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PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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. 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 three minutes before performing any service.

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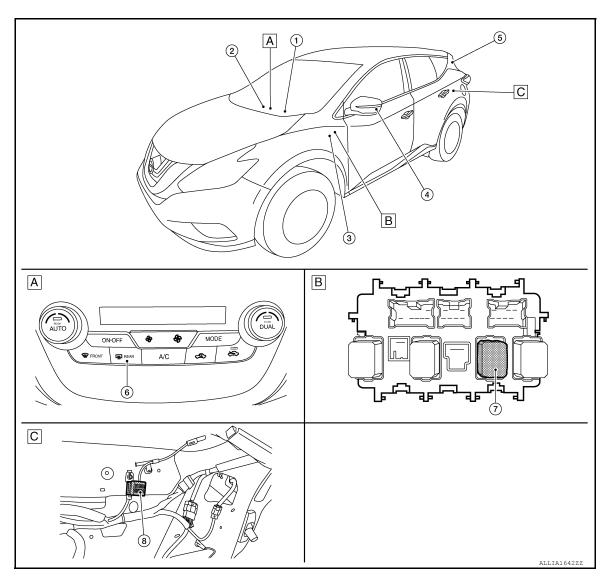
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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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- A. Center of instrument panel
- B. Left side of instrument panel
- C. Back door lower finisher inside

No.	Component	Function		
1.	ВСМ	Operates the rear window defogger with the operation of rear window defogger switch. Performs the timer control for rear window defogger. Refer to BCS-4, "BODY CONTROL SYSTEM: Component Parts Location" for detailed installation location.		
2.	A/C auto amp.	 Transmits rear window defogger switch ON signal to the BCM. Transmits the indicator lamp ON signal when detecting the operation of rear window defogger. 		
3.	Accessory relay-2	Refer to PCS-7, "RELAY CONTROL SYSTEM: System Description".		
4.	Door mirror LH (RH similar)	Refer to DEF-5, "Door Mirror Defogger".		
5.	Rear window defogger	Refer to DEF-5, "Rear Window Defogger".		

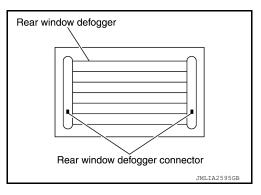
COMPONENT PARTS

< SYSTEM DESCRIPTION >

No.	Component	Function
6.	A/C switch assembly (rear window defogger switch)	Transmits rear window defogger switch ON signal. Turns the indicator lamp ON when the operation of rear window defogger.
7.	Rear window defogger relay	Operates the rear window defogger and the door mirror defogger with the control signal from BCM.
8.	Rear window defogger condenser	Removes the noise that is generated when the rear window defogger turns ON/OFF.

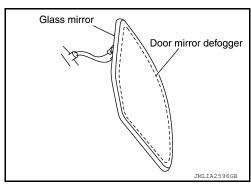
Rear Window Defogger

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



Door Mirror Defogger

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



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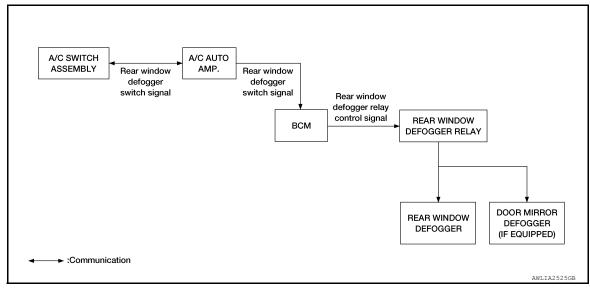
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SYSTEM

System Description

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SYSTEM DIAGRAM



OPERATION DESCRIPTION

- When rear window defogger switch is turned ON while ignition switch is ON, the rear window defogger switch signal is transmitted to the A/C auto amp.
- BCM turns rear window defogger relay ON when rear window defogger switch signal is received from A/C auto amp.
- Rear window defogger and door mirror defogger are supplied with power and operate when rear window defogger relay turns ON.
- BCM transmits rear window defogger feedback signal to A/C auto amp. Then communicates the signal to the A/C switch assembly when rear window defogger operates.
- Rear window defogger ON is displayed when signal is received.

TIMER FUNCTION

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

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APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
ECU Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	 The vehicle specification can be read and saved. The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions:

		Direct Diagnostic Mode						
System	Sub System	ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	ВСМ	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×			
Back door open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×			

FREEZE FRAME DATA (FFD)

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

CONSULT screen item	Indication/Unit	Description						
Vehicle Speed	km/h	Vehicle speed at the moment a particular DTC is detected						
Odo/Trip Meter	km	Total mileage (Odometer value) at the moment a particular DTC is detected						
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK"*).					
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)					
	LOCK>ACC		While turning power supply position from "LOCK"*to "ACC"					
	ACC>ON		While turning power supply position from "ACC" to "IGN"					
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopped and selector lever is in P position.)					
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)					
	RUN>URGENT		While turning power supply position from "RUN" to "ACC" (Emergency stop operation)					
	ACC>OFF		While turning power supply position from "ACC" to "OFF"					
	OFF>LOCK	Power position status at the moment a particular DTC is detected*	While turning power supply position from "OFF" to "LOCK"*					
Vehicle Condition	OFF>ACC		While turning power supply position from "OFF" to "ACC"					
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"					
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode					
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is "LOCK"*.) to low power consumption mode					
	LOCK		Power supply position is "LOCK" (Ignition switch OFF)*					
	OFF		Power supply position is "OFF" (Ignition switch OFF)					
	ACC		Power supply position is "ACC" (Ignition switch ACC)					
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)					
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)					
	CRANKING		Power supply position is "CRANKING" (At engine cranking)					
IGN Counter	0 - 39	 The number of times that ignition switch is turned ON after DTC is detected The number is 0 when a malfunction is detected now. The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever ignition is switched OFF → ON. The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. 						

