

VTL

SECTION

VENTILATION SYSTEM

CONTENTS

PRECAUTION	3	Removal and Installation	14	F
PRECAUTIONS	3	BLOWER MOTOR	15	G
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	3	Removal and Installation	15	H
Precaution for Working with HFC-134a (R-134a)	3	FAN CONTROL AMPLIFIER	16	J
Precaution for Procedure without Cowl Top Cover	4	Removal and Installation	16	K
PREPARATION	5	INTAKE DOOR MOTOR	17	L
PREPARATION	5	Removal and Installation	17	M
Special Service Tool	5	MODE DOOR MOTOR	18	N
Commercial Service Tool	5	Removal and Installation	18	O
FUNCTION DIAGNOSIS	6	AIR MIX DOOR MOTOR	19	P
IN-CABIN MICROFILTER	6	Removal and Installation	19	
Description	6	EVAPORATOR	20	
ON-VEHICLE MAINTENANCE	7	Removal and Installation	20	
IN-CABIN MICROFILTER	7	HEATER CORE	22	
Removal and Installation	7	Removal and Installation	22	
ON-VEHICLE REPAIR	8	DUCTS AND GRILLES	23	
CONTROL UNIT	8	DUCTS, NOZZLES AND GRILLES	23	
Removal and Installation	8	DUCTS, NOZZLES AND GRILLES : Components	23	
IN-VEHICLE SENSOR	9	CENTER VENTILATOR GRILLES	24	
Removal and Installation	9	CENTER VENTILATOR GRILLES : Removal and Installation	24	
SUNLOAD SENSOR	10	SIDE VENTILATOR GRILLES	25	
Removal and Installation	10	SIDE VENTILATOR GRILLES : Removal and In- stallation	25	
INTAKE SENSOR	11	UPPER VENTILATOR DUCT	25	
Removal and Installation	11	UPPER VENTILATOR DUCT : Removal and In- stallation	25	
HEATER & COOLING UNIT ASSEMBLY	12	FRONT DEFROSTER GRILLE	25	
Removal and Installation	12	FRONT DEFROSTER GRILLE : Removal and In- stallation	25	
BLOWER UNIT	14			

SIDE DEFROSTER GRILLES	25	REAR VENTILATOR DUCTS	26
SIDE DEFROSTER GRILLES : Removal and In-stallation	25	REAR VENTILATOR DUCTS : Removal and In-stallation	26
REAR VENTILATOR GRILLE	25	REAR FLOOR DUCTS	26
REAR VENTILATOR GRILLE : Removal and In-stallation	26	REAR FLOOR DUCTS : Removal and Installation..	26

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:0000000005789622

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

WARNING:

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

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

WARNING:

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

Precaution for Working with HFC-134a (R-134a)

INFOID:0000000005433149

WARNING:

- CFC-12 (R-12) refrigerant and HFC-134a (R-134a) refrigerant are not compatible. If the refrigerants are mixed compressor failure is likely to occur. Refer [HA-4, "Contaminated Refrigerant"](#). To determine the purity of HFC-134a (R-134a) in the vehicle and recovery tank, use Refrigerant Recovery/Recycling Recharging equipment and Refrigerant Identifier.
- Use only specified oil for the HFC-134a (R-134a) A/C system and HFC-134a (R-134a) components. If oil other than that specified is used, compressor failure is likely to occur.
- The specified HFC-134a (R-134a) oil rapidly absorbs moisture from the atmosphere. The following handling precautions must be observed:
 - When removing refrigerant components from a vehicle, immediately cap (seal) the component to minimize the entry of moisture from the atmosphere.
 - When installing refrigerant components to a vehicle, do not remove the caps (unseal) until just before connecting the components. Connect all refrigerant loop components as quickly as possible to minimize the entry of moisture into system.
 - Only use the specified oil from a sealed container. Immediately reseal containers of oil. Without proper sealing, oil will become moisture saturated and should not be used.
 - Avoid breathing A/C refrigerant and oil vapor or mist. Exposure may irritate eyes, nose and throat. Remove HFC-134a (R-134a) from the A/C system using certified service equipment meeting requirements of SAE J2210 [HFC-134a (R-134a) recycling equipment], or J2209 [HFC-134a (R-134a) recycling equipment]. If accidental system discharge occurs, ventilate work area before resuming service. Additional health and safety information may be obtained from refrigerant and oil manufacturers.
 - Do not allow A/C oil to come in contact with styrofoam parts. Damage may result.

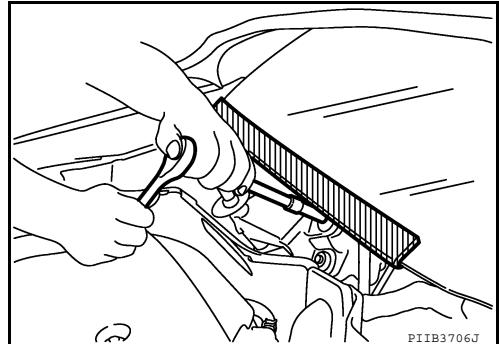
PRECAUTIONS

< PRECAUTION >

Precaution for Procedure without Cowl Top Cover

INFOID:000000005433151

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



PREPARATION

< PREPARATION >

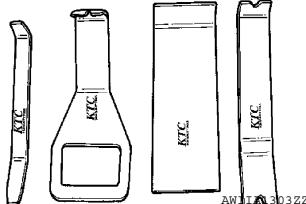
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000005789623

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
— (J-46534) Trim Tool Set	 Removing trim components

Commercial Service Tool

INFOID:0000000005433152

Tool number Tool name	Description
Power tool	 Removing bolts, screws and nuts

< FUNCTION DIAGNOSIS >

FUNCTION DIAGNOSIS

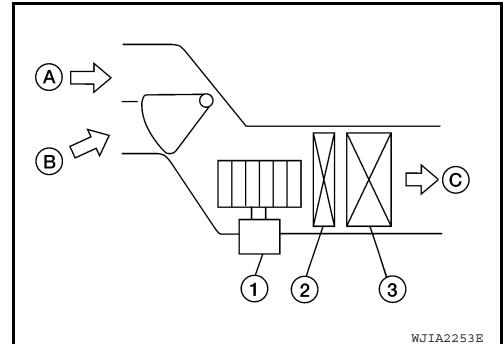
IN-CABIN MICROFILTER

Description

INFOID:000000005433153

FUNCTION

The fresh air (A) and the recirculated air (B) drawn inside the passenger compartment by the blower fan (1) is kept clean (C) on either mode by the air conditioner filter (2), located before the evaporator (3), in the A/C unit assembly.



