

SECTION **VTL**

VENTILATION SYSTEM

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SERVICE DATA AND SPECIFICATIONS

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In-cabin Micro Filter 22

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

Normal Charge Precaution

INFOID:000000007080040

WARNING:

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by on board charger at normal charge operation may effect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not enter the vehicle compartment (including luggage room) during normal charge operation.

Point to Be Checked Before Starting Maintenance Work

INFOID:000000007080041

The high voltage system may starts automatically. It is required to check that the timer air conditioner and timer charge (during EVSE connection) are not set before starting maintenance work.

NOTE:

If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system starts automatically even when the power switch is in OFF state.

Precaution for Removing 12V Battery

INFOID:000000007080623

When removing the 12V battery, turn ON/OFF the power switch and check that the charging status indicator does not blink. The 12V battery must be removed within one hour after checking the indicator lamp.

NOTE:

- The automatic 12V battery charge control may start even when the power switch is in OFF state.
- The automatic 12V battery charge control does not start within approximately one hour when the power switch is turned ON/OFF.

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

INFOID:000000007080624

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 power switch ON, 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.

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PRECAUTIONS

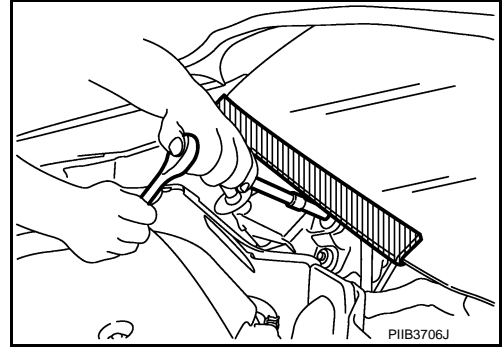
< PRECAUTION >

- When using air or electric power tools or hammers, always switch the power switch OFF, disconnect the 12V battery, and wait at least 3 minutes before performing any service.

Precaution for Procedure without Cowl Top Cover

INFOID:000000007080625

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



PREPARATION

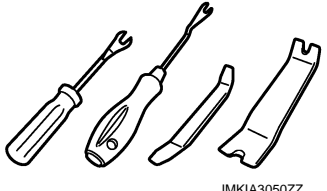
< PREPARATION >

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:000000006961220

Tool name	Description
Remover tool  JMKIA3050ZZ	Removes clips, pawls, and metal clips

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DESCRIPTION

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

DESCRIPTION

Description

INFOID:000000006997022

- This system utilizes an A/C unit that combines the blower unit, heater unit, and cooling unit.
- An in-cabin microfilter is installed downstream of the blower fan motor.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

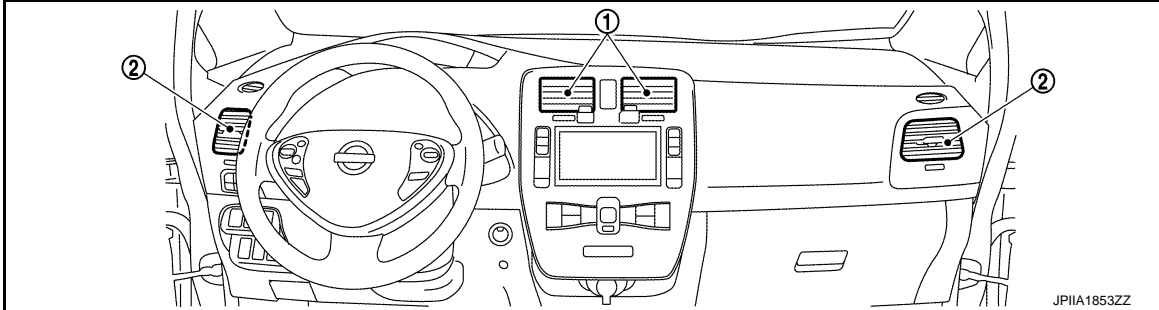
COMPONENT PARTS

Outlets and Drafters

INFOID:000000006997023

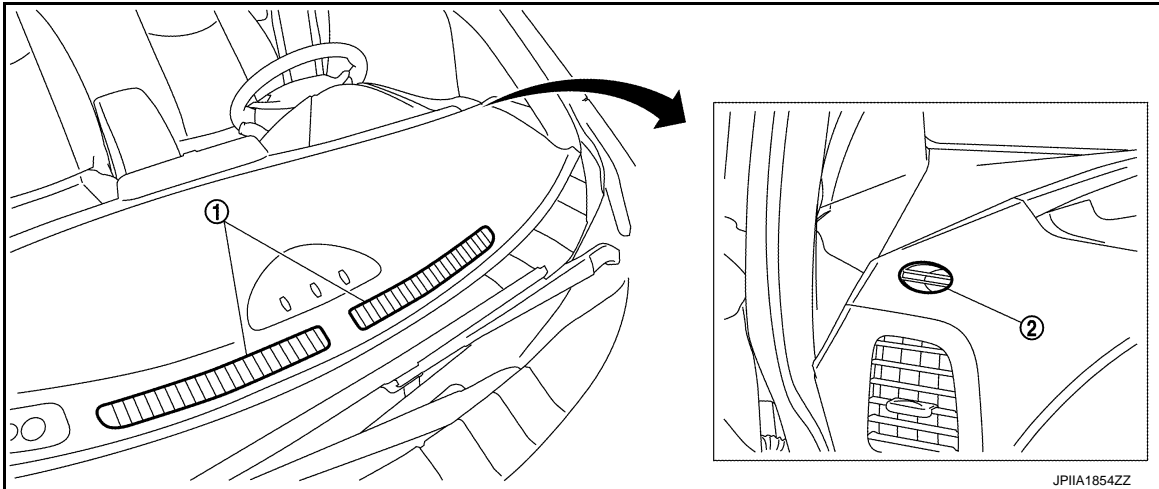
VENTILATORS

A grille with shutter is installed on the center ventilators (1) and side ventilators (2). The air direction can be adjusted by opening and closing the grille.