NOTE

- *: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met:
- · Closing door
- · Opening door
- Door is locked using door request switch
- Door is locked using Intelligent Key

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

REAR DEFOGGER

REAR DEFOGGER : CONSULT Function (BCM - REAR DEFOGGER)

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DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
REAR DEF SW [On/Off]	Indicates condition of rear window defogger switch.

ACTIVE TEST

Test Item	Description
REAR DEFOGGER	This test is able to check rear window defogger operation [Off/On].

WORK SUPPORT

Support Item	Setting	Description
	MODE3	Rear defogger turns OFF after 1 minute.
SET R-DEF TIMER	MODE2	Rear defogger remains ON until turned OFF.
	MODE1*	Rear defogger turns OFF after 15 minutes.

^{* :} Initial setting

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ECU DIAGNOSIS INFORMATION

BCM

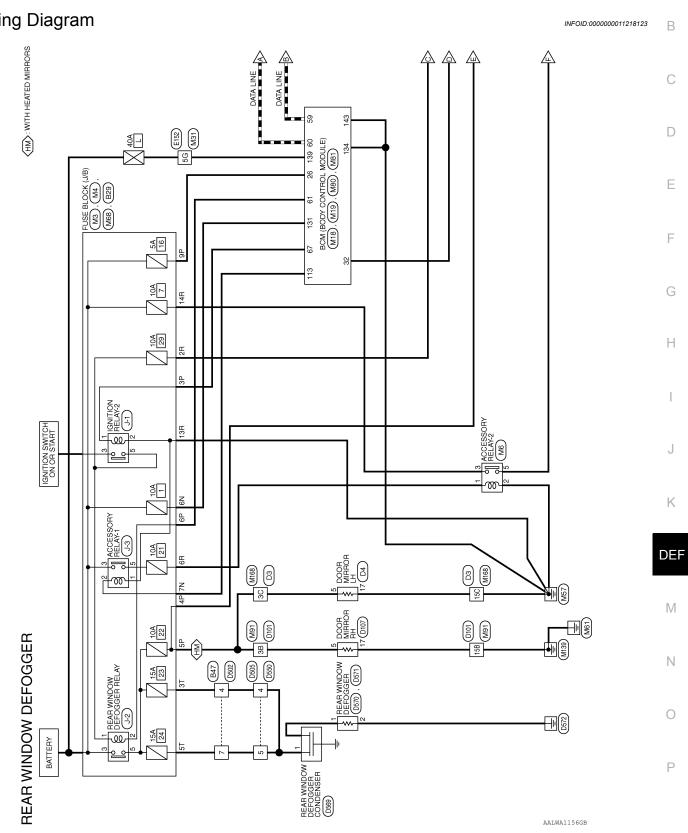
List of ECU Reference

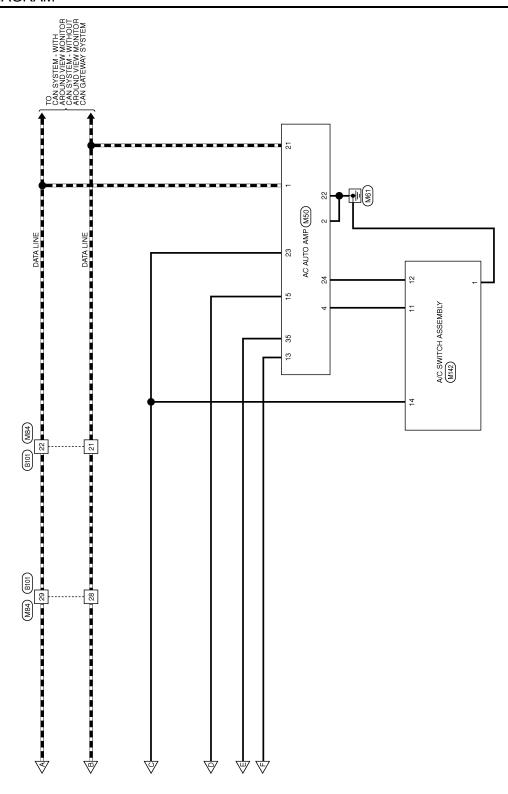
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ECU	Reference
	BCS-30, "Reference Value"
BCM	BCS-50, "Fail Safe"
BCM	BCS-51, "DTC Inspection Priority Chart"
	BCS-52, "DTC Index"

WIRING DIAGRAM REAR WINDOW DEFOGGER SYSTEM Wiring Diagram

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Connector Name | ACCESSORY RELAY-2

Connector No.

Connector Color BLUE

REAR WINDOW DEFOGGER CONNECTORS

		l
Connector No.	M3	0
Connector Name	Connector Name FUSE BLOCK (J/B)	0
Connector Color WHITE	WHITE	0
E H.S.	3N 2N 11N 8N 7N 6N 5N 4N	

M4	Connector Name FUSE BLOCK (J/B)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	4

77 6P 5P 4P (Signal Name	-	_	1	_	_
7P 6P 5P 4P	Color of Wire	G	Ь	ш	BG	٦
L.S.H	Terminal No.	3P	4P	5P	6P	9P

Signal Name

Color of Wire

Terminal No.