< ON-VEHICLE MAINTENANCE >

ON-VEHICLE MAINTENANCE

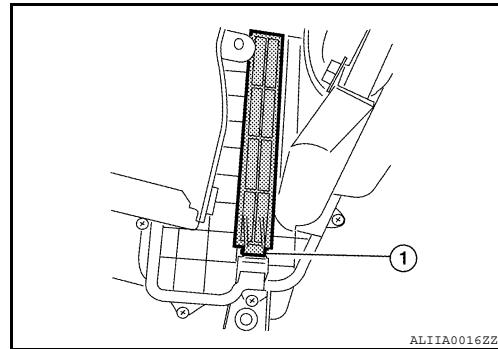
IN-CABIN MICROFILTER

Removal and Installation

INFOID:0000000005433154

REMOVAL

1. Remove the glove box assembly. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the console side finisher RH. Refer to [IP-10, "Exploded View"](#).
3. Disengage the filter cover tab (1) to remove the filter cover.



ALIIA0016ZZ

4. Remove the in-cabin microfilter from the blower unit.

INSTALLATION

Installation is in the reverse order of removal.

VTL

J

K

L

M

N

O

P

CONTROL UNIT

< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR

CONTROL UNIT

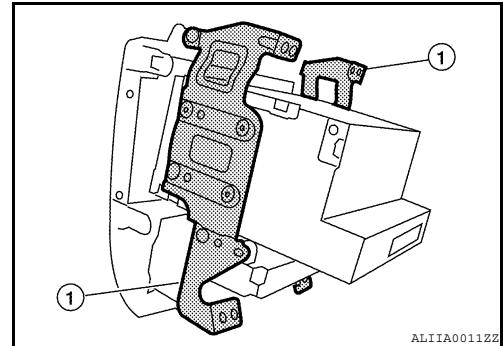
Removal and Installation

INFOID:0000000005433155

FRONT AIR CONTROL

Removal

1. Remove cluster lid C. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the two brackets (1) and remove the front air control.



Installation

Installation is in the reverse order of removal.

IN-VEHICLE SENSOR

< ON-VEHICLE REPAIR >

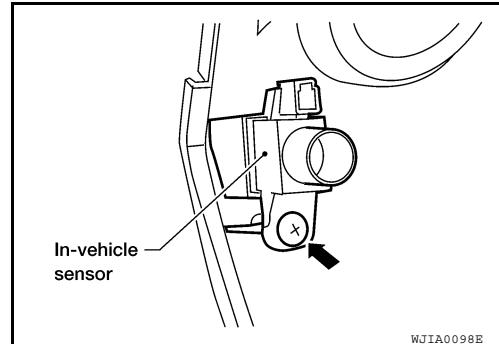
IN-VEHICLE SENSOR

Removal and Installation

INFOID:0000000005433156

REMOVAL

1. Remove the instrument lower cover LH. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the in-vehicle sensor screw and remove the in-vehicle sensor.



INSTALLATION

Installation is in the reverse order of removal.

- Make sure that the aspirator hose is securely attached to the in-vehicle sensor when installing the instrument lower cover LH.

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

VTL

SUNLOAD SENSOR

< ON-VEHICLE REPAIR >

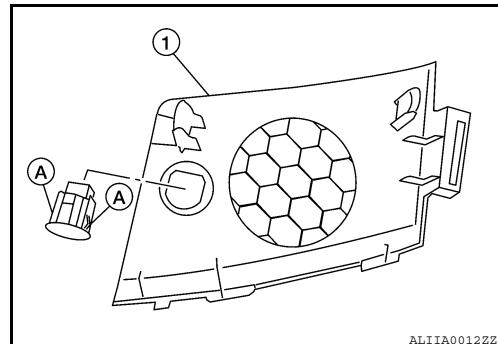
SUNLOAD SENSOR

Removal and Installation

INFOID:0000000005433157

REMOVAL

1. Remove the front RH speaker grille (1). Refer to [AV-78, "Removal and Installation"](#).
2. Disconnect the connector.
3. Release the sunload sensor tabs (A) to remove it from the front RH speaker grille (1).



ALIIIA0012ZZ

INSTALLATION

Installation is in the reverse order of removal.

INTAKE SENSOR

< ON-VEHICLE REPAIR >

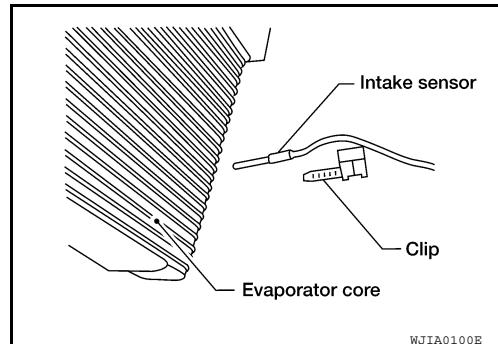
INTAKE SENSOR

Removal and Installation

INFOID:0000000005433158

REMOVAL

1. Remove the evaporator. Refer to [VTL-20, "Removal and Installation"](#).
2. Release the intake sensor clip and then remove the intake sensor.
CAUTION:
 - Mark the mounting position of the intake sensor.
 - Do not damage the evaporator core.



INSTALLATION

Installation is in the reverse order of removal.