DEFROSTERS

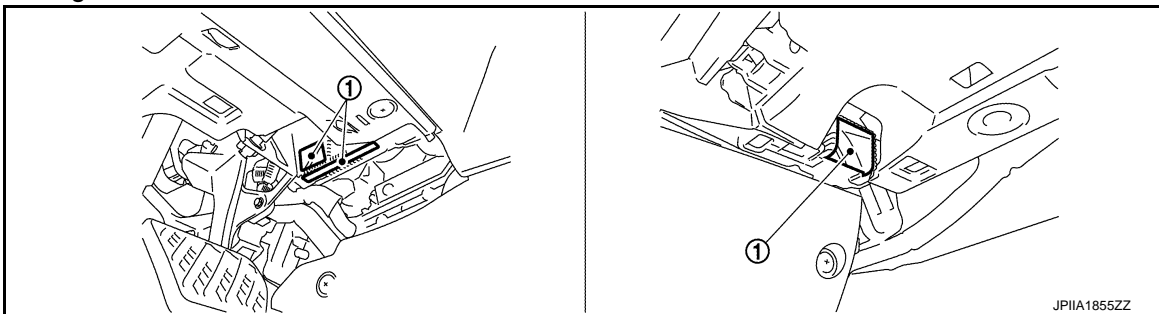
A front defroster (1) is used for defogging the front window and side defrosters (2) are used for defogging the driver and passenger seat door windows.



FOOT OUTLET

Front

Outlets (1) are installed in order to equalize the distribution of temperatures at the foot area of the front seats during heating.



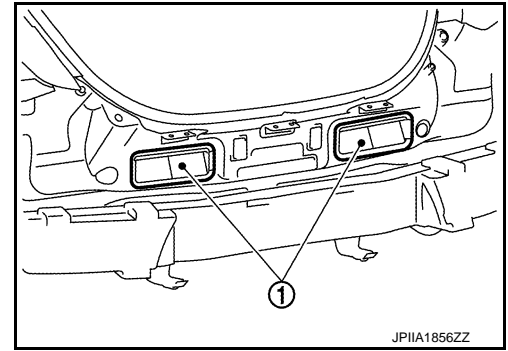
DRAFTERS

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COMPONENT PARTS

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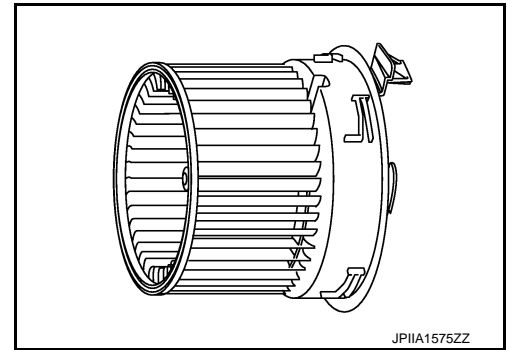
Drafters (1) are installed on the rear of the vehicle body (reverse side of rear bumper).



INFOID:000000006997024

Blower Fan Motor

- The front fan motor is installed on the right side of the A/C unit.
- It uses a one-touch structure that does not require screws for installation.

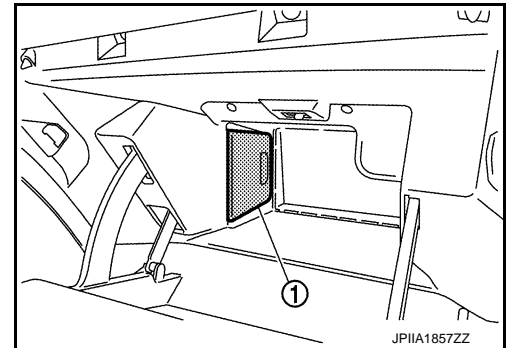


INFOID:000000006997025

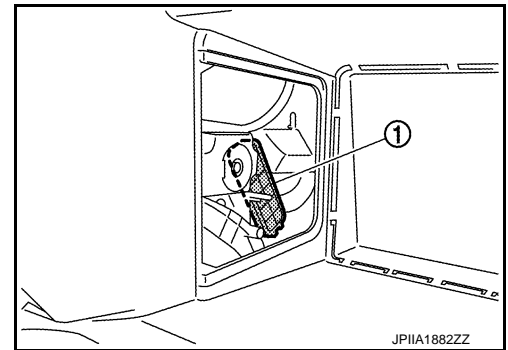
In-cabin Micro Filter

COMPONENT DESCRIPTION

- For improving visibility during work to replace the in-cabin microfilter, a glove box mask is adopted inside the glove box.



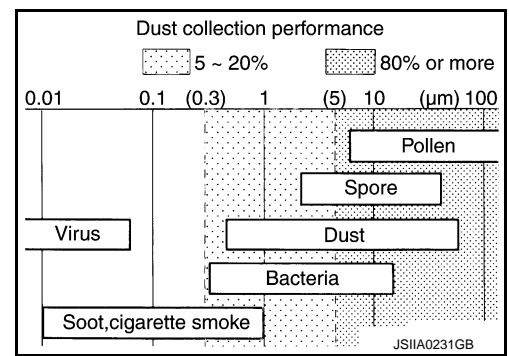
- The A/C unit utilizes a filter cover (1) and in-cabin microfilter.



COMPONENT PARTS

< SYSTEM DESCRIPTION >

- The in-cabin microfilter used can remove dust, pollen, and dirt that is approximately 10 micrometers in size or larger.



- The in-cabin microfilter is replaced regularly at the following times. However, the filter lifetime may be lower depending on the region of use and how often the A/C is used. If the discharged air flow significantly decreases or glass fogging occur more often when the A/C is used, the filter needs to be replaced.

Replacement Interval : Refer to [MA-6, "Schedule 1"](#) and [MA-7, "Schedule 2"](#).