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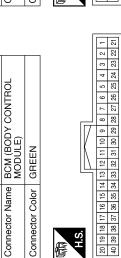
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Signal Name	ı	1	1	I	1
Color of Wire	σ	Ь	Œ	BG	٦
Terminal No.	3Р	4P	5P	6P	9P

Signal Name	ı	I	
Color of Wire	8	٦	
Terminal No.	N9	NZ	

M19	Connector Name BCM (BODY CONTROL MODULE)	BLACK
Connector No.	Connector Name	Connector Color BLACK



	60 59 58 57 56	97 77 87 62 08		Terminal No.	69	09	
	_		1				
	-	21					
	N	22					
	က	23			⊢	≥	
	4	24				S	
	5	25		o o	ΙŻΙ	H	
	9	56		a l	z	ğ	
	7	27		Ž	ᆸ	0	
	8	35 34 33 32 31 30 29 28 27 26 25 24 23 22 21		Signal Name	SHORT IN PIN INPUT	REAR DEFOGGER SW	
17	6	53		Sig	出		
/	10	98		0,	∣⊡∣	ΑB	
\	=	31			ᇷ	Æ,	
$ \rangle$	12	32				ш.	
_	15 14 13 12 11 10 9	33		Color of Wire			
	4	용		ē; <u>≒</u>	_	>	
	15	35		၂႘ >			
	I	-	1	_		_	1

				N
Signal Name	CAN-L	CAN-H	REAR DEFOGGER RELAY OUT	IGN ELEC RELAY OUT 2
Color of Wire	Ь	٦	BG	G
minal No.	59	09	61	29

32 32

AALIA3354GB

Terminal No.

Signal Name	CAN-L	CAN-H	REAR DEFOGGER RELAY OUT	IGN ELEC RELAY OUT 2
Color of Wire	Д	_	BG	G
Ferminal No.	59	09	61	29

Signal Name	CAN-L	CAN-H	REAR DEFOGG RELAY OUT	IGN ELEC RELAY	
Color of Wire	Ь	Γ	BG	Э	
Terminal No.	69	09	61	29	

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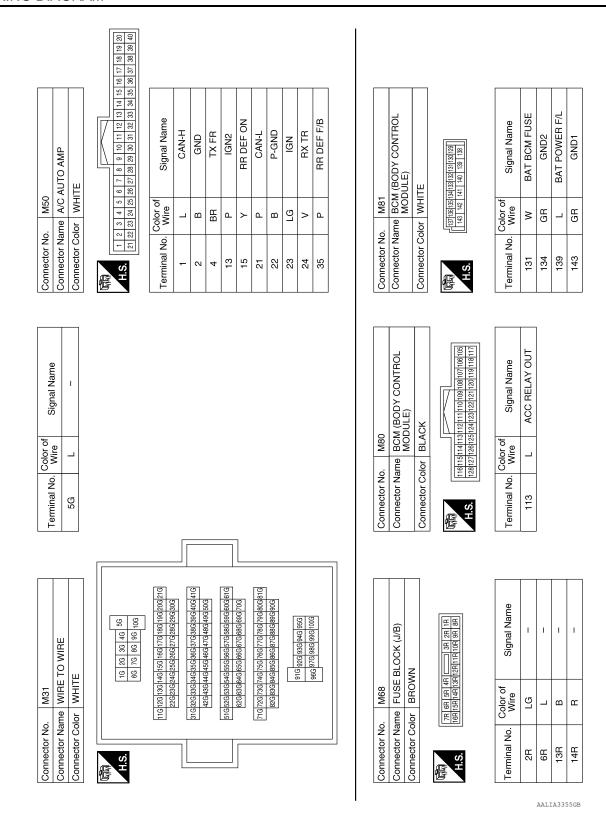
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DEF-13 Revision: October 2014 2015 Murano

M18

Connector No.

Connector Name



REAR WINDOW DEFOGGER SYSTEM

< WIRING DIAGRAM >

Color of Signal Name Wire	ı	л В								Signa		n							
Terminal No.	38	15B								No.	သူ့	<u> </u>							
		1		3 13B 14B 15B	B42B43B44B45B46B B52B53B54B55B								13C 14C 15C	0 420 430 440 450 460 0 520 530 540 550					
	שנוא			1 22 1	26B 36B37B38B39B40B41B42B43B44B45B46B 47B48B49B50B51B52B53B54B55B					WIRE			Ω I	26C 36C(37C(38C(39C(40C(41C)42C(43C(44C(45C)46C) 47C(48C(49C(50C(51C)52C(53C(54C)55C					
Connector No. M91	Connector Color WHITE		H.S.	18 28 38 48 58 68 78	16B17B18B19B20B21B22B23B24B25B26B 27B28B29B30B31B32B33B34B35B					Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	10 20 30 40 50 60 70	270280290300310320330240250260					
		6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	20 19	ne						BLY			ne						
	N O	10 9 %		Signal Name	1	1	1	ı		Connector Name A/C SWITCH ASSEMBLY		12 13 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Signal Name	1	ı	1	1		
Connector No. M84	Connector Color WHITE	15 14 13 12 1	32 31 30 29 28 27 26 25 24	Color of Wire	۵	٦	۵	_		ame A/C SV	olor WHITE	1 2 1 9 10 11 12	Color of Wire	В	BR	>	LG		
Connector No.	ector Co		H.S.	Terminal No.	21	22	28	29		Connector Nan	Connector Color	南 H.S.	Terminal No.	-	11	12	14		