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

VTL

HEATER & COOLING UNIT ASSEMBLY

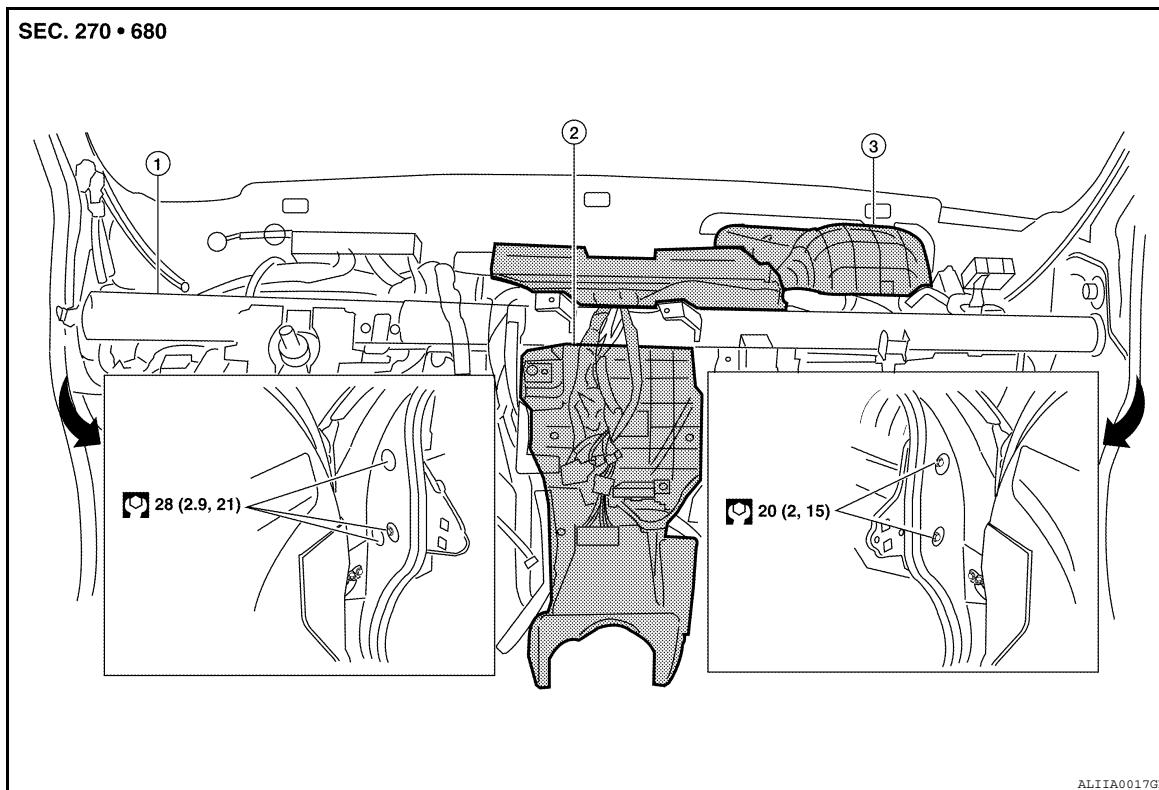
< ON-VEHICLE REPAIR >

HEATER & COOLING UNIT ASSEMBLY

Removal and Installation

INFOID:0000000005433159

COMPONENTS



1. Steering member

2. Heater and cooling unit

3. Blower unit

REMOVAL

1. Discharge the refrigerant from the A/C system. Refer to [HA-21, "HFC-134a \(R-134a\) Service Procedure"](#).
2. Drain the engine coolant from the cooling system. Refer to [CO-12, "Changing Engine Coolant"](#) (QR25DE), [CO-34, "Changing Engine Coolant"](#) (VQ35DE).
3. Disconnect the negative and positive battery terminals.
4. Remove the wiper motor and linkage. Refer to [WW-85, "FRONT WIPER DRIVE ASSEMBLY : Removal and Installation"](#).
5. Remove the cowl top. Refer to [EXT-19, "Removal and Installation"](#) (coupe), [EXT-41, "Removal and Installation"](#) (sedan).
6. Remove the strut tower bar. Refer to [FSU-12, "Exploded View"](#).
7. Remove the lower RH cowl. Refer to [EXT-19, "Removal and Installation"](#) (coupe), [EXT-41, "Removal and Installation"](#) (sedan).
8. Disconnect the heater hoses from the heater core pipes.
CAUTION:
Cap or wrap the pipe joint with a suitable material such as vinyl tape to avoid the entry of contaminants into the system.
9. Disconnect the refrigerant lines from the expansion valve. Refer to [HA-28, "Component"](#).
CAUTION:
Cap or wrap the line joint with a suitable material such as vinyl tape to avoid the entry of contaminants into the system.
10. Remove the instrument panel assembly. Refer to [IP-11, "Removal and Installation"](#).
11. Remove the steering column assembly. Refer to [ST-13, "Removal and Installation"](#).
12. Disconnect the drain hose.

HEATER & COOLING UNIT ASSEMBLY

< ON-VEHICLE REPAIR >

13. Remove the heater and cooling unit assembly attached to the steering member as one assembly from the vehicle.
14. Remove the blower unit from the heater and cooling unit and steering member assembly.
15. Remove the heater and cooling unit from the steering member.

INSTALLATION

Installation is in the reverse order of removal.

- Fill the radiator with the specified water and coolant mixture. Refer to [MA-15, "FOR USA AND CANADA : Fluids and Lubricants"](#).
- Recharge the A/C system. Refer to [HA-21, "HFC-134a \(R-134a\) Service Procedure"](#).