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SYSTEM

< SYSTEM DESCRIPTION >

SYSTEM

VENTILATION SYSTEM

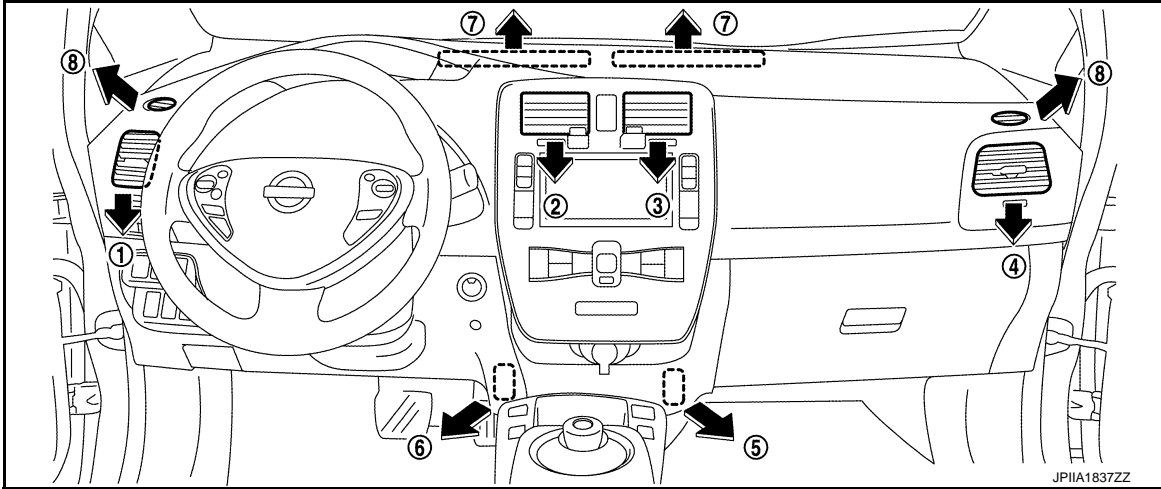
VENTILATION SYSTEM : System Description

INFOID:000000006997026

DESCRIPTION

The ventilation system is controlled by the A/C auto amplifier. For system control, refer to [HAC-14. "AUTOMATIC AIR CONDITIONING SYSTEM : System Description"](#).

OUTLETS AND AIR MIX RATIO

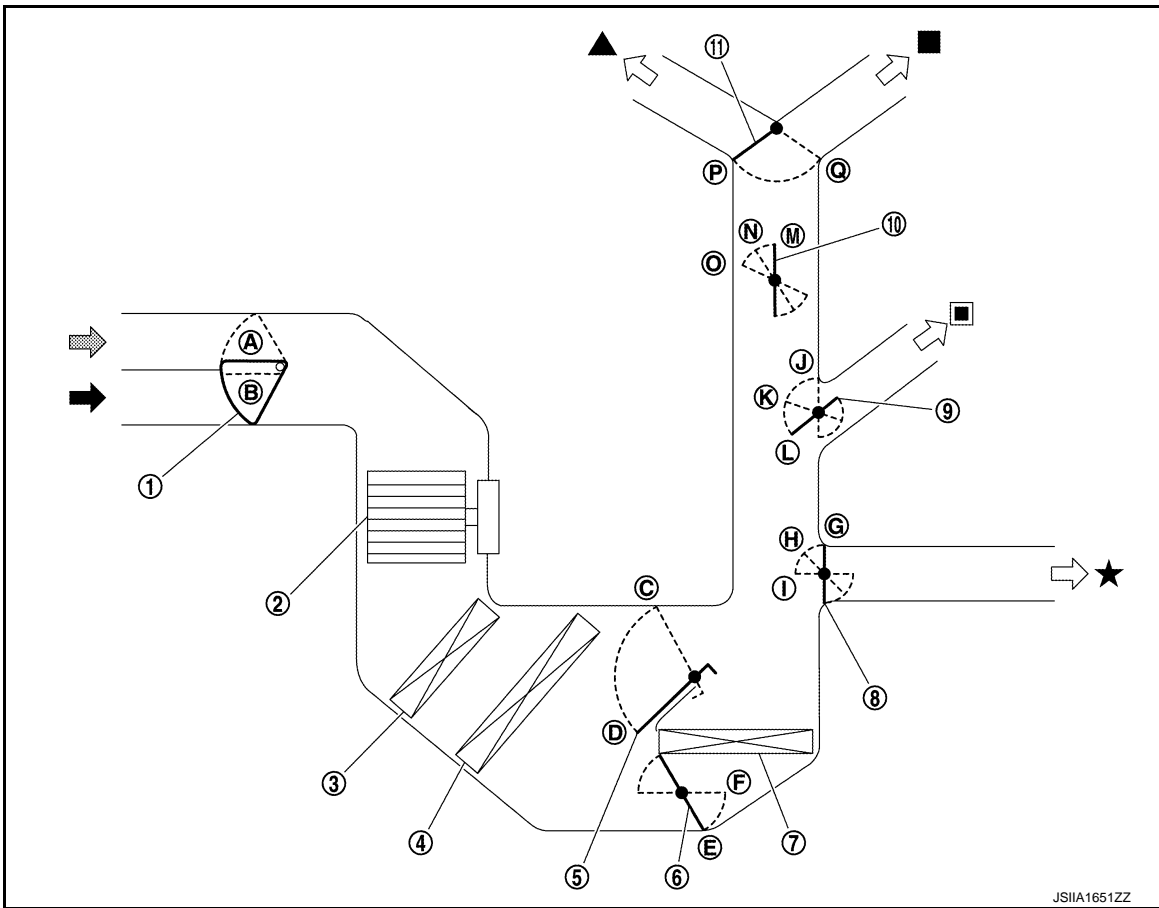


MOD/DEF setting	Air mix ratio (%)							
	Ventilators				Foot		Defrosters	
	Left side (1)	Left center (2)	Right center (3)	Right side (4)	Right (5)	LH (6)	Front (7)	Side (8)
	22.6	26.7	25.9	24.7	–	–	–	–
	13.4	17.0	17.0	14.3	19.8	18.6	–	–
	9.1	–	–	10.0	29.3	28.6	18.9	4.1
	6.6	–	–	6.9	21.9	20.5	36.5	7.6
	7.8	–	–	8.5	–	–	69.7	14.1

