

SECTION **VTL** VENTILATION SYSTEM

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PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000007356260

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 Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:000000007356261

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob 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 NATS, 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.

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.

PRECAUTIONS

< PRECAUTION >

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.

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

INFOID:000000007356262

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 to [HA-4, "Contaminated Refrigerant"](#). To determine the purity of HFC-134a (R-134a) in the vehicle and recovery tank, use refrigerant recovery/recycling 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 SAE J2209 [HFC-134a (R-134a) recovery 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 the refrigerant oil to come in contact with styrofoam parts. Damage may result.

Precaution for Work

INFOID:000000007356264

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components.
 - Water soluble dirt: Dip a soft cloth into lukewarm water, and wring the water out of the cloth to wipe the dirty area.
Then rub with a soft and dry cloth.
 - Oily dirt: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the dirty area.
Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

< PREPARATION >

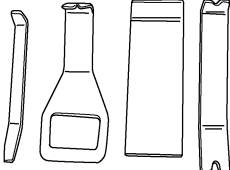
PREPARATION

PREPARATION

Special Service Tool


INFOID:0000000007356265

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
<p>— (J-46534) Trim tool set</p>  <p>AWJIA0483ZZ</p>	Removing trim components

Commercial Service Tool

INFOID:0000000007356266

Tool name	Description
<p>Power tool</p>  <p>PIIB1407E</p>	Loosening bolts, nuts and screws

IN-CABIN MICROFILTER

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

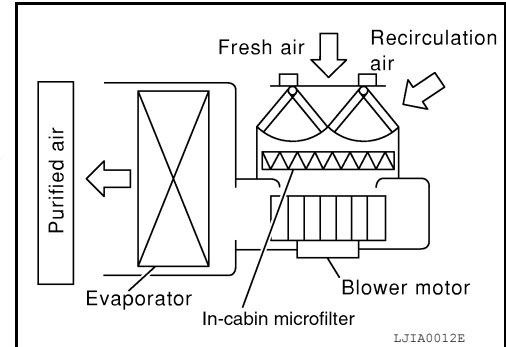
IN-CABIN MICROFILTER

Description

INFOID:000000007356267

FUNCTION

The air inside the passenger compartment is filtered by the in-cabin microfilters when the heater or A/C controls are set on either the recirculation or fresh mode. The two in-cabin microfilters are located in the front heater and cooling unit assembly. The rear heater and cooling unit assembly only draws in air from the passenger compartment to recirculate into the passenger compartment, so the rear heater and cooling unit assembly is not equipped with in-cabin microfilters.



REPLACEMENT TIMING

Replacement of the two in-cabin microfilters is recommended on a regular interval depending on the driving conditions. Refer to [MA-11, "FOR USA AND CANADA : Introduction to Periodic Maintenance"](#) (United States and Canada) or [MA-15, "FOR MEXICO : Periodic Maintenance Schedule"](#) (Mexico). It may also be necessary to replace the two in-cabin microfilters as part of a component replacement if the in-cabin microfilters are damaged.

VTL

IN-CABIN MICROFILTER

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

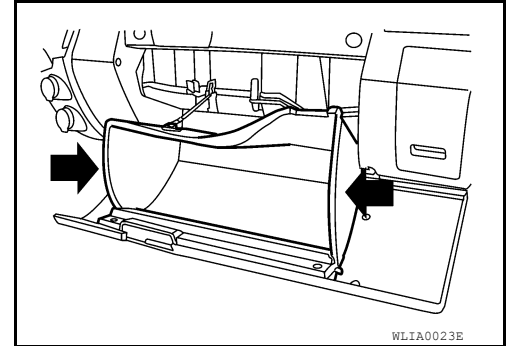
IN-CABIN MICROFILTER

Removal and Installation

INFOID:000000007356268

REPLACEMENT PROCEDURE

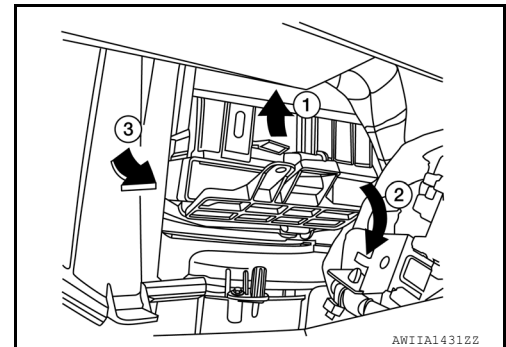
1. Open the lower glove box and press in on the sides as shown so that it will open completely, allowing it to hang by the cord.



2. Gently lift up on the tab (1) then pull the in-cabin microfilter cover down (2) to remove the cover (3).

CAUTION:

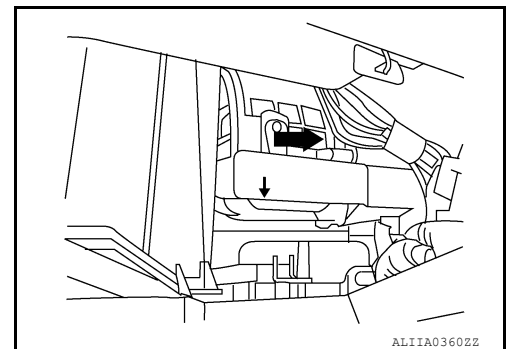
Use care when lifting up on the tab to avoid damaging it.