A

B

C

D

E

F

G

H

VTL

J

K

L

M

N

O

P

BLOWER UNIT

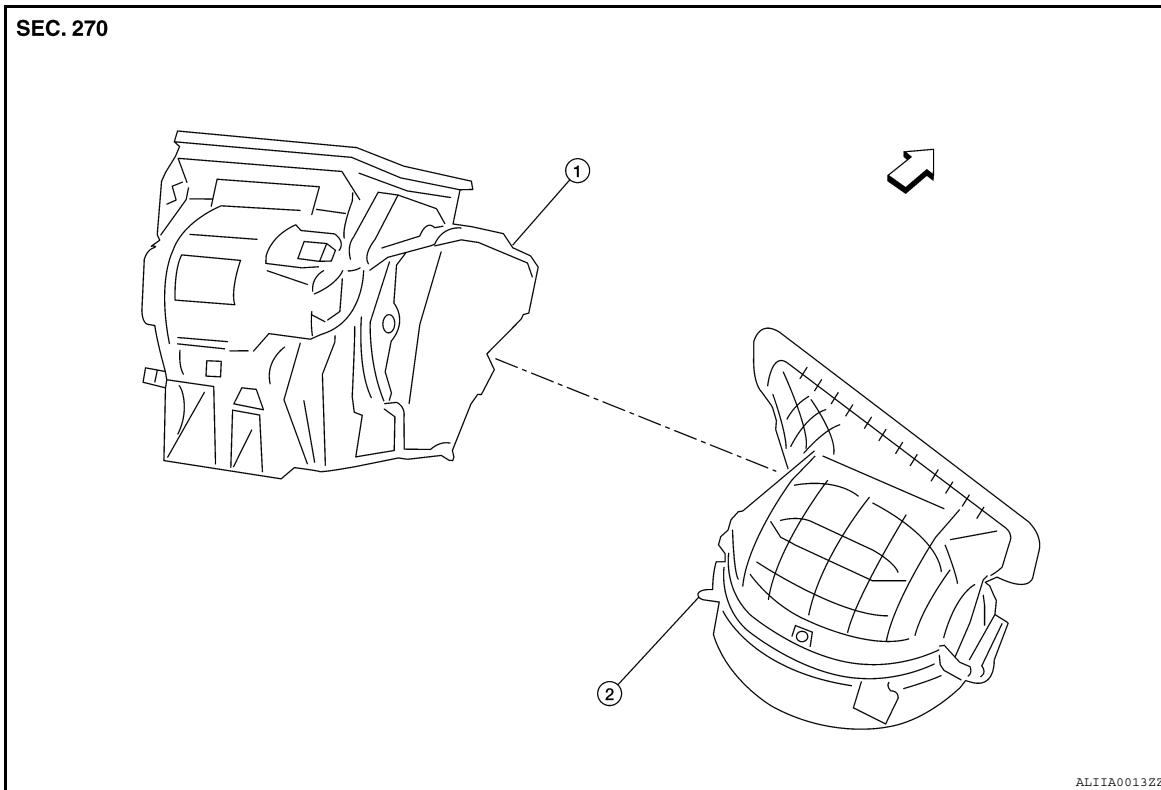
< ON-VEHICLE REPAIR >

BLOWER UNIT

Removal and Installation

INFOID:0000000005433160

COMPONENTS

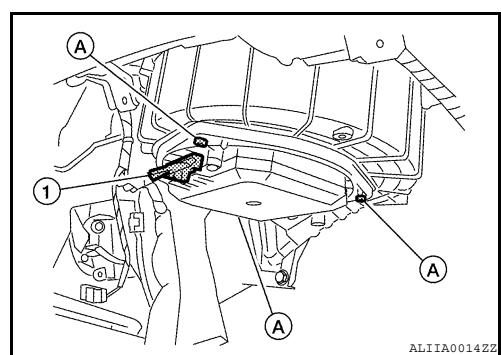


1. Heater and cooling unit
2. Blower unit

Front

REMOVAL

1. Remove the heater and cooling unit assembly. Refer to [VTL-12, "Removal and Installation"](#).
2. Disconnect the blower motor connector (1).
3. Remove the screws from the blower unit, then remove the blower unit.
4. Remove the three blower motor screws (A) and remove the blower motor from the blower unit.



INSTALLATION

Installation is in the reverse order of removal.

BLOWER MOTOR

< ON-VEHICLE REPAIR >

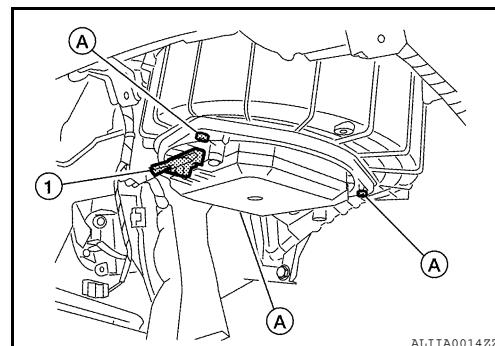
BLOWER MOTOR

Removal and Installation

INFOID:0000000005433161

REMOVAL

1. Remove the glove box. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the console finisher RH. Refer to [IP-11, "Removal and Installation"](#).
3. Disconnect the blower motor connector (1).
4. Remove the three blower motor screws (A) and remove the blower motor from the blower unit.



INSTALLATION

Installation is in the reverse order of removal.

A

B

C

D

E

F

G

H

VTL

J

K

L

M

N

O

P

FAN CONTROL AMPLIFIER

< ON-VEHICLE REPAIR >

FAN CONTROL AMPLIFIER

Removal and Installation

INFOID:0000000005433162

The fan control amplifier is part of the blower motor. Refer to [VTL-15, "Removal and Installation".](#)

INTAKE DOOR MOTOR

< ON-VEHICLE REPAIR >

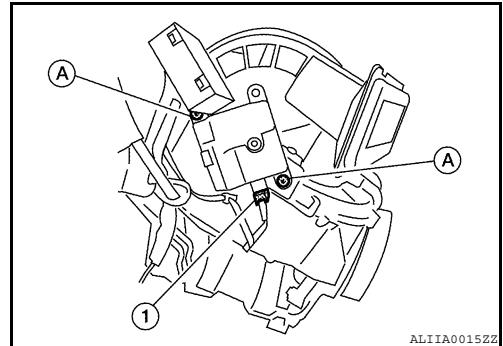
INTAKE DOOR MOTOR

Removal and Installation

INFOID:0000000005433163

REMOVAL

1. Remove the instrument panel assembly. Refer to [VTL-14, "Removal and Installation"](#).
2. Disconnect the intake door motor connector (1).
3. Remove the intake door motor screws (A) and remove intake door motor from the blower unit.



INSTALLATION

Installation is in the reverse order of removal.

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

VTL

MODE DOOR MOTOR

< ON-VEHICLE REPAIR >

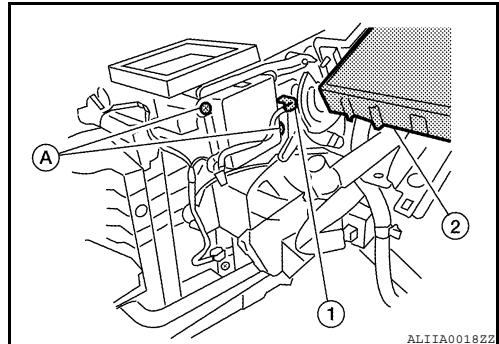
MODE DOOR MOTOR

Removal and Installation

INFOID:0000000005433164

REMOVAL

1. Remove the combination meter. Refer to [MWI-153, "Removal and Installation"](#).
2. Remove the BCM (2). Refer to [BCS-96, "Removal and Installation"](#).
NOTE:
The illustration is shown with the heater and cooling unit assembly out of the vehicle for clarity.
3. Disconnect the mode door motor connector (1).
4. Remove the mode door motor screws (A) and then remove the mode door motor.



