

**SECTION VTL**  
**VENTILATION SYSTEM**

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# SWITCHES AND THEIR CONTROL FUNCTION

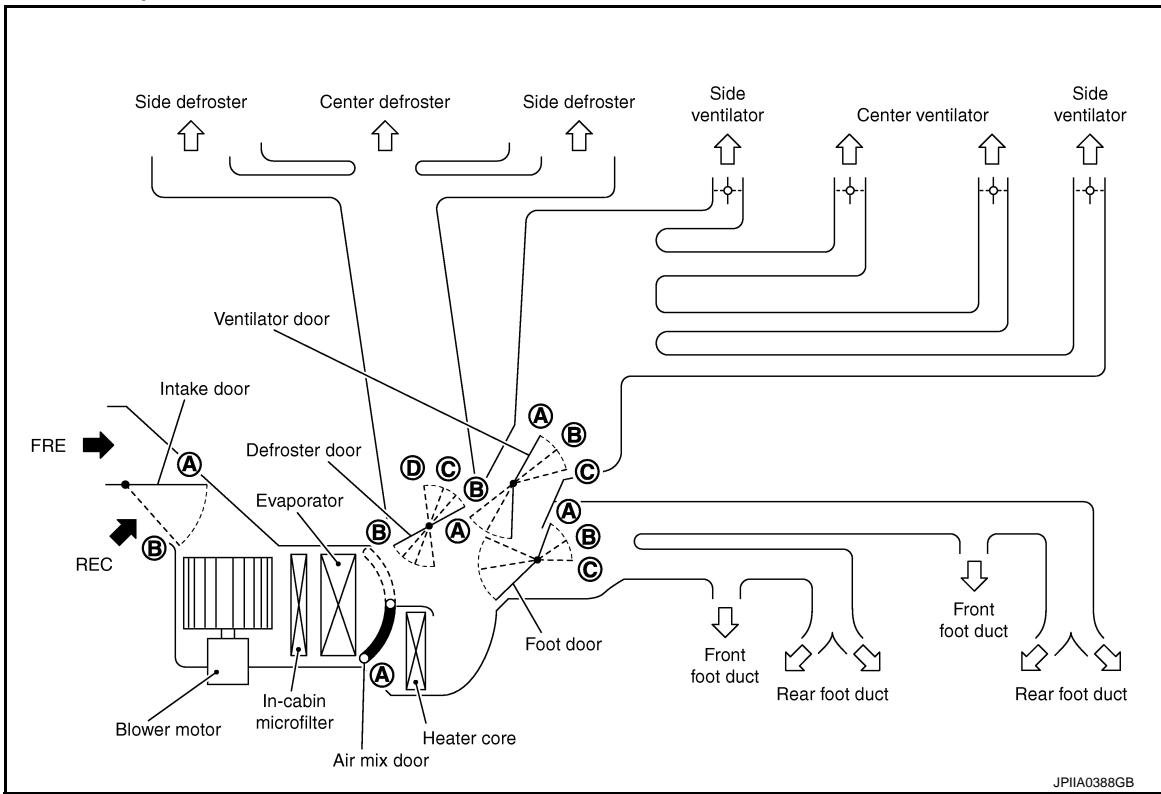
< SYSTEM DESCRIPTION >

## SYSTEM DESCRIPTION

### SWITCHES AND THEIR CONTROL FUNCTION

#### System Description

INFOID:000000008278155



**NOTE:**

Ventilator door has center ventilator openings and side ventilator openings, side ventilator opening cannot be completely closed.

Door	Position or switch	Mode control dial							Intake switch		Temperature control dial			
		MAX A/C	VENT	B/L	FOOT	FOOT2	D/F	D/F2	DEF	ON	OFF	Full cold ↔ Full hot		
		MAX A/C				—		—						
Ventilator door	(A)	(A)	(B)	(C)	(C)	(C)	(C)	(C)	—	—	—			
Foot door	(A)	(A)	(B)	(C)	(C)	(B)	(B)	(A)	—	—	—			
Defroster door	(A)	(A)	(A)	(B)	(B-C)	(C)	(C-D)	(D)	—	—	—			
Intake door	(A)	—							(B)	(A)	(B)	—		
Air mix door		—								—		(A)	—	(B)

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# AIR DISTRIBUTION






< SYSTEM DESCRIPTION >

## AIR DISTRIBUTION

### System Description






INFOID:000000008278156

### WITHOUT REAR FOOT DUCT

Discharge air flow			
Mode door position	Air outlet/distribution		
	VENT	FOOT	DEF
	100%	—	—
	63%	37%	—
	13%	63%	24%
	12%	41%	47%
	18%	—	82%

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### WITH REAR FOOT DUCT

Discharge air flow				
Mode door position	Air outlet/distribution			
	VENT	FOOT		DEF
		Front	Rear	
	100%	—	—	—
	60%	26%	14%	—
	13%	42%	24%	21%
	12%	28%	16%	44%
	18%	—	—	82%

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# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS FOR USA AND CANADA

#### FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000008278157

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

#### **WARNING:**

Always observe the following items for preventing accidental activation.