RELATIONSHIP OF SWITCH POSITIONS AND DOOR POSITIONS

SYSTEM

< SYSTEM DESCRIPTION >



- | | | |
|------------------------|---------------------------------------|-------------------------|
| 1. Intake door | 2. Blower fan motor | 3. Clean filter |
| 4. Evaporator | 5. Upper air mix door | 6. Lower air mix door |
| 7. Heater core | 8. Foot door | 9. Side ventilator door |
| 10. Sub defroster door | 11. Center ventilator- defroster door | |
| ↔ Fresh air intake | ← Recirculation | ▲ Defrosters |
| ■ Center ventilator | ■ Side ventilator | ★ Foot |








Switch operation	Door position						
	Center ventilator- defroster door	Sub defroster door	Side ventilator door	Foot door	Intake door	Upper air mix door	Lower air mix door
AUTO switch	Automatic control						

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SYSTEM

< SYSTEM DESCRIPTION >

Switch operation			Door position						
			Center ventilator- defroster door	Sub defroster door	Side ventilator door	Foot door	Intake door	Upper air mix door	Lower air mix door
MODE switch	VENT		P	M	L	G			
	B/L			N	K	H			
	FOOT		Q	O	J	I	—	—	—
	D/F			N		G			
DEF switch				M					
FRE switch*							A		
REC switch*							B		
Temperature control switches		18.0°C (60°F – 61°F) (FULL COLD)	—	—	—	—	—	D position	E
		18.5°C – 31.5°C (62°F – 88°F)						Automatic control	Automatic control
		32.0°C (89°F – 90°F) (FULL HOT)						C	F
ON/OFF switch	OFF		Q	O	J	G	B	—	—
	ON		Returns to status before OFF switch is pressed.						

*: Status is also displayed during automatic control.

DUCT AND GRILLE

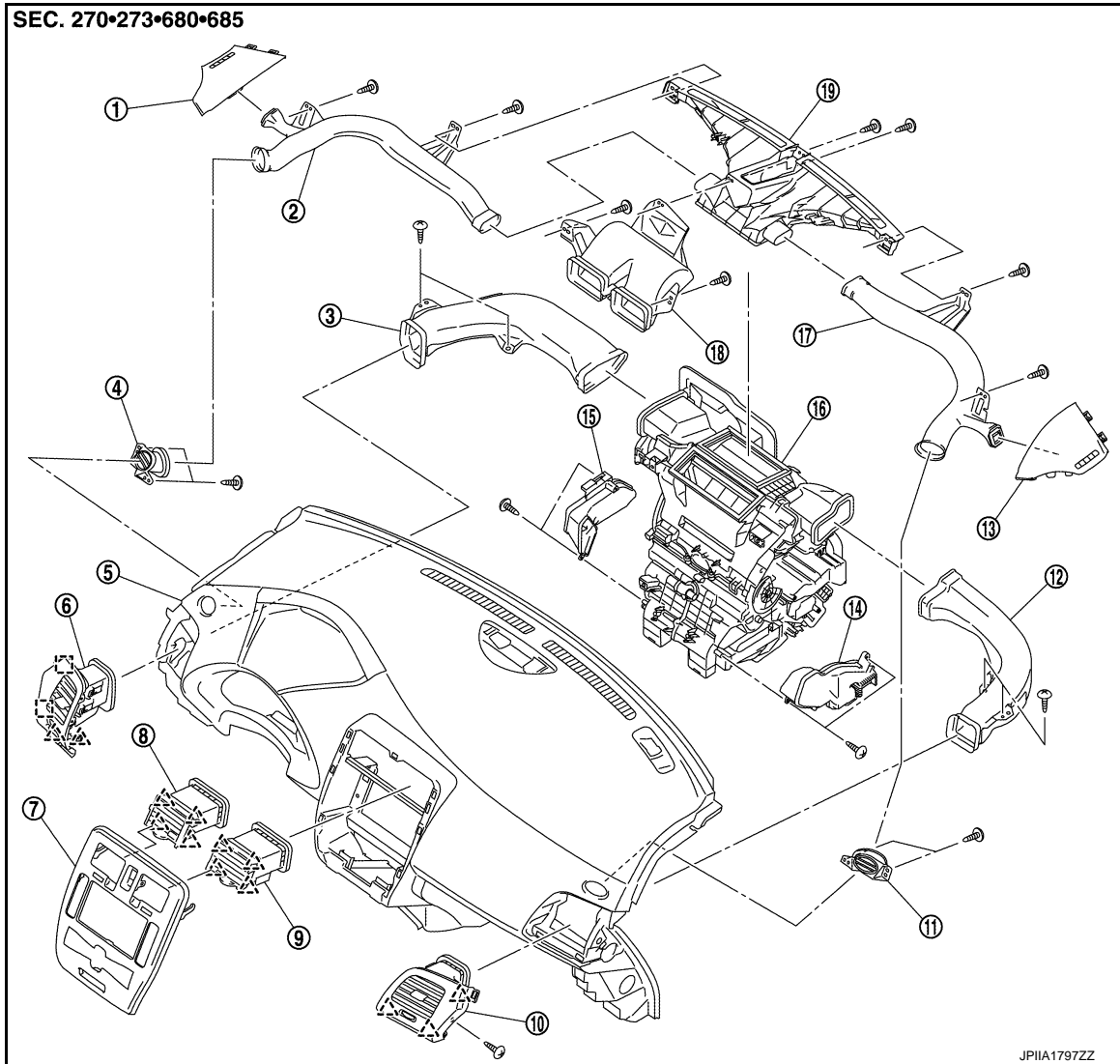
< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