INSTALLATION

Installation is in the reverse order of removal.

AIR MIX DOOR MOTOR

< ON-VEHICLE REPAIR >

AIR MIX DOOR MOTOR

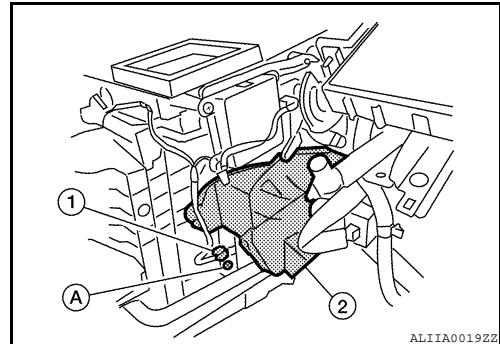
Removal and Installation

INFOID:0000000005433165

AIR MIX DOOR MOTOR - LH

Removal

1. Remove the instrument lower cover LH. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the console side finisher LH. Refer to [IP-11, "Removal and Installation"](#).
3. Remove the heater and cooling unit foot duct LH (2).
4. Remove the tire pressure monitoring system receiver.
5. Disconnect the air mix door motor connector (1).
6. Remove the air mix door motor screws (A) and then remove the air mix door motor LH.



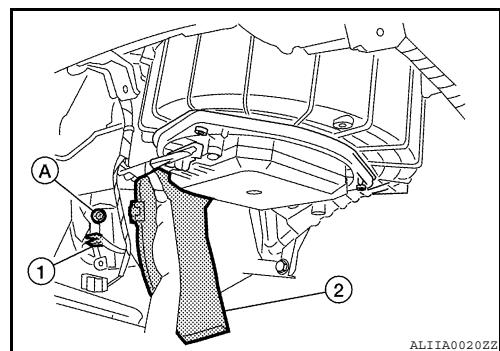
Installation

Installation is in the reverse order of removal.

AIR MIX DOOR MOTOR - RH

Removal

1. Remove the glove box. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the console side finisher RH. Refer to [IP-10, "Exploded View"](#).
3. Remove the heater and cooling unit foot duct RH (2).
4. Disconnect the air mix door motor connector (1).
5. Remove the air mix door motor screws (A) and then remove the air mix door motor RH.



Installation

Installation is in the reverse order of removal.

EVAPORATOR

< ON-VEHICLE REPAIR >

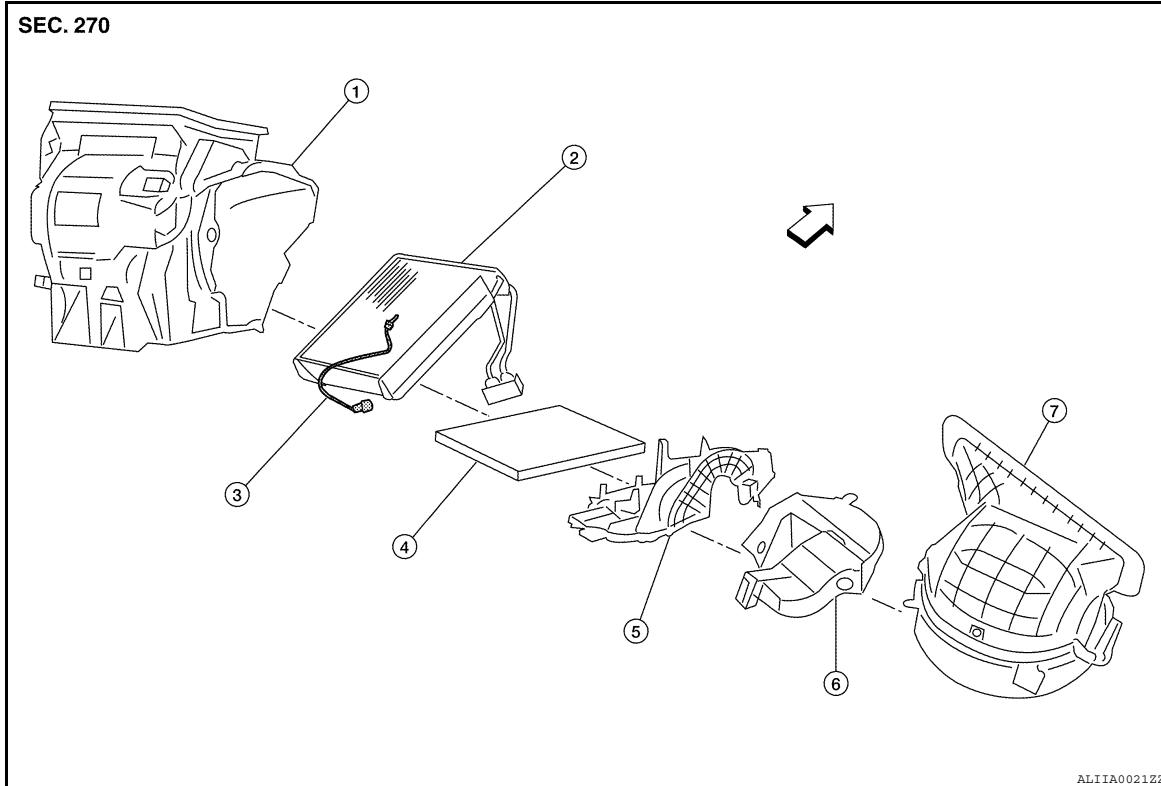
EVAPORATOR

Removal and Installation

INFOID:0000000005433166

COMPONENTS

Heater and Cooling Unit



ALIIA0021ZZ

- | | | |
|---------------------------------|--|---|
| 1. Heater and cooling unit case | 2. Evaporator and expansion valve assembly | 3. Intake sensor |
| 4. In-cabin microfilter | 5. Evaporator cover | 6. Heater and cooling unit foot duct RH |
| 7. Blower unit | Front | |

NOTE:

The evaporator and expansion valve assembly cannot be disassembled. Replace them as an assembly.