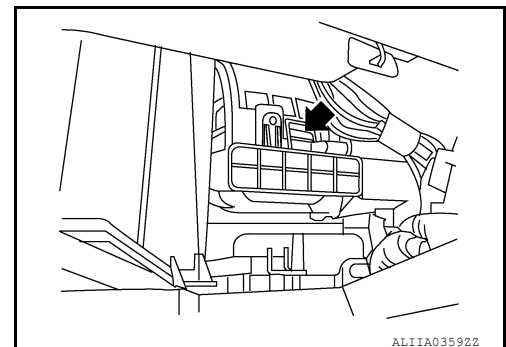
3. Remove the in-cabin microfilters from the front heater and cooling unit housing.
4. Insert the first new in-cabin microfilter into the front heater and cooling unit housing and slide it over to the right. Insert the second new in-cabin microfilter into the front heater and cooling unit housing as shown.

NOTE:

The in-cabin microfilters are marked with air flow arrows. The end of the microfilter with the arrow should face the rear of the vehicle. The arrows should point downward.



5. Install the in-cabin microfilter cover making sure the lock tab is securely locked in place as shown.



6. Close the lower glove box completely.

CONTROL UNIT

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

CONTROL UNIT

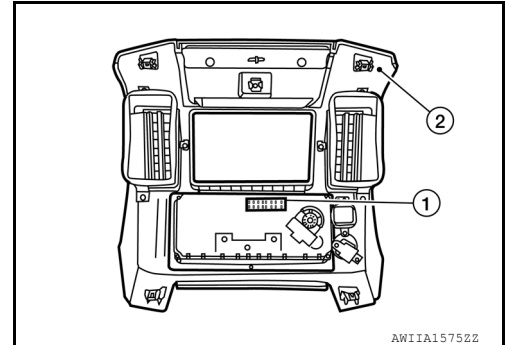
Removal and Installation

INFOID:000000007356269

FRONT AIR CONTROL (MANUAL A/C)

Removal

1. Remove the AT finisher. Refer to [JP-21, "Removal and Installation"](#)
2. Remove the cup holder.
3. Remove cluster lid C. Refer to [JP-16, "Removal and Installation"](#).



4. Remove the four screws securing the front air control to cluster lid C.
5. Remove the front air control.

Installation

Installation is in the reverse order of removal.

A/C AND AV SWITCH ASSEMBLY (AUTOMATIC A/C)

Removal and Installation

The front A/C switch is integrated into the A/C and AV switch assembly in cluster lid C in the instrument panel. Refer to [AV-34, "Removal and Installation"](#) (BASE AUDIO), [AV-257, "Removal and Installation"](#) (BOSE AUDIO WITHOUT NAVIGATION) or [AV-422, "Removal and Installation"](#) (BOSE AUDIO WITH NAVIGATION).

A/C AUTO AMP. (AUTOMATIC A/C)

Removal

Remove the display unit. Refer to [AV-116, "Removal and Installation"](#) (MID AUDIO), [AV-257, "Removal and Installation"](#) (BOSE AUDIO WITHOUT NAVIGATION) or [AV-422, "Removal and Installation"](#) (BOSE AUDIO WITH NAVIGATION).

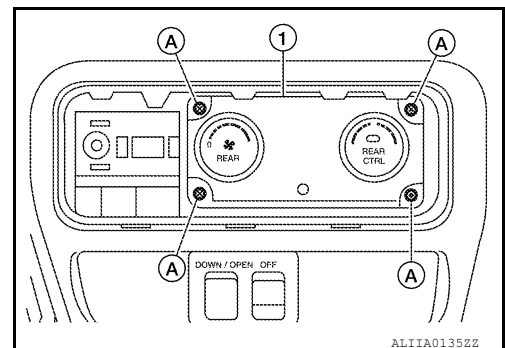
Installation

Installation is in the reverse order of removal.

REAR AIR CONTROL (FRONT)

Removal

1. Remove the front roof console finisher from the front roof console. Refer to [INT-22, "Removal and Installation"](#).
2. Remove the 4 rear air control (front) screws (A), disconnect the rear air control (front) connector and remove the rear air control (front) (1) from the front roof console.



CONTROL UNIT

< REMOVAL AND INSTALLATION >

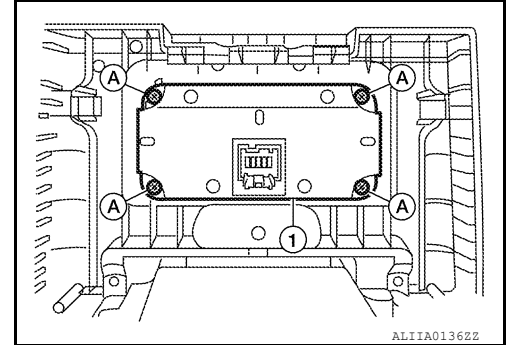
Installation

Installation is in the reverse order of removal.

REAR AIR CONTROL (REAR)

Removal

1. Remove the rear finisher assembly from the center console. Refer to [IP-23, "Disassembly and Assembly"](#).
2. Remove the four rear air control (rear) screws (A) and the rear air control (rear) (1) from the rear finisher assembly.



Installation

Installation is in the reverse order of removal.

IN-VEHICLE SENSOR

< REMOVAL AND INSTALLATION >

