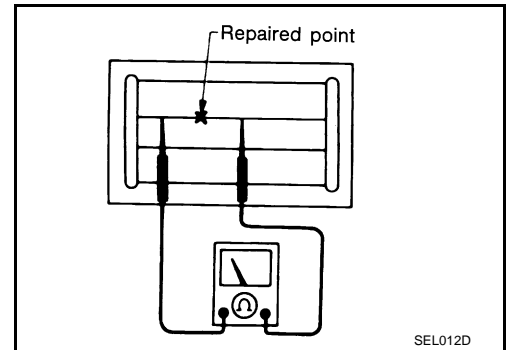
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

### REPAIRING PROCEDURE

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