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

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

#### **WARNING:**

Always observe the following items for preventing accidental activation.

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

#### FOR USA AND CANADA : Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000008278158

#### **CAUTION:**

Comply with the following cautions to prevent any error and malfunction.

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

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

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

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

#### OPERATION PROCEDURE

1. Connect both battery cables.

#### **NOTE:**

Supply power using jumper cables if battery is discharged.

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# PRECAUTIONS

## < PRECAUTION >

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ACC position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.
5. When the repair work is completed, return the ignition switch to the LOCK position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT.

## FOR MEXICO

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

INFOID:000000008278159

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 "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### **WARNING:**

**Always observe the following items for preventing accidental activation.**

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

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

#### **WARNING:**

**Always observe the following items for preventing accidental activation.**

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

## FOR MEXICO : Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000008278160

#### **CAUTION:**

**Comply with the following cautions to prevent any error and malfunction.**

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

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

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

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

## OPERATION PROCEDURE

1. Connect both battery cables.

## PRECAUTIONS

### < PRECAUTION >

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**NOTE:**

Supply power using jumper cables if battery is discharged.

2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ACC position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.
5. When the repair work is completed, return the ignition switch to the LOCK position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT.

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# PREPARATION

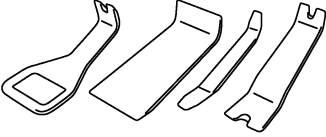
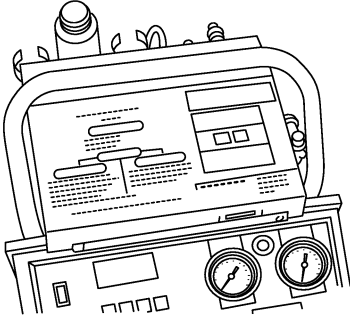
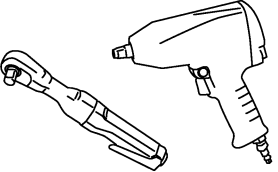
< PREPARATION >

## PREPARATION

### PREPARATION

#### Commercial Service Tool

INFOID:000000008278161

Tool name	Description
<p>Remover tool</p>  <p>PIIB7923J</p>	<p>Remove clips, pawls, metal clips</p>
<p>Refrigerant identifier equipment</p>  <p>RJIA0197E</p>	<p>Checking for refrigerant purity and system contamination</p>
<p>Power tool</p>  <p>PBIC0190E</p>	<p>For loosening bolts and nuts</p>