REMOVAL

1. Remove the steering member. Refer to [VTL-12, "Removal and Installation"](#).
2. Remove the blower unit. Refer to [VTL-14, "Removal and Installation"](#).
3. Remove the heater and cooling unit foot duct RH.
4. Remove the air mix door motor RH.
5. Remove the evaporator cover.
6. Remove the evaporator and expansion valve assembly.

CAUTION:

Cap or wrap the joint of the pipes with suitable material such as vinyl tape to avoid the entry of air.

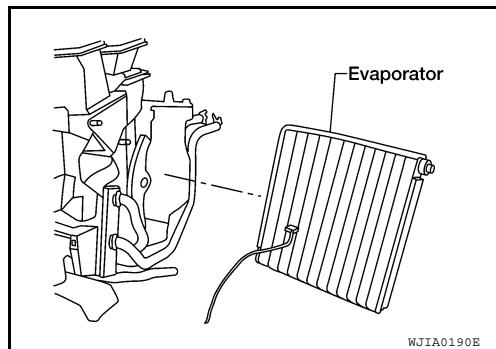
EVAPORATOR

< ON-VEHICLE REPAIR >

7. Remove the intake sensor to transfer to the new evaporator and expansion valve assembly.

CAUTION:

Mark the mounting position of the intake sensor.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- Replace the O-rings with new ones, then apply compressor oil to them when installing them.

A
B
C
D

E
F

G
H

VTL

J
K
L
M
N
O
P

HEATER CORE

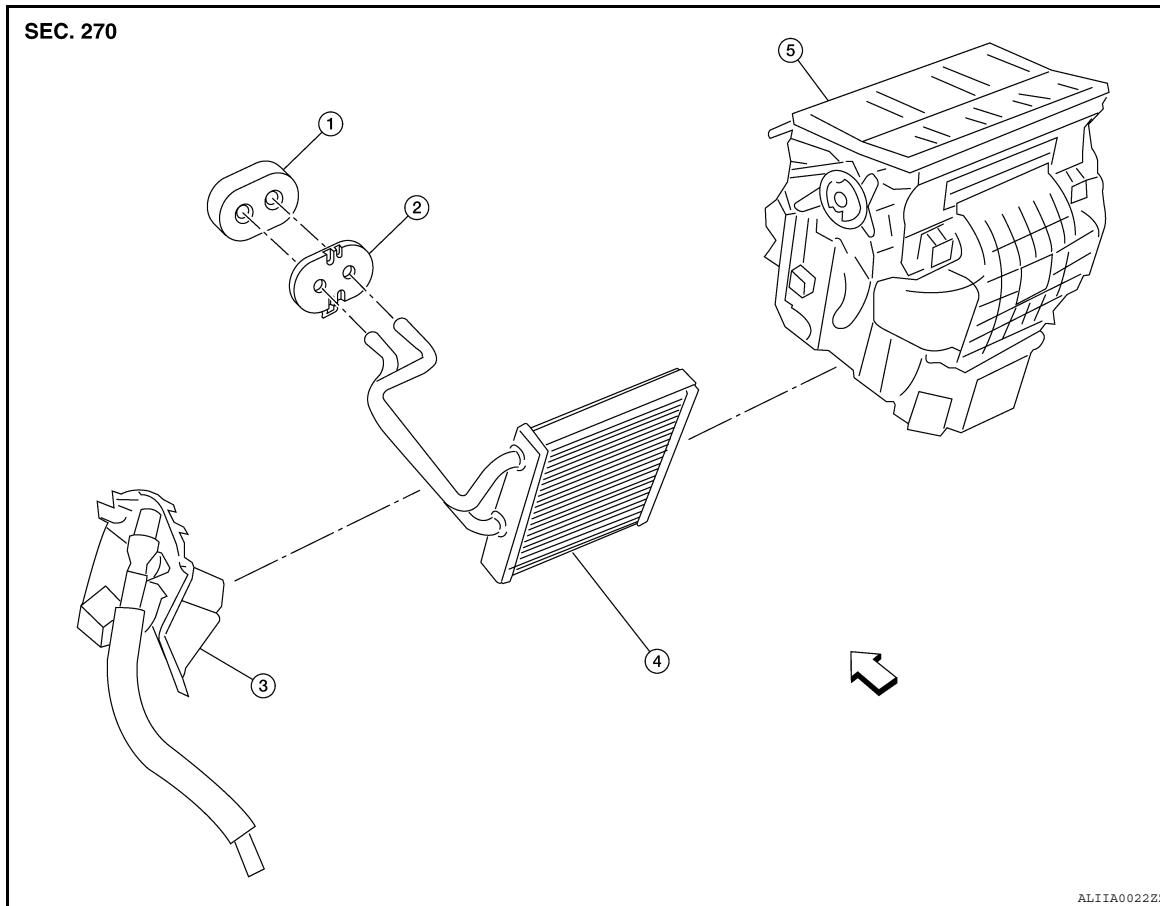
< ON-VEHICLE REPAIR >

HEATER CORE

Removal and Installation

INFOID:0000000005433167

COMPONENTS



ALIIIA0022ZZ

- | | | |
|-------------------|---------------------------------|---|
| 1. Heater grommet | 2. Heater pipe support | 3. Heater and cooling unit foot duct LH |
| 4. Heater core | 5. Heater and cooling unit case | Front |

REMOVAL

1. Remove the heater and cooling unit assembly. Refer to [VTL-12, "Removal and Installation"](#).
2. Remove the heater grommet, heater pipe support and heater pipe cover.
3. Remove the heater and cooling unit foot duct LH.
4. Remove the heater core.

INSTALLATION

Installation is in the reverse order of removal.

- Make sure that the aspirator hose is securely attached to the aspirator on the heater and cooling unit foot duct LH.