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REAR WINDOW DEFOGGER SYSTEM

E152 WHRE TO WIRE Signal Name Signal Name Signal Name Wire Signal Name WHITE Signal Name Signal Name	Connector No. B47	Connector Name WIRE TO WIRE Connector Color GRAY	H.S. 1 2 3 4 5 6 7 8 8	Terminal No. Color of Signal Name	- 4 BR -						Terminal No. Color of Signal Name	3C W/O -	15C B		40 30 20 10	1000 con 100	10300290280270	
MHITE		-	ν;	Color of Wire	BR	>							_	斯 H.S.	06 36 76 56			
	E152	Connector Name WIRE TO WIRE Connector Color WHITE	56 46 36 26 16 106 96 86 76 66	216 206 196 186 156 146 136 146 136 116	30G 29G 28G 27G 26G 25G 24G 23G 22G	41G40G39G38G37G36G35G34G33G32G31G 50G49G48G47G46G45G44Q43G42G	61 G 600 550 G 570 G 550	81G 80G 79G 77G 77G 75G 74G 73G 72G 71G 90G 89G 88G 87G 85G 84G 83G 82G	95G 94Q 90G 92G 91G 100G 99G 98G 97G 96G	Signal Na		_	_	3 4 5 6 7 8 9 10 11 19 20 21 22 23 24 25 26 27	Color of Signal Name			

REAR WINDOW DEFOGGER SYSTEM

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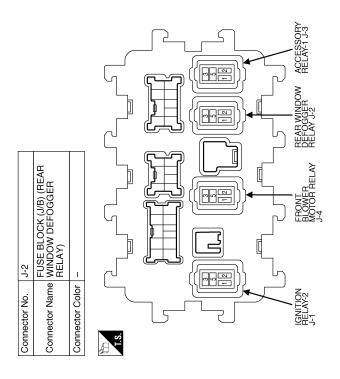
< WIRING DIAGRAM >

Connector No. D107		Connector No. D550 Connector Name WIRE TO WIRE Connector Color GRAY	Terminal No. Color of Wire Signal Name 4 R - 5 R -
Connector Name WIRE TO WIRE	Terminal No. Color of Wire Signal Name 3B BR/V	Connector No. D505 Connector Name WIRE TO WIRE Connector Color GRAY	Terminal No. Color of Wire Signal Name 4 R
Connector No. D4 Connector Name DOOR MIRROR LH		Connector No. D502 Connector Name WIRE TO WIRE Connector Color GRAY	Terminal No. Color of Wire Signal Name 4 R - 7 R -

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D571 REAR WINDOW DEFOGGER BLACK Trof Signal Name	
Connector No. D571 Connector Name REAR v DEFOG Connector Color BLACK H.S. Terminal No. Wire 1 B	
ume REAR WINDOW DEFOGGER Nor BLACK Color of Signal Name B	
Connector No. Connector Color H.S. H.S. Terminal No. W	BEARWINDOW ACCESSORY
D569 REAR WINDOW DEFOGGER CONDENSER GRAY or of Signal Name	USE BLOCK (J/B) GNITION RELAY:2) GNITION RELAY:2) GNITION RELAY:2) GNITION RELAY:2) GNITION RELAY:2) GNITION RELAY:2)
Connector No. D56 Connector Name REA Connector Color GRA H.S. Terminal No. Wire	Connector No.

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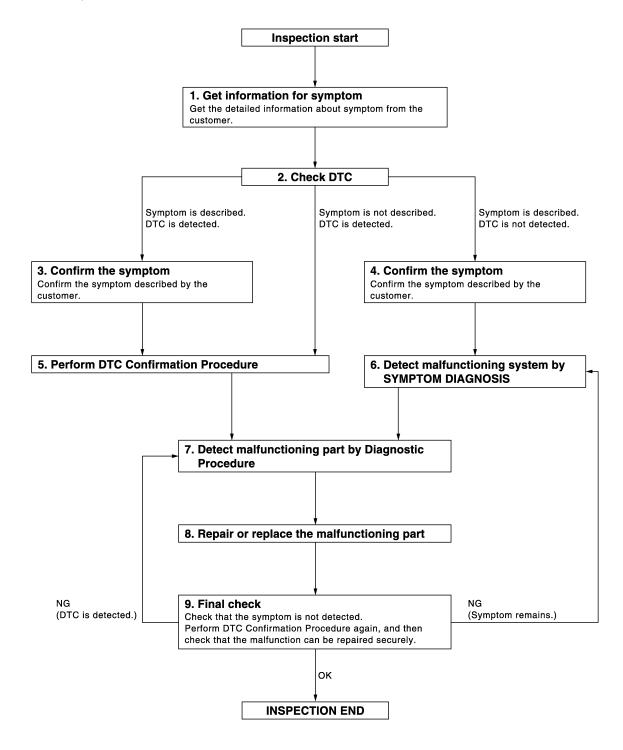
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

OVERALL SEQUENCE



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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

1. GET INFORMATION FOR SYMPTOM

Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2.

$\mathbf{2}$. CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is displayed.
- Record DTC and freeze frame data (Print them out with CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3.

Symptom is described, DTC is not displayed>>GO TO 4.

Symptom is not described, DTC is displayed>>GO TO 5.