# IN-CABIN MICROFILTER

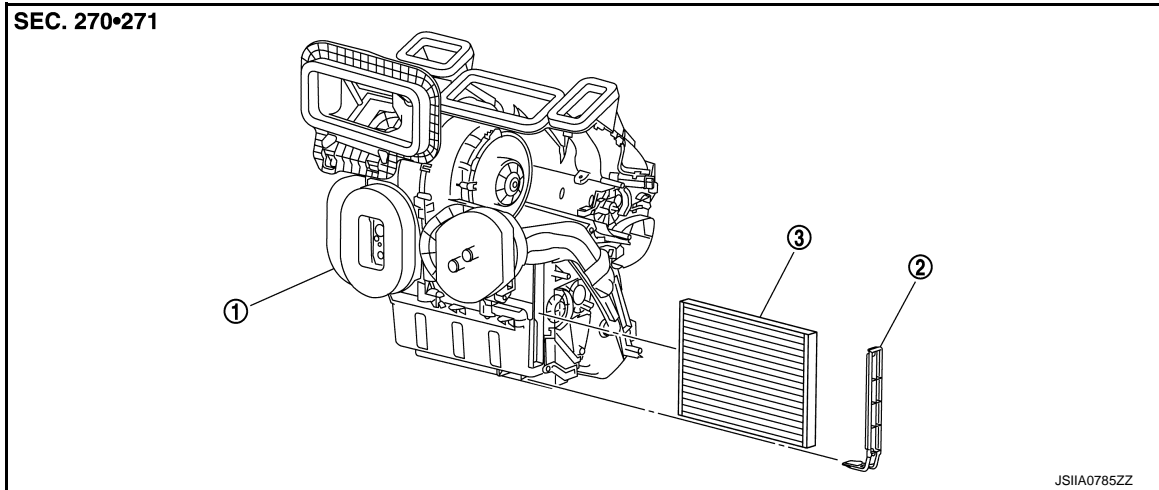
< PERIODIC MAINTENANCE >

## PERIODIC MAINTENANCE

### IN-CABIN MICROFILTER

#### Exploded View

INFOID:000000008278162



1. A/C unit assembly

2. Filter cover

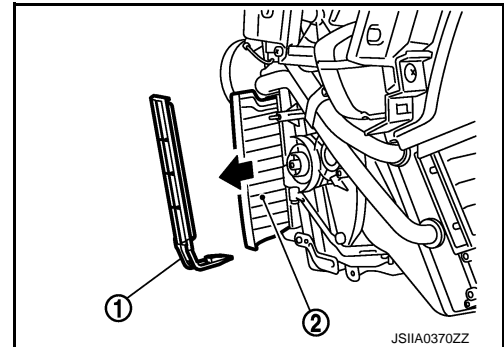
3. In-cabin microfilter

#### Removal and Installation

INFOID:000000008278163

##### REMOVAL

1. Remove instrument driver lower cover. Refer to [IP-13, "Exploded View"](#).
2. Remove accelerator pedal assembly. Refer to [ACC-4, "Exploded View"](#).
3. Remove filter cover (1), and then remove in-cabin microfilter (2).



##### INSTALLATION

Installation is basically the reverse order of removal.

##### **CAUTION:**

- If the filter is deformed/damaged when removing, replace it with a new one. Deformed/damaged filter may deteriorate the duct collecting performance.
- When installing, handle the filter with extreme care to avoid deforming/damaging.

#### Replacement

INFOID:000000008278164

Replace in-cabin microfilter.

Refer to [MA-9, "FOR NORTH AMERICA : Schedule 1"](#) (FOR NORTH AMERICA), [MA-11, "FOR NORTH AMERICA : Schedule 2"](#) (FOR NORTH AMERICA) or [MA-12, "FOR MEXICO : Periodic Maintenance"](#) (FOR MEXICO).

Affix a caution label inside the glove box when replacing filter.