DUCTS AND GRILLES

< ON-VEHICLE REPAIR >

DUCTS AND GRILLES

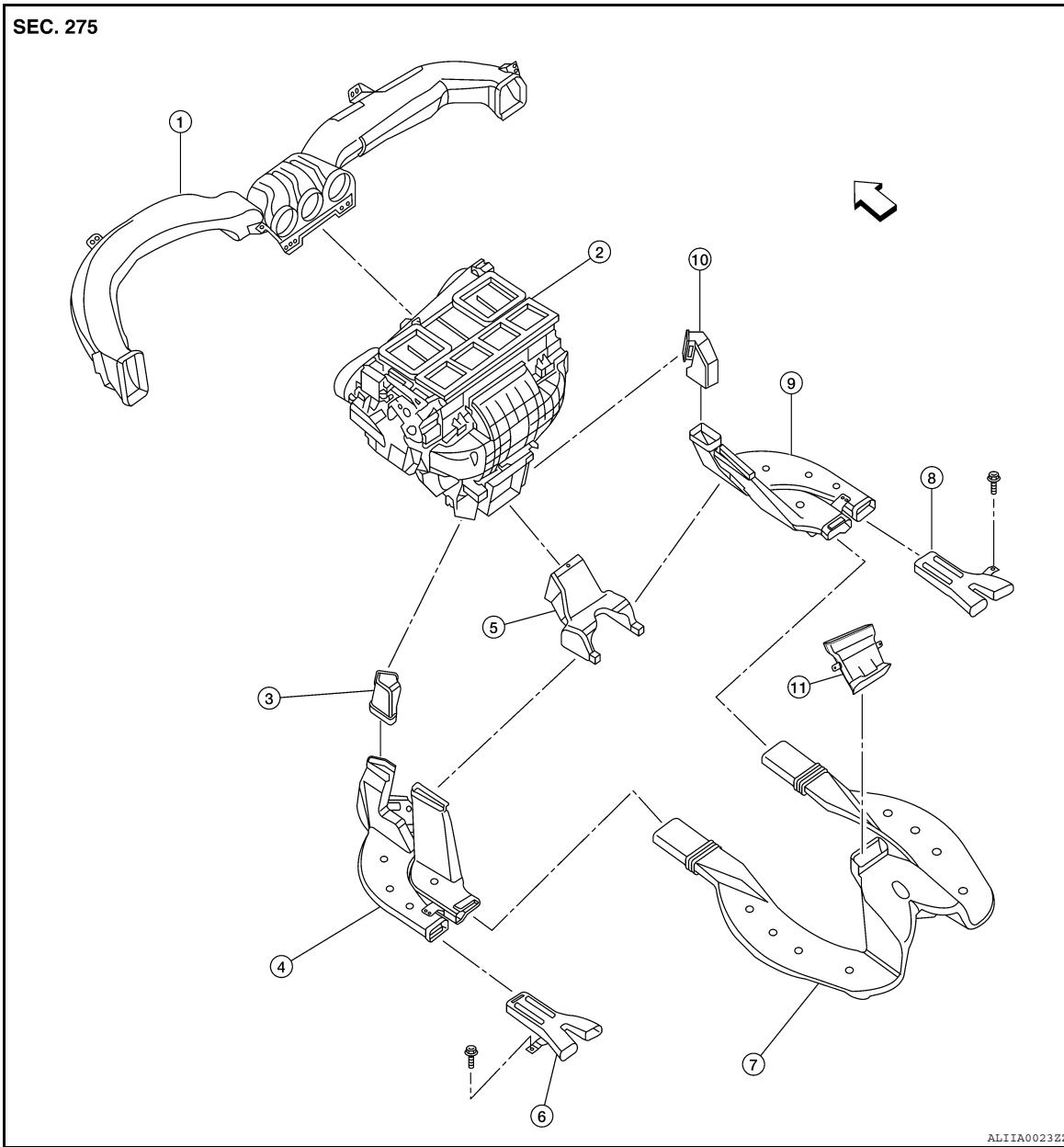
DUCTS, NOZZLES AND GRILLES

DUCTS, NOZZLES AND GRILLES : Components

INFOID:0000000005433168

A
B
C
D
E
F
G
H
VTL
J
K
L
M
N
O
P

Ducts



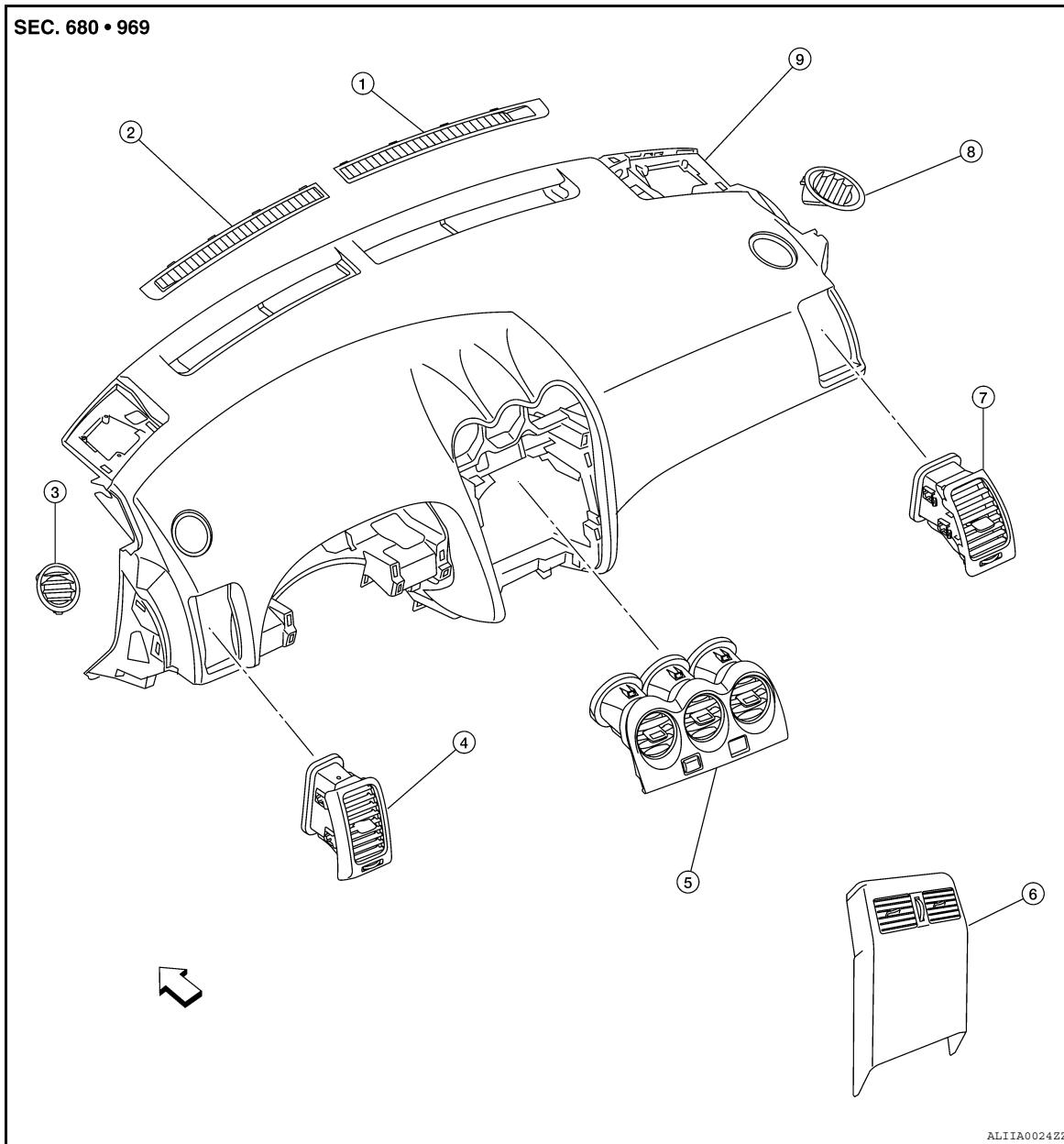
1. Upper ventilator duct
2. Heater and cooling unit assembly
3. Connector duct (LH)
4. Floor ventilator duct (LH)
5. Connector duct (center)
6. Rear floor duct (LH)
7. Rear ventilator duct (center)
8. Rear floor duct (RH)
9. Floor ventilator duct (RH)
10. Connector duct (RH)
11. Rear console duct