$3.\,$ CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT to the vehicle in "Data Monitor" mode and check real time diagnosis results.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT to the vehicle in "Data Monitor" mode and check real time diagnosis results.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check diagnostic results in real time. If two or more DTCs are detected, refer to BCS-51, "DTC Inspection Priority Chart" and determine trouble

If two or more DTCs are detected, refer to <u>BCS-51, "DTC Inspection Priority Chart"</u> and determine trouble diagnosis order.

NOTE:

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

Is DTC detected?

YES >> GO TO 7.

NO >> Refer to GI-42, "Intermittent Incident".

6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to <u>DEF-6</u>. "System Description" based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

>> GO TO 7.

7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

The Diagnostic Procedure described is based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

<u>Is malfunctioning part detected?</u>

YES >> GO TO 8.

NO >> Check voltage of related BCM terminals using CONSULT.

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction has been repaired.

When symptom was described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Does the symptom reappear?

YES (DTC is detected)>>GO TO 7.

YES (Symptom remains)>>GO TO 6.

NO >> Inspection End.

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

REAR WINDOW DEFOGGER SWITCH

Component Function Check

1. CHECK REAR WINDOW DEFOGGER SWITCH FUNCTION

Check that the rear window defogger indicator lamp illuminates when the rear window defogger switch is ON. <u>Is the inspection result normal?</u>

YES >> Rear window defogger switch function is OK.

NO >> Refer to <u>DEF-23</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

Regarding Wiring Diagram information, refer to DEF-11, "Wiring Diagram".

1. CHECK REAR WINDOW DEFOGGER RELAY OPERATION

- 1. Push the ignition switch to ON.
- 2. Check that an operation noise of rear window defogger relay [located in fuse block (J/B)] can be heard when pressing the rear window defogger switch ON and OFF.

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 5.

2.CHECK FUSE

Check if Fuse 22 from the rear window defogger relay output is blown.

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 3.

3. CHECK FOR VOLTAGE FROM THE REAR WINDOW DEFOGGER RELAY

- Press rear window defogger switch.
- 2. Check for voltage between fuse block (J/B) connector and ground.

(+) Fuse block	(J/B)	(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
M4	4P	Ground	Rear window defogger	ON	Battery voltage
IVI -1	41	Giodila	switch	OFF	0

Is the inspection result normal?

YES >> GO TO 4.

NO >> Perform rear window defogger relay diagnosis. Refer to DEF-27, "Diagnosis Procedure".

4. CHECK REAR WINDOW DEFOGGER SWITCH INDICATOR CIRCUIT

- Press rear window defogger switch.
- Check for voltage between A/C auto amp. connector and ground.

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< DTC/CIRCUIT DIAGNOSIS >

(+) A/C auto a	mp.	(-) Condition Voltage (V) (Approx.)		Condition	
Connector	Terminal				
M50	35	Ground	Rear window defogger	ON	Battery voltage
WISO	33	Ground	switch	OFF	0

Is the inspection result normal?

YES >> Replace A/C auto amp. Refer to <u>HAC-95, "Removal and Installation"</u>.

NO >> Repair or replace harness.

5. CHECK A/C AUTO AMP. (REAR WINDOW DEFOGGER SWITCH) FUNCTION

CONSULT

- Select "REAR DEFOGGER" of "BCM".
- 2. Select "REAR DEF SW" in "Data Monitor" mode.
- Check that the function operates normally according to the following conditions:

Monitor Item	Con	Status	
REAR DEF SW	Rear window defogger switch	Pressed	On
NEAR DEL SW	iteai wiiidow deloggei switch	Released	Off

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 6.

6. CHECK REAR WINDOW DEFOGGER ON SIGNAL CIRCUIT

Check voltage between BCM connector and ground.

(+) BCM		(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(FF. 5)
M18	32	Ground	Rear window defogger	ON	0
IVITO	32	Ground	switch	OFF	5

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-82, "Removal and Installation".

NO >> GO TO 7.

7. CHECK HARNESS CONTINUITY

- 1. Push ignition switch to OFF.
- Disconnect BCM and front air control.
- 3. Check continuity between BCM connector and A/C auto amp.

BCM		A/C auto ar	np.	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M18	32	M50	15	Yes

4. Check continuity between BCM harness connector and ground.

ВСМ			Continuity
Connector	Connector Terminal		Continuity
M18	32		No

Is the inspection result normal?

YES >> Replace A/C auto amp. Refer to HAC-95, "Removal and Installation".

NO >> Repair or replace harness.

< DTC/CIRCUIT DIAGNOSIS >

8. CHECK REAR WINDOW DEFOGGER RELAY GROUND CIRCUIT

CONSULT

- Select "REAR DEFOGGER" of "BCM".
- Select "REAR DEFOGGER" in "Active Test" mode.
- Turn REAR DEFOGGER active test ON and OFF.
- Check voltage between fuse block (J/B) connector and ground.

(+)) (all a a a () ()
Fuse block	(J/B)	(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
	6P	Ground	Rear window defogger	ON	0
IVI -1	OF .	Ground	active test	OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 9.

$oldsymbol{9}$. CHECK REAR WINDOW DEFOGGER RELAY CIRCUIT

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

(+) Fuse block	(J/B)	(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(11.5)
M4	6P	Ground	Rear window defogger	ON	0
1714	UP .	Ground	switch	OFF	Battery voltage

Is the inspection result normal?

YES >> Replace rear window defogger relay.

NO >> GO TO 10.

10. CHECK HARNESS CONTINUITY

- Push ignition switch to OFF.
- Disconnect BCM and fuse block (J/B).
- Check continuity between BCM connector and fuse block (J/B) connector.