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# DUCT AND GRILLE

< REMOVAL AND INSTALLATION >

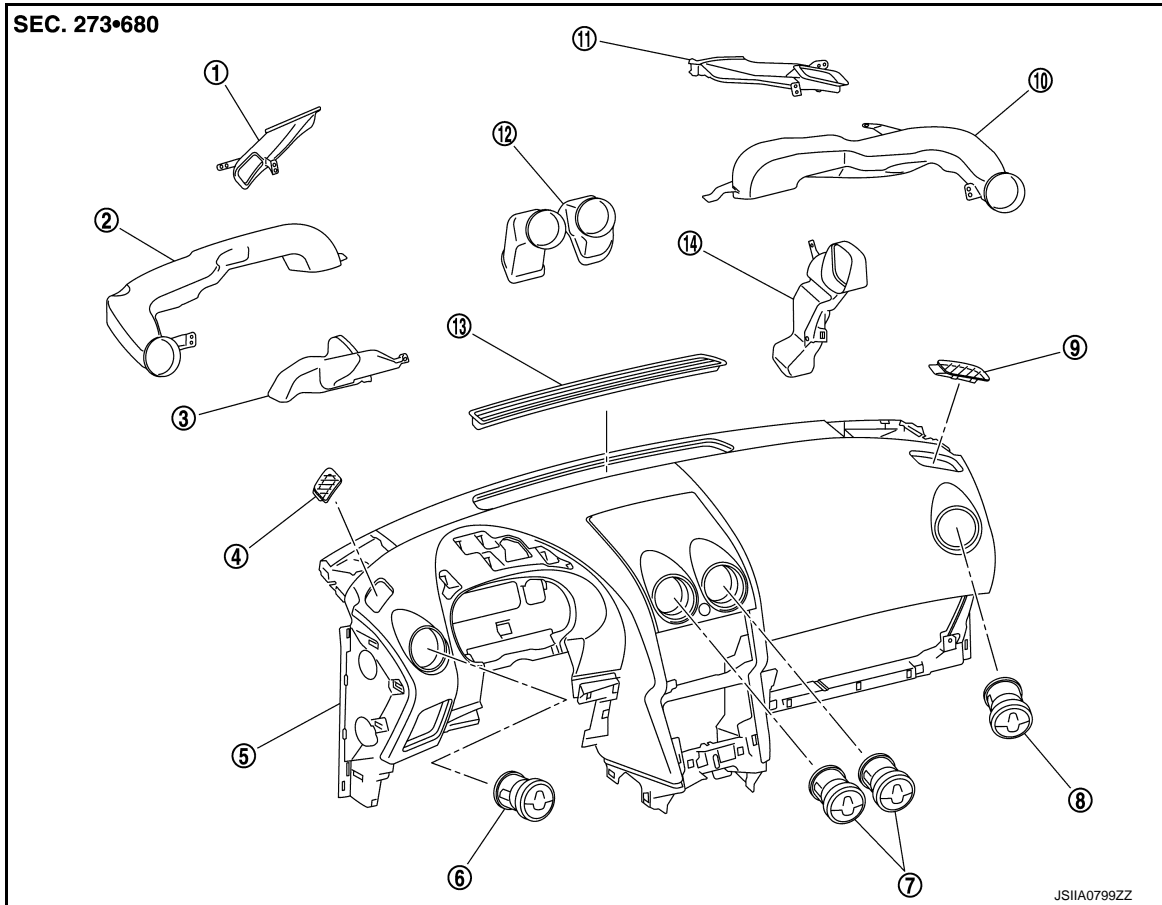
## REMOVAL AND INSTALLATION

### DUCT AND GRILLE

Exploded View

INFOID:000000008278165

FRONT

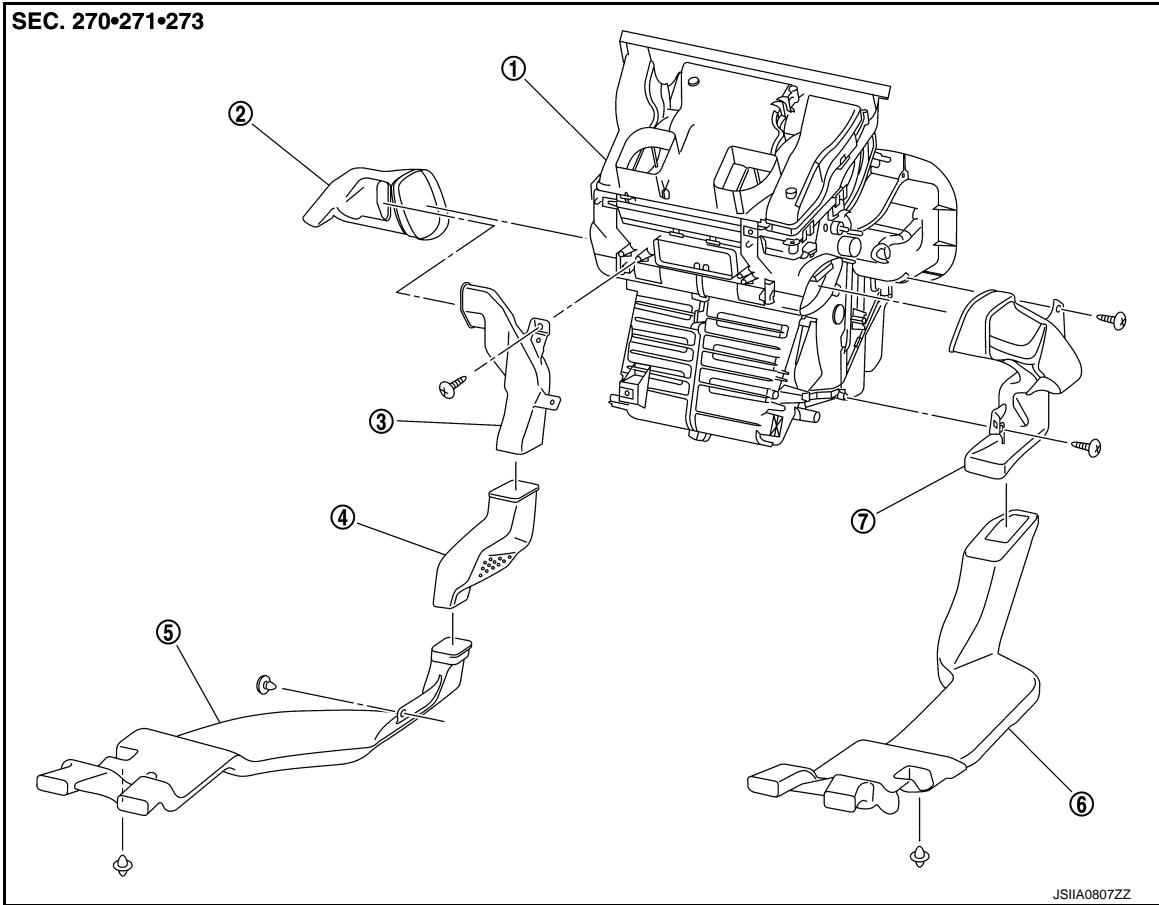


- |                             |                              |                              |
|-----------------------------|------------------------------|------------------------------|
| 1. Side defroster duct LH   | 2. Side ventilator duct LH   | 3. Front foot duct LH        |
| 4. Side defroster grille LH | 5. Instrument panel          | 6. Side ventilator grille LH |
| 7. Center ventilator grille | 8. Side ventilator grille RH | 9. Side defroster grille RH  |
| 10. Side ventilator duct RH | 11. Side defroster duct RH   | 12. Center ventilator duct   |
| 13. Front defroster grille  | 14. Front foot duct RH       |                              |

REAR

# DUCT AND GRILLE

< REMOVAL AND INSTALLATION >



- |                       |                        |                        |
|-----------------------|------------------------|------------------------|
| 1. A/C unit assembly  | 2. Front foot duct LH  | 3. Rear foot duct 1    |
| 4. Rear foot duct 2   | 5. Rear foot duct 3 LH | 6. Rear foot duct 3 RH |
| 7. Front foot duct RH |                        |                        |