Front

DUCTS AND GRILLES

< ON-VEHICLE REPAIR >

Grilles



- 1. Front defroster grille (RH)
- 2. Front defroster grille (LH)
- 3. Side defroster grille (LH)
- 4. Side ventilator grille (LH)
- 5. Center ventilator grilles (part of cluster lid C)
- 6. Rear ventilator grille (part of rear console finisher)
- 7. Side ventilator grille (RH)
- 8. Side defroster grille (RH)
- 9. Instrument panel

⇐ Front

CENTER VENTILATOR GRILLES

CENTER VENTILATOR GRILLES : Removal and Installation

INFOID:0000000005433169

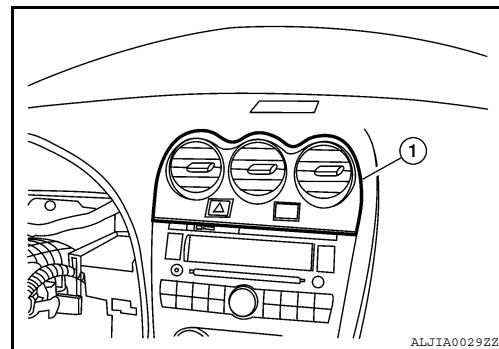
REMOVAL

DUCTS AND GRILLES

< ON-VEHICLE REPAIR >

Remove the center ventilator grilles (1) from the instrument panel using Tool from top center of the center ventilator grilles.

Tool number : — (J-46534)



INSTALLATION

Installation is in the reverse order of removal.

SIDE VENTILATOR GRILLES

SIDE VENTILATOR GRILLES : Removal and Installation

INFOID:0000000005433170

REMOVAL

Release the tabs and then remove the side ventilator grilles using a suitable tool.

CAUTION:

Use a suitable tool to remove the grille to avoid damage to the instrument panel.

INSTALLATION

Installation is in the reverse order of removal.

UPPER VENTILATOR DUCT

UPPER VENTILATOR DUCT : Removal and Installation

INFOID:0000000005433171

VTL

REMOVAL

1. Remove the instrument panel. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the upper ventilator duct screws using power tools.
3. Remove the upper ventilator duct.

INSTALLATION

Installation is in the reverse order of removal.

FRONT DEFROSTER GRILLE

FRONT DEFROSTER GRILLE : Removal and Installation

INFOID:0000000005433172

L

REMOVAL

Remove the front defroster grille LH/RH from the instrument panel using a suitable tool.

CAUTION:

Use a suitable tool to remove the grille to avoid damage to the instrument panel.

INSTALLATION

Installation is in the reverse order of removal.

SIDE DEFROSTER GRILLES

SIDE DEFROSTER GRILLES : Removal and Installation

INFOID:0000000005433173

P

REMOVAL

Remove side defroster grilles using a suitable tool.

CAUTION:

Use a suitable tool to remove the grille to avoid damage to the instrument panel.

INSTALLATION

Installation is in the reverse order of removal.

REAR VENTILATOR GRILLE

DUCTS AND GRILLES

< ON-VEHICLE REPAIR >

REAR VENTILATOR GRILLE : Removal and Installation

INFOID:0000000005433174

REMOVAL

Remove console rear finisher. Refer to [IP-10, "Exploded View"](#).

NOTE:

The rear ventilator is part of the console rear finisher.

INSTALLATION

Installation is in the reverse order of removal.

REAR VENTILATOR DUCTS

REAR VENTILATOR DUCTS : Removal and Installation

INFOID:0000000005433175

REAR VENTILATOR DUCT (CENTER)

Removal

1. Remove the floor carpet. Refer to [INT-17, "Removal and Installation"](#).
2. Remove the rear ventilator duct (center).

Installation

Installation is in the reverse order of removal.

FLOOR VENTILATOR DUCT (RH, LH)

Removal

1. Remove the floor carpet. Refer to [INT-17, "Removal and Installation"](#).
2. Remove the floor ventilator duct (RH, LH).

Installation

Installation is in the reverse order of removal.

REAR CONSOLE DUCT

Removal

1. Remove the center console. Refer to [IP-11, "Removal and Installation"](#).
2. Remove the rear console duct screws.
3. Remove the rear console duct.

Installation

Installation is in the reverse order of removal.

REAR FLOOR DUCTS

REAR FLOOR DUCTS : Removal and Installation

INFOID:0000000005433176

REMOVAL

1. Remove the floor carpet. Refer to [INT-17, "Removal and Installation"](#).
2. Remove the rear floor duct (RH, LH) clips.
3. Remove the rear floor ducts (RH, LH).

INSTALLATION

Installation is in the reverse order of removal.