ВСМ		Fuse block (J/B)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M19	61	M4	6P	Yes

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

Fuse block (I/B)		Continuity	
Connector	Terminal	Ground	Continuity	
M4	6P		No	

Is the inspection result normal?

YES >> Perform rear window defogger relay component inspection. Refer to DEF-27, "Component Inspection". If OK, replace BCM. Refer to BCS-82, "Removal and Installation".

NO >> Repair or replace harness.

11. CHECK REAR WINDOW DEFOGGER RELAY

Check rear window defogger relay. Refer to DEF-27, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 12.

NO >> Replace rear window defogger relay.

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< DTC/CIRCUIT DIAGNOSIS >

12. CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to GI-42, "Intermittent Incident".

Is the inspection result normal?

YES >> Check the following:

- Battery power supply circuit.
 Fuse block (J/B).
- >> Repair or replace the malfunctioning parts. NO

REAR WINDOW DEFOGGER RELAY

< DTC/CIRCUIT DIAGNOSIS >

REAR WINDOW DEFOGGER RELAY

Component Function Check

INFOID:0000000011218129

1. CHECK REAR WINDOW DEFOGGER RELAY POWER SUPPLY CIRCUIT

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Check that an operation noise of rear window defogger relay [located in fuse block (J/B)] 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-27, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000011218130

Regarding Wiring Diagram information, refer to DEF-11, "Wiring Diagram".

1. CHECK REAR WINDOW DEFOGGER RELAY GROUND CIRCUIT

Turn ignition switch ON.

Check voltage between BCM connector and ground.

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(+)		(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(Approx.)
M19	61	Ground	Rear window defogger switch	ON	0
10119	01	Giodila	Treat willdow delogger switch	OFF	Battery voltage

Is the inspection result normal?

YES >> Rear window defogger power supply circuit is OK.

NO >> GO TO 2.

f 2 . CHECK HARNESS CONTINUITY

- Turn ignition switch OFF.
- Disconnect BCM and fuse block (J/B).
- Check continuity between BCM connector and fuse block (J/B) connector.

ВСМ		Fuse block (J/B)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M19	61	M4	6P	Yes

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 $3.\,$ CHECK REAR WINDOW DEFOGGER RELAY

Check rear window defogger relay. Refer to DEF-27, "Component Inspection".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident"

>> Replace rear window defogger relay.

Component Inspection

INFOID:0000000011218131

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

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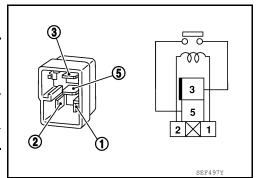
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REAR WINDOW DEFOGGER RELAY

< DTC/CIRCUIT DIAGNOSIS >

Check rear window defogger relay.

Teri	minal		
	window ger relay	Condition	Continuity
3	5	12V direct current supply between terminals 1 and 2.	Yes
		No current supply	No



Is the inspection result normal?

YES >> Inspection End.

NO >> Replace rear window defogger relay.

REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

Component Function Check

INFOID:0000000011218133

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1. CHECK REAR WINDOW DEFOGGER

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

Is the inspection result normal?

YES >> Rear window defogger is OK.

>> Refer to DEF-29, "Diagnosis Procedure". NO

Diagnosis Procedure

INFOID:0000000011218134

Regarding Wiring Diagram information, refer to DEF-11, "Wiring Diagram".

1. CHECK FUSES

Check if any of the following fuses in fuse block (J/B) are blown.

COMPONENT PARTS	AMPERE	FUSE NO.
Fuse block (I/R)	15A	23
Fuse block (J/B)	15A	24

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

2. CHECK POWER SUPPLY CIRCUIT

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

(+) Rear window of	defogger	(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(
D571	1	Ground	Rear window defogger switch ON		Battery voltage
	1	Giouna	iseai wiildow deloggei Switch	OFF	0

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

3. CHECK GROUND CIRCUIT

- Turn ignition switch OFF.
- Disconnect rear window defogger connector.
- Check continuity between rear window defogger connector and ground.

Rear window defogger		Continuity	
Connector	Ground	Continuity	
D570	2		Yes

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

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REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

4. CHECK POWER SUPPLY CIRCUIT

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

(+) Rear window defog	ger condenser	(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(11 - 7
D569	1	Ground	Rear window defogger switch		Battery voltage
D309	I	Giouna	ixear willdow delogger switch	OFF	0

Is the inspection result normal?

YES >> Replace rear window defogger condenser. Refer to <u>DEF-44, "Removal and Installation"</u>.

NO >> Replace or repair harness.

5. CHECK FILAMENT

Check filament. Refer to DEF-30, "Component Inspection".

Is the inspection result normal?

YES >> Refer to GI-42, "Intermittent Incident".

NO >> Repair filament. Refer to DEF-42, "Inspection and Repair".

Component Inspection

INFOID:0000000011218135

1. CHECK FILAMENT

Check the filament for damage or open circuits. Refer to DEF-42, "Inspection and Repair".

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair filament. Refer to <u>DEF-42</u>, "Inspection and Repair".

DOOR MIRROR DEFOGGER LH

< DTC/CIRCUIT DIAGNOSIS >

DOOR MIRROR DEFOGGER LH

Component Function Check

CHECK DOOR MIRROR DEFOGGER LH

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

Is the inspection result normal?

YES >> Door mirror defogger is OK.