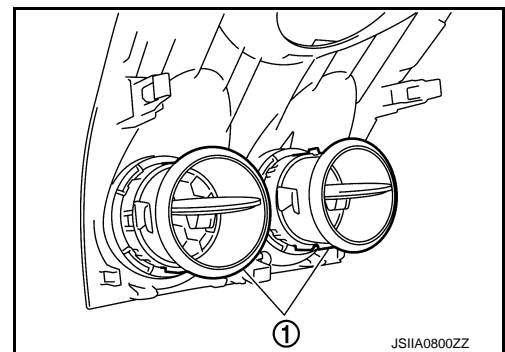
## CENTER VENTILATOR GRILLE

### CENTER VENTILATOR GRILLE : Removal and Installation

INFOID:000000008278166

#### REMOVAL

1. Remove cluster lid C. Refer to [IP-13. "Exploded View"](#).
2. Remove center ventilator grilles (1).
  - Using flat screwdriver to push the pawls.
  - Pull to remove center ventilator grilles from cluster lid C.



#### INSTALLATION

Installation is basically the reverse order of removal.

### CENTER VENTILATOR DUCT

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# DUCT AND GRILLE

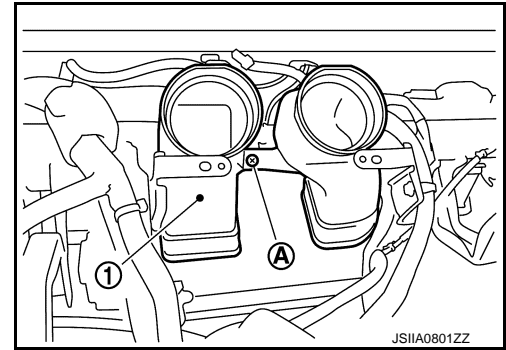
< REMOVAL AND INSTALLATION >

## CENTER VENTILATOR DUCT : Removal and Installation

INFOID:000000008278167

### REMOVAL

1. Remove instrument panel. Refer to [IP-13. "Exploded View"](#).
2. Remove screw (A), and then remove center ventilator duct (1).



### INSTALLATION

Installation is basically the reverse order of removal.

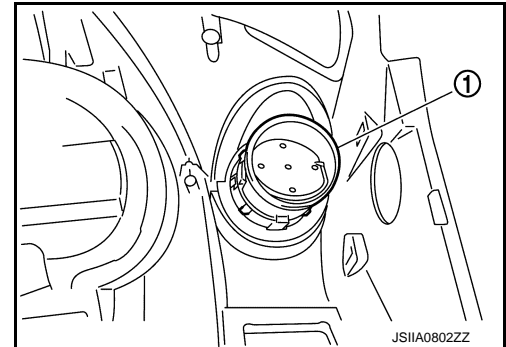
## SIDE VENTILATOR GRILLE

## SIDE VENTILATOR GRILLE : Removal and Installation

INFOID:000000008278168

### REMOVAL

1. Remove side ventilator duct. Refer to [VTL-10. "Exploded View"](#).
2. Remove side ventilator grilles (1).
  - Using flat screwdriver to push the pawls.
  - Pull to remove center ventilator grilles from instrument panel.



### INSTALLATION

Installation is basically the reverse order of removal.