DUCT AND GRILLE

Exploded View

INFOID:000000006961226



- | | | |
|--|--------------------------------|--------------------------------|
| 1. Side defroster nozzle 2 LH
(Instrument side panel LH) | 2. Side defroster nozzle 1 LH | 3. Side ventilator duct LH |
| 4. Side defroster grille LH | 5. Instrument panel assembly | 6. Side ventilator grille LH |
| 7. Cluster lid C | 8. Center ventilator grille LH | 9. Center ventilator grille RH |
| 10. Side ventilator grille RH | 11. Side defroster grille RH | 12. Side ventilator duct RH |
| 13. Side defroster nozzle 2 RH
(Instrument side panel RH) | 14. Foot duct RH | 15. Foot duct LH |
| 16. A/C unit assembly | 17. Side defroster nozzle 1 RH | 18. Center ventilator duct |
| 19. Front defroster nozzle | | |

△ : Pawl

□ : Metal clip

CENTER VENTILATOR GRILLE

DUCT AND GRILLE


< REMOVAL AND INSTALLATION >

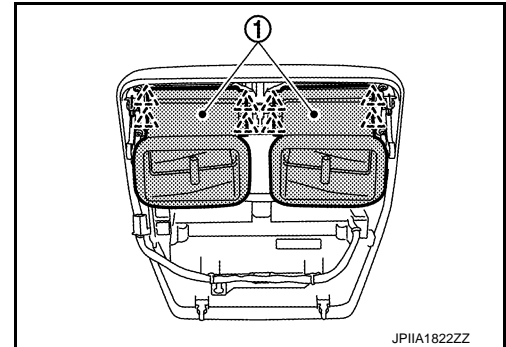
CENTER VENTILATOR GRILLE : Removal and Installation

INFOID:000000006961227

REMOVAL

1. Remove cluster lid C. Refer to [IP-13, "Removal and Installation"](#).
2. Disengage fixing pawls to remove center ventilator grille (1) from cluster lid C.

 : Pawl



INSTALLATION

Install in the reverse order of removal.

SIDE VENTILATOR GRILLE



SIDE VENTILATOR GRILLE : Removal and Installation

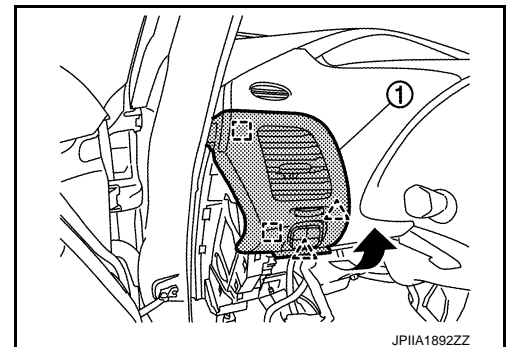
INFOID:000000006961228

REMOVAL

Driver side

1. Remove instrument mask LH. Refer to [IP-13, "Removal and Installation"](#).
2. Remove instrument side panel LH. Refer to [INT-19, "INSTRUMENT SIDE PANEL : Removal and Installation"](#).
3. Remove front pillar garnish LH. Refer to [INT-20, "FRONT PILLAR GARNISH : Removal and Installation"](#).
4. Remove instrument lower panel LH. Refer to [IP-13, "Removal and Installation"](#).
5. Disengage side ventilator grille LH (1) fixing pawl and metal clips.

 : Pawl
 : Metal clip



6. Disconnect switch connector to remove side ventilator grille LH from instrument panel assembly.

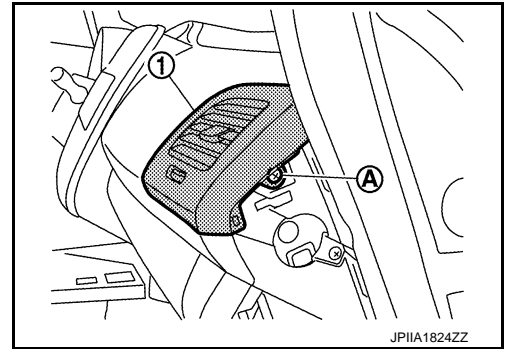
Passenger side

1. Remove instrument mask RH. Refer to [IP-13, "Removal and Installation"](#).
2. Remove instrument side panel RH. Refer to [INT-19, "INSTRUMENT SIDE PANEL : Removal and Installation"](#).
3. Remove front pillar garnish RH. Refer to [INT-20, "FRONT PILLAR GARNISH : Removal and Installation"](#).

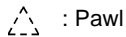
DUCT AND GRILLE

< REMOVAL AND INSTALLATION >

4. Remove fixing screw (A) from side ventilator grille RH (1).

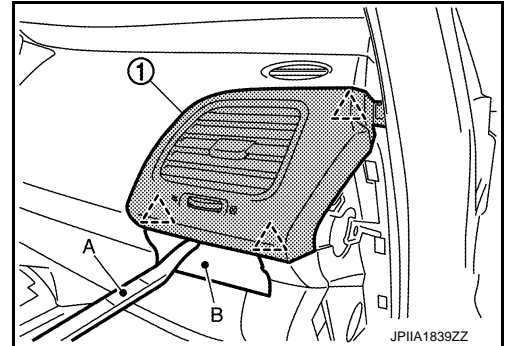


5. Disengage side ventilator grille RH (1) fixing pawl with a remover tool (A).



CAUTION:

Apply protective tape (B) on the part to protect it from damage.



6. Remove side ventilator grille RH from instrument panel assembly.

INSTALLATION

Install in the reverse order of removal.

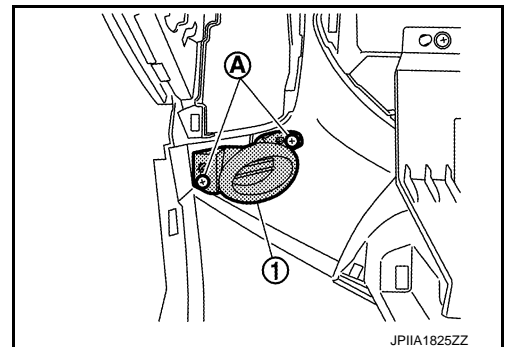
SIDE DEFROSTER GRILLE

SIDE DEFROSTER GRILLE : Removal and Installation

INFOID:000000006961229

REMOVAL

1. Remove side defroster nozzle 1. Refer to [VTL-17, "SIDE DEFROSTER NOZZLE 1 : Removal and Installation"](#).
2. Remove fixing screw (A) to remove side defroster grille (1) from instrument panel assembly.