NO >> Refer to DEF-31, "Diagnosis Procedure".

Diagnosis Procedure

Regarding Wiring Diagram information, refer to DEF-11, "Wiring Diagram".

1. CHECK POWER SUPPLY

Check if the following fuse in the fuse block (J/B) is blown.

COMPONENT PARTS	AMPERE	FUSE NO.
Fuse block (J/B)	10A	22

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.

$oldsymbol{2}$. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect door mirror LH.
- Turn ignition switch ON.
- Check voltage between door mirror LH connector D4 terminal 1 and ground.

(+	-)				\/altaga (\/)
Door mirror LH		(-)	Con	dition	Voltage (V) (Approx.)
Connector	Terminal				, , ,
D4	5	Ground	Rear window defogger switch	ON	Battery voltage
D4	3	Ground	ixear window delogger switch	OFF	0

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

${f 3}.$ CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

Turn ignition switch OFF.

Check continuity between door mirror LH connector and ground.

Door mirror LH		Continuity	
Connector	Terminal	Ground	Continuity
D4	17		Yes

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

f 4 . CHECK DOOR MIRROR DEFOGGER LH

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DOOR MIRROR DEFOGGER LH

< DTC/CIRCUIT DIAGNOSIS >

Check door mirror defogger LH. Refer to DEF-32, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace door mirror. Refer to MIR-21, "Removal and Installation".

5. CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to GI-42, "Intermittent Incident".

Is the inspection result normal?

YES >> Check the following:

- Battery power supply circuit
- Fuse block (J/B)

NO >> Repair or replace the malfunctioning parts.

Component Inspection

INFOID:0000000011218139

1. CHECK DOOR MIRROR DEFOGGER

- 1. Turn ignition switch OFF.
- 2. Disconnect door mirror LH.
- 3. Check continuity between door mirror terminals.

Terr	minal	Continuity
5	17	Yes

Is the inspection result normal?

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

NO >> Replace malfunctioning door mirror LH. Refer to MIR-21, "Removal and Installation".

DOOR MIRROR DEFOGGER RH

< DTC/CIRCUIT DIAGNOSIS >

DOOR MIRROR DEFOGGER RH

Component Function Check

1. CHECK DOOR MIRROR DEFOGGER RH

Check that the door mirror defogger RH heating wire is heated when the rear window defogger switch is

Is the inspection result normal?

YES >> Door mirror defogger RH is OK.

NO >> Refer to DEF-33, "Diagnosis Procedure".

Diagnosis Procedure

Regarding Wiring Diagram information, refer to DEF-11, "Wiring Diagram".

CHECK POWER SUPPLY

Check if the following fuse in the fuse block (J/B) is blown.

COMPONENT PARTS	AMPERE	FUSE NO.
Fuse block (J/B)	10A	22

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.

$oldsymbol{2}$. CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect door mirror RH.
- Turn ignition switch ON.
- Check voltage between door mirror RH connector D107 terminal 1 and ground.

(+)			Condition		Voltage (V) (Approx.)
Door mirror RH		(-)			
Connector	Terminal				(, ,pp. 5,11)
D107	5	5 Ground	Rear window defogger switch	ON	Battery voltage
	Glouila	rteal willdow delogger switch	OFF	0	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

${f 3}.$ CHECK DOOR MIRROR DEFOGGER GROUND CIRCUIT

Turn ignition switch OFF.

Check continuity between door mirror RH connector and ground.

Door mirror RH		Continuity	
Connector	Terminal	Ground	Continuity
D107	17		Yes

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

$oldsymbol{4}$. CHECK DOOR MIRROR DEFOGGER RH

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DOOR MIRROR DEFOGGER RH

< DTC/CIRCUIT DIAGNOSIS >

Check door mirror defogger RH. Refer to DEF-34, "Component Inspection"

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace door mirror. Refer to MIR-21, "Removal and Installation".

5. CHECK INTERMITTENT INCIDENT

Check intermittent incident. Refer to GI-42, "Intermittent Incident".

Is the inspection result normal?

YES >> Check the following:

- Battery power supply circuit
- Fuse block (J/B)

NO >> Repair or replace the malfunctioning parts.

Component Inspection

INFOID:0000000011218147

1. CHECK DOOR MIRROR DEFOGGER

- Turn ignition switch OFF.
- 2. Disconnect door mirror RH.
- 3. Check continuity between door mirror terminals.

Terr	minal	Continuity	
5	17	Yes	

Is the inspection result normal?

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

NO >> Replace malfunctioning door mirror RH. Refer to MIR-21, "Removal and Installation".

DEFOGGER SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

DEFOGGER SYSTEM SYMPTOMS

Symptom Table

Symptom	Reference page
Rear window defogger and door mirror defoggers do not operate.	Refer to DEF-36, "Diagnosis Procedure".
Rear window defogger does not operate but both of the door mirror defoggers operate.	Refer to DEF-37, "Diagnosis Procedure".
Both door mirror defoggers don't operate but rear window defogger operates.	Refer to DEF-38, "Diagnosis Procedure".
Driver side door mirror defogger does not operate.	Refer to DEF-38, "Diagnosis Procedure".
Passenger side door mirror defogger does not operate.	Refer to DEF-40, "Diagnosis Procedure".
Rear window defogger switch does not light, but rear window defogger operates.	Refer to DEF-41, "Diagnosis Procedure".