## SIDE VENTILATOR DUCT

## SIDE VENTILATOR DUCT : Removal and Installation

INFOID:000000008278169

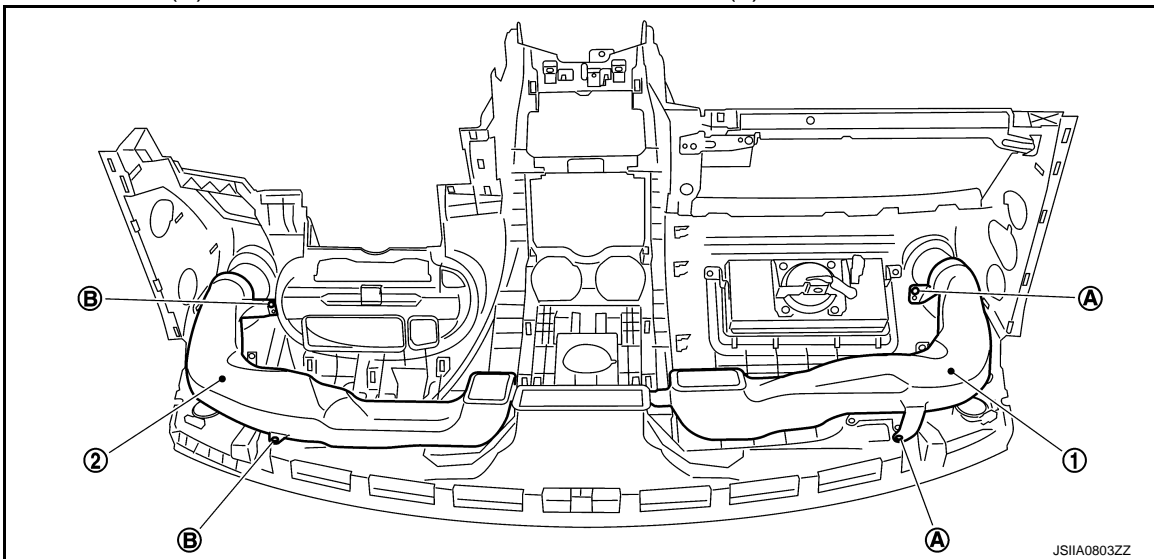
### REMOVAL

1. Remove instrument panel. Refer to [IP-13. "Exploded View"](#).

# DUCT AND GRILLE

## < REMOVAL AND INSTALLATION >

2. Remove screws (A), and then remove side ventilator duct RH (1).



3. Remove screws (B), and then remove side ventilator duct LH (2).

### INSTALLATION

Installation is basically the reverse order of removal.

### SIDE DEFROSTER GRILLE

#### SIDE DEFROSTER GRILLE : Removal and Installation

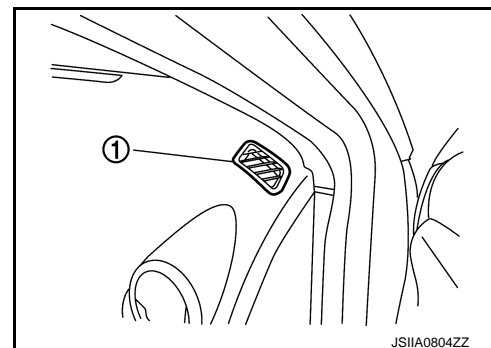
INFOID:000000008278170

### REMOVAL

Using remover tool, remove side defroster grilles (1).

#### **CAUTION:**

**Use shop cloth and all other protection necessities to avoid damage.**



### INSTALLATION

Installation is basically the reverse order of removal.