INSTALLATION

Install in the reverse order of removal.

CENTER VENTILATOR DUCT

CENTER VENTILATOR DUCT : Removal and Installation

INFOID:000000006961230

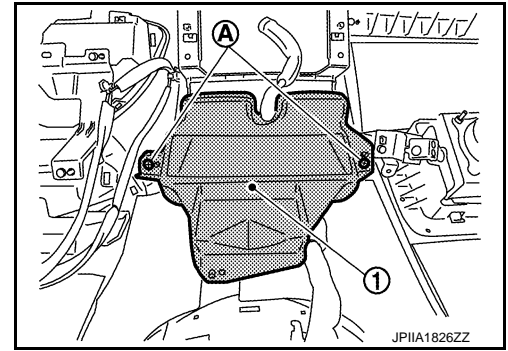
REMOVAL

1. Remove front defroster nozzle. Refer to [VTL-16, "FRONT DEFROSTER NOZZLE : Removal and Installation"](#).

DUCT AND GRILLE

< REMOVAL AND INSTALLATION >

2. Remove fixing screws (A) to remove center ventilator duct (1) from instrument panel assembly.



INSTALLATION

Install in the reverse order of removal.

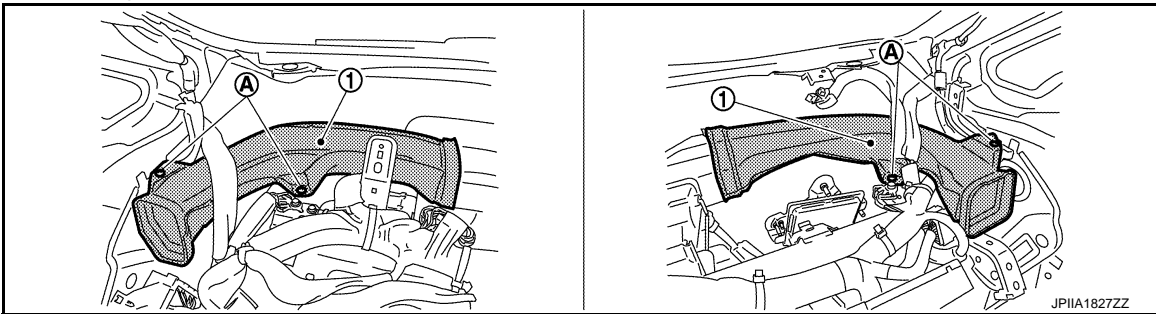
SIDE VENTILATOR DUCT

SIDE VENTILATOR DUCT : Removal and Installation

INFOID:0000000006961231

REMOVAL

1. Remove instrument panel assembly. Refer to [IP-13, "Removal and Installation"](#).
2. Remove fixing screws (A) to remove side ventilator duct (1) from the vehicle.



INSTALLATION

Install in the reverse order of removal.

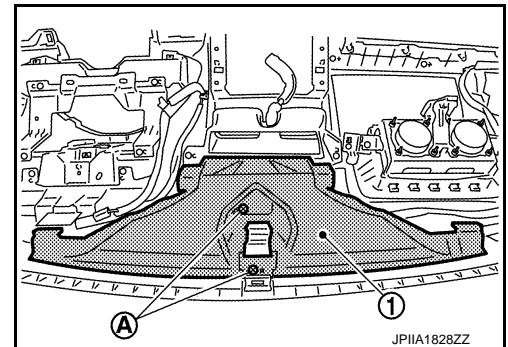
FRONT DEFROSTER NOZZLE

FRONT DEFROSTER NOZZLE : Removal and Installation

INFOID:0000000006961232

REMOVAL

1. Remove side defroster nozzle 1. Refer to [VTL-17, "SIDE DEFROSTER NOZZLE 1 : Removal and Installation"](#).
2. Remove fixing screw (A) to remove front defroster nozzle (1) from instrument panel assembly.



INSTALLATION

Install in the reverse order of removal.

SIDE DEFROSTER NOZZLE 1

DUCT AND GRILLE

< REMOVAL AND INSTALLATION >

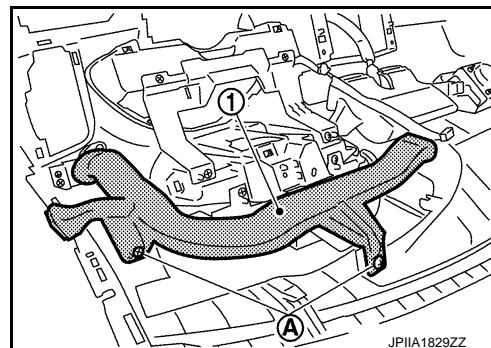
SIDE DEFROSTER NOZZLE 1 : Removal and Installation

INFOID:000000006961233

REMOVAL

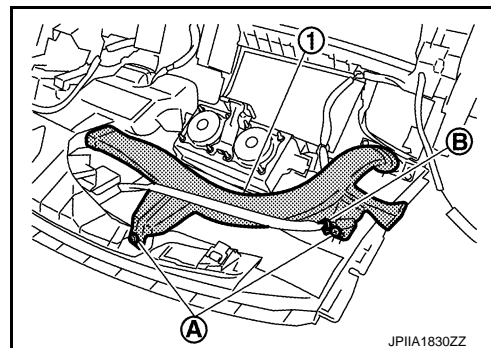
Driver side

1. Remove instrument panel assembly. Refer to [IP-13. "Removal and Installation"](#).
2. Remove fixing screws (A) to remove side defroster nozzle 1 (1) from instrument panel assembly.



Passenger side

1. Remove instrument panel assembly. Refer to [IP-13. "Removal and Installation"](#).
2. Remove fixing screws (A) and harness clip (B) to remove side defroster nozzle 1 (1) from instrument panel assembly.



INSTALLATION

Install in the reverse order of removal.

SIDE DEFROSTER NOZZLE 2

SIDE DEFROSTER NOZZLE 2 : Removal and Installation

INFOID:000000006961234

REMOVAL

Remove instrument side panel. Refer to [INT-19. "INSTRUMENT SIDE PANEL : Removal and Installation"](#).

INSTALLATION

Install in the reverse order of removal.

FOOT DUCT

FOOT DUCT : Removal and Installation

INFOID:000000006961235

REMOVAL

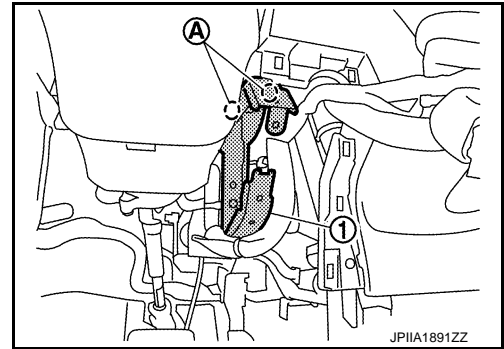
Driver side

1. Remove instrument lower panel LH. Refer to [IP-13. "Removal and Installation"](#).
2. Remove knee protector.

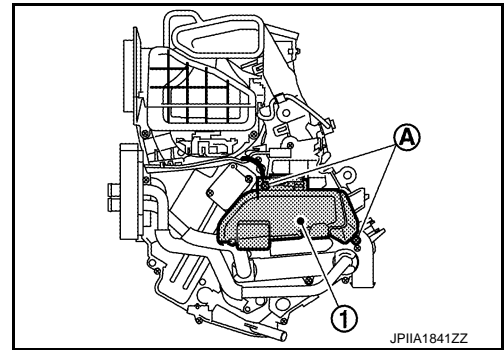
DUCT AND GRILLE

< REMOVAL AND INSTALLATION >

3. Remove mounting nuts (A), then remove knee protector bracket (1).

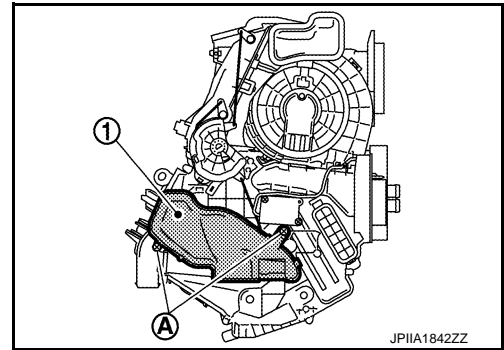


4. Disconnect harness connector.
5. Remove harness connector mounting clamp.
6. Remove fixing screws (A) to remove foot duct (1).



Passenger side

1. Remove A/C unit assembly. Refer to [HA-60. "A/C UNIT ASSEMBLY : Removal and Installation"](#).
2. Remove fixing screws (A) to remove foot duct (1).



INSTALLATION

Install in the reverse order of removal.

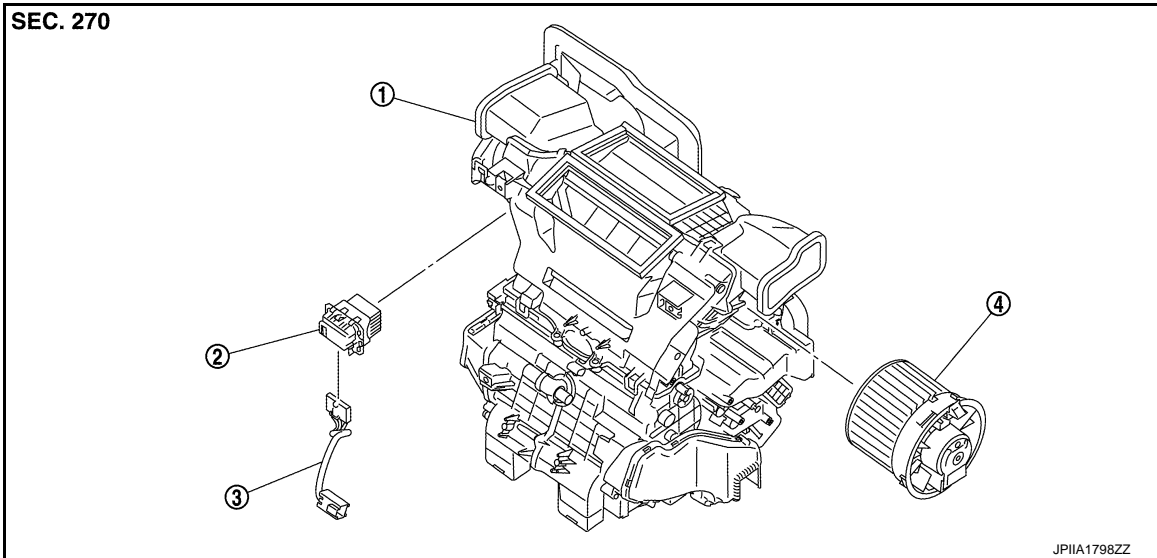
BLOWER MOTOR

< REMOVAL AND INSTALLATION >

BLOWER MOTOR

Exploded View

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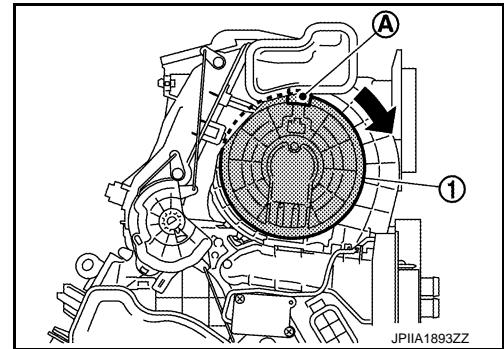
1. A/C unit assembly
2. Power transistor
3. Sub harness
4. Blower motor

Removal and Installation

INFOID:000000006961237

REMOVAL

1. Remove glove box cover assembly. Refer to [IP-13, "Removal and Installation"](#).
2. Disconnect blower motor harness connector.
3. Press flange holding hook (A), and then turn blower motor (1) clockwise.



4. Remove blower motor from A/C unit assembly.

INSTALLATION

Install in the reverse order of removal.

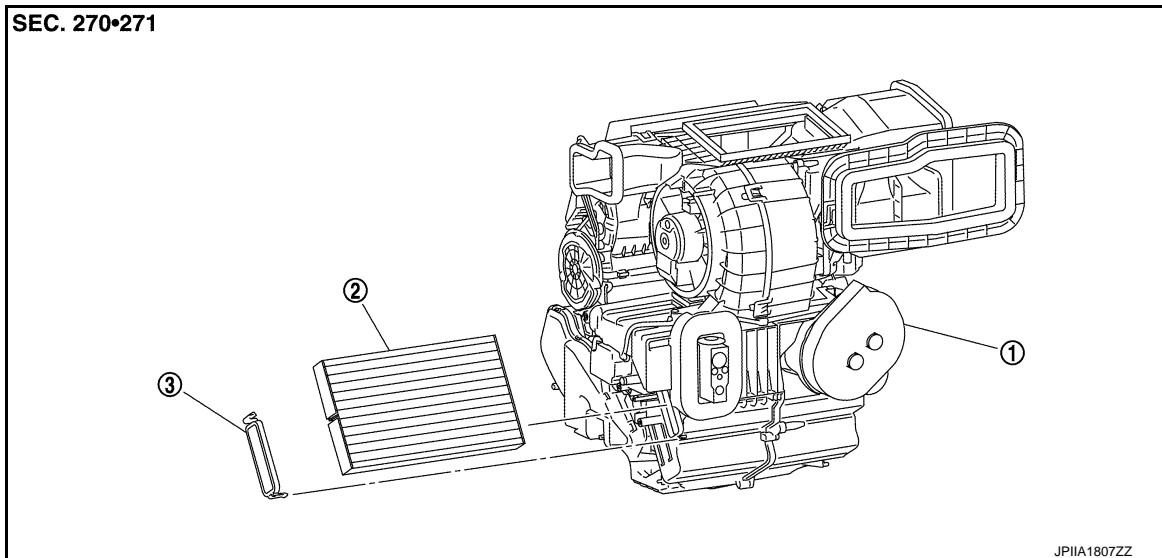
IN-CABIN MICROFILTER

< REMOVAL AND INSTALLATION >

IN-CABIN MICROFILTER

Exploded View

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1. A/C unit assembly

2. In-cabin microfilter

3. Filter cover

Removal and Installation


INFOID:000000006961239

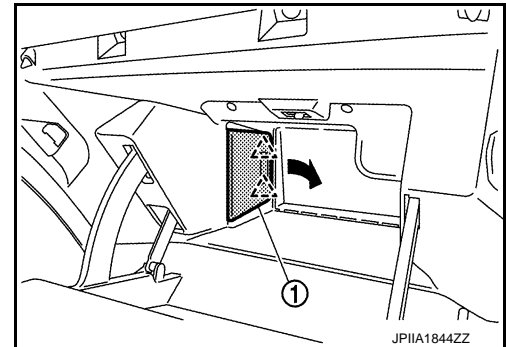
REMOVAL

NOTE:


When removing in-cabin microfilter, visually check the operation through glove box mask opening.

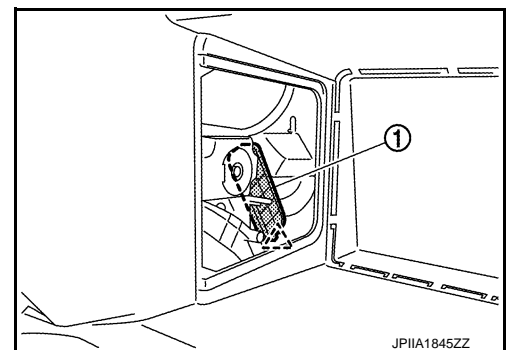
1. Remove instrument under cover RH. Refer to [IP-13. "Removal and Installation"](#).
2. Open glove box lid. Remove glove box mask (1).

 : Pawl



3. Disengage fixing pawl to remove filter cover (1) from A/C unit assembly.

 : Pawl



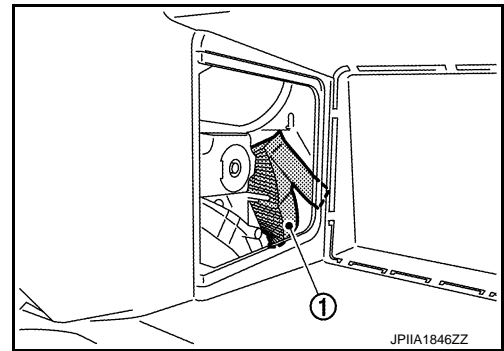
IN-CABIN MICROFILTER

< REMOVAL AND INSTALLATION >

4. Pull out in-cabin microfilter from A/C unit assembly, then remove in-cabin microfilter through bottom of glove box.

CAUTION:

If the filter is deformed/damaged when removing, replace it with a new one. Deformed/damaged filter may deteriorate the dust collecting performance.



INSTALLATION

NOTE:

When installing in-cabin microfilter, visually check the operation through glove box mask opening. Note the following item, and install in the reverse order of removal.

CAUTION:

When installing, handle the filter with extreme care to avoid deforming/damaging.

Replacement

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Replace in-cabin microfilter.

Refer to [VTL-20. "Removal and Installation"](#).

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VTL

SERVICE DATA AND SPECIFICATIONS (SDS)

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SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

In-cabin Micro Filter

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Replacement interval	: Refer to MA-6, "Schedule 1" and MA-7, "Schedule 2" .
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