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REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGERS DO NOT OPERATE

< SYMPTOM DIAGNOSIS >

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGERS DO NOT OPERATE

Diagnosis Procedure

INFOID:0000000011218153

1. CHECK REAR WINDOW DEFOGGER SWITCH

Check rear window defogger switch.

Refer to DEF-23, "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-27, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

${f 3}.$ CHECK REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

Check rear window defogger power supply and ground circuit.

Refer to DEF-29, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4. CHECK DOOR MIRROR DEFOGGER

Check door mirror defogger.

Refer to DEF-31, "Diagnosis Procedure" (LH) or DEF-33, "Diagnosis Procedure" (RH).

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

NO >> Repair or replace the malfunctioning parts.

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

< SYMPTOM DIAGNOSIS >

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

Diagnosis Procedure

INFOID:0000000011218154

1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY AND GROUND CIRCUIT

Check rear window defogger power supply and ground circuit. Refer to <u>DEF-29</u>, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "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 >

BOTH DOORS MIRROR DEFOGGER DON'T OPERATE BUT REAR WIN-DOW DEFOGGER OPERATES

Diagnosis Procedure

INFOID:0000000011218155

Regarding Wiring Diagram information, refer to DEF-11, "Wiring Diagram".

1. CHECK DOOR MIRROR DEFOGGER FUSE

Check if the following fuse in fuse block (J/B) is blown.

COMPONENT PARTS	AMPERE	FUSE NO.
Fuse block (J/B)	10A	22

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

2. CHECK DOOR MIRROR DEFOGGER CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect the following harness connectors:
- Fuse block (J/B) connector M4
- Door mirror LH D4
- Door mirror RH D107
- Check continuity between fuse block (J/B) harness connector and door mirror defogger harness connectors.

Fuse block (J/B) Connector	Terminal	Door mirror Connectors	Terminal	Continuity
M4	5P	D4 (LH)	E	Yes
	5F	D107 (RH)	3	

4. Check continuity between fuse block (J/B) harness connector M4 terminal 5P and ground.

Fuse block (J/B) Terminal		Ground	Continuity
M4	5P		No

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK DOOR MIRROR DEFOGGER

Check door mirror LH.

Refer to DEF-31, "Component Function Check".

Check door mirror RH.

Refer to DEF-33, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

NO >> Repair or replace the malfunctioning parts.

DRIVER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

< SYMPTOM DIAGNOSIS > DRIVER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE. Α Diagnosis Procedure INFOID:0000000011218156 1. CHECK DOOR MIRROR DEFOGGER LH В Check door mirror defogger LH. Refer to DEF-31, "Component Function Check". C Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident". NO >> Repair or replace the malfunctioning parts. D Е F Н J K DEF M Ν 0

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PASSENGER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

< SYMPTOM DIAGNOSIS >

PASSENGER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

Diagnosis Procedure

INFOID:0000000011218157

1. CHECK DOOR MIRROR DEFOGGER RH

Check door mirror defogger RH.

Refer to DEF-33, "Component Function Check".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "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

INFOID:0000000011218158

Diagnosis Procedure

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

Check that A/C switch assembly (rear window defogger switch) is operating normally. Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

NO >> Check rear window defogger switch. Refer to <u>DEF-23, "Diagnosis Procedure"</u>.

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REMOVAL AND INSTALLATION

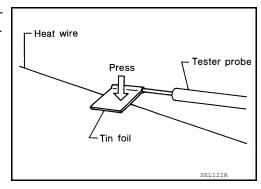
FILAMENT

Inspection and Repair

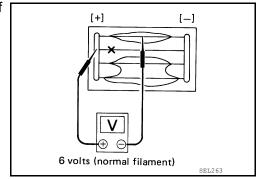
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INSPECTION

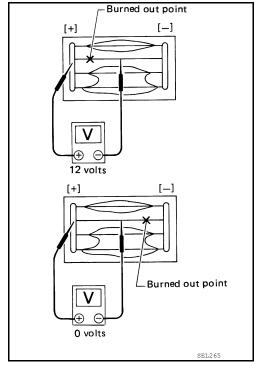
 When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



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



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



REPAIR

REPAIR EQUIPMENT

Conductive silver composition (Dupont No. 4817 or equivalent)

FILAMENT

< REMOVAL AND INSTALLATION >

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

REPAIRING PROCEDURE

- 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.

NOTE:

Shake silver composition container before use.

- Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.
- Heat wire 000 Break

 Ruler

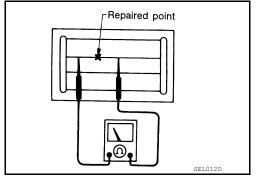
 Drawing pen

 Unit: mm (in)

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

CAUTION:

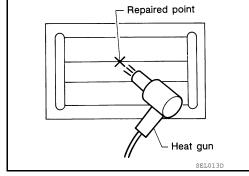
Do not touch repaired area while test is being conducted.



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

NOTE:

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



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CONDENSER

< REMOVAL AND INSTALLATION >

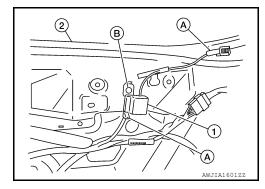
CONDENSER

Removal and Installation

INFOID:0000000011218160

REMOVAL

- 1. Remove the back door lower finisher. Refer to INT-34, "BACK DOOR LOWER FINISHER: Removal and <a href="Installation".
- 2. Disconnect the harness connectors (A) from the condenser (1).
- 3. Remove the bolt (B) and the condenser from the back door (2).



INSTALLATION

Installation is in the reverse order of removal.