### SIDE DEFROSTER DUCT

#### SIDE DEFROSTER DUCT : Removal and Installation

INFOID:000000008278171

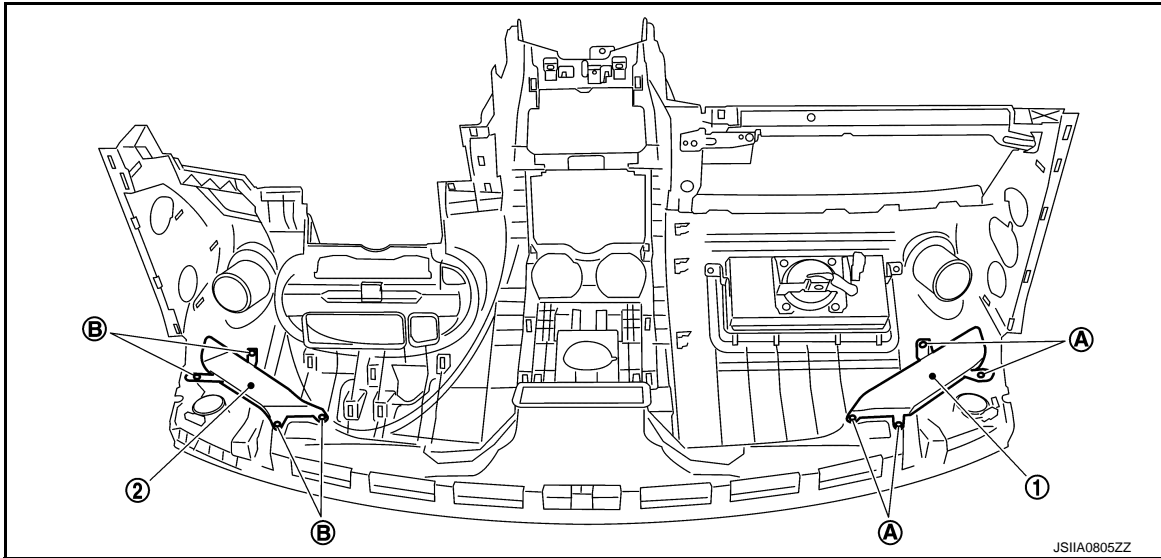
### REMOVAL

1. Remove side ventilator duct. Refer to [VTL-10, "Exploded View"](#).

## DUCT AND GRILLE

### < REMOVAL AND INSTALLATION >

2. Remove screws (A), and then remove side defroster duct RH (1).



3. Remove screws (B), and then remove side defroster duct LH (2).

### INSTALLATION

Installation is basically the reverse order of removal.

### FRONT DEFROSTER GRILLE

#### FRONT DEFROSTER GRILLE : Removal and Installation

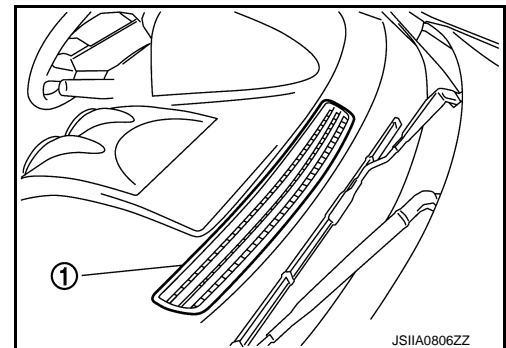
INFOID:000000008278172

### REMOVAL

Using remover tool, remove front defroster grille (1).

#### **CAUTION:**

**Use shop cloth and all other protection necessities to avoid damage.**



### INSTALLATION

Installation is basically the reverse order of removal.

### FRONT FOOT DUCT

#### FRONT FOOT DUCT : Removal and Installation

INFOID:000000008278173

### REMOVAL

Driver side

1. Remove instrument driver lower cover. Refer to [IP-13, "Exploded View"](#).
2. Remove knee protector. Refer to [IP-13, "Exploded View"](#).
3. Remove rear foot duct 1 (with rear foot duct). Refer to [VTL-10, "Exploded View"](#).
4. Remove front foot duct LH.

Passenger side

1. Remove glove box assembly. Refer to [IP-13, "Exploded View"](#).
2. Remove mounting screws, and then remove front foot duct RH.

### INSTALLATION

# DUCT AND GRILLE

## < REMOVAL AND INSTALLATION >

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Installation is basically the reverse order of removal.

### REAR FOOT DUCT 1

A

#### REAR FOOT DUCT 1 : Removal and Installation

INFOID:000000008278174

##### REMOVAL

1. Remove cluster lid C. Refer to [IP-13, "Exploded View"](#).
2. Remove screw, and then remove rear foot duct 1.

B

C

##### INSTALLATION

Installation is basically the reverse order of removal.

### REAR FOOT DUCT 2

D

#### REAR FOOT DUCT 2 : Removal and Installation

INFOID:000000008278175

##### REMOVAL

1. Remove instrument lower cover LH. Refer to [IP-13, "Exploded View"](#).
2. Remove rear foot duct 2. Refer to [VTL-10, "Exploded View"](#).

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##### INSTALLATION

Installation is basically the reverse of removal.

### REAR FOOT DUCT 3

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#### REAR FOOT DUCT 3 : Removal and Installation

INFOID:000000008278176

##### REMOVAL

Driver side

1. Peel back floor carpet to a point where rear foot duct 3 LH is visible. Refer to [INT-22, "Exploded View"](#).
2. Remove clips, and then remove rear foot duct 3 LH.

VTL

Passenger side

1. Peel back floor carpet to a point where rear foot duct 3 RH is visible. Refer to [INT-22, "Exploded View"](#).
2. Remove clip, and then remove rear foot duct 3 RH.

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##### INSTALLATION

Installation is basically the reverse of removal.

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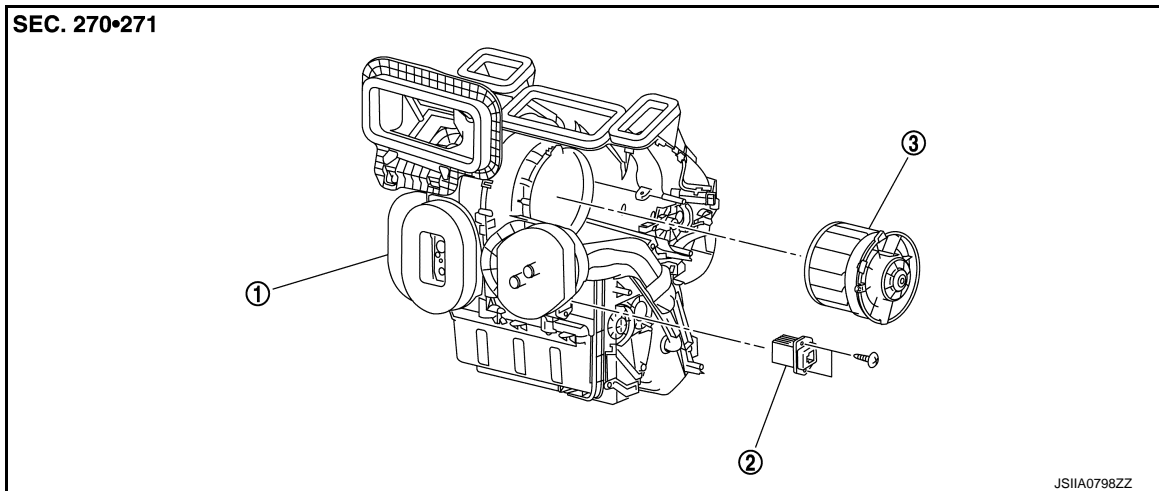
# BLOWER MOTOR

< REMOVAL AND INSTALLATION >

## BLOWER MOTOR

### Exploded View

INFOID:000000008278177



1. A/C unit assembly

2. Fan control amp.

3. Blower motor

### Removal and Installation

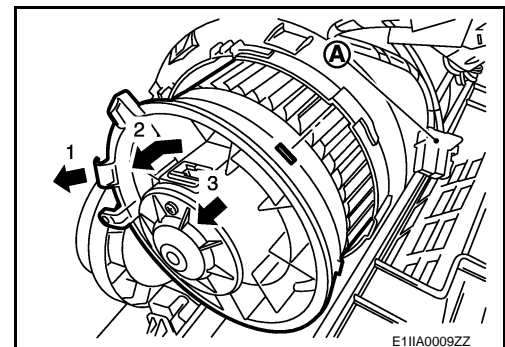
INFOID:000000008278178

#### REMOVAL

1. Remove instrument driver lower cover. Refer to [IP-13, "Exploded View"](#).
2. Remove combination meter. Refer to [MWI-70, "Removal and Installation"](#).
3. Remove knee protector. Refer to [IP-13, "Exploded View"](#).
4. Remove foot duct LH. Refer to [VTL-10, "Exploded View"](#).
5. Remove mode door motor. Refer to [HAC-210, "Exploded View"](#).
6. Remove brake pedal assembly and accelerator pedal. Refer to [BR-19, "Exploded View"](#).
7. Disconnect blower motor connector (A).
8. Press flange holding hook (1). Then turn blower motor counter-clockwise (2).
9. Pull outside (3) and remove blower motor.

#### **CAUTION:**

The balance is adjusted when blower fan and blower motor are assembled, so do not replace the individual parts.



#### INSTALLATION

Installation is basically the reverse order of removal.

#### **CAUTION:**

Install correctly blower motor flange holding hook in A/C unit assembly.



# FAN CONTROL AMPLIFIER

< REMOVAL AND INSTALLATION >

## FAN CONTROL AMPLIFIER

### Exploded View

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Refer to [VTL-16, "Exploded View"](#).

### Removal and Installation

INFOID:000000008278180

#### REMOVAL

1. Remove instrument driver lower cover. Refer to [IP-13, "Exploded View"](#).
2. Remove accelerator pedal assembly. Refer to [ACC-4, "Exploded View"](#).
3. Disconnect fan control amp. connector.
4. Remove mounting screws, and then remove fan control amp.

#### INSTALLATION

Installation is basically the reverse order of removal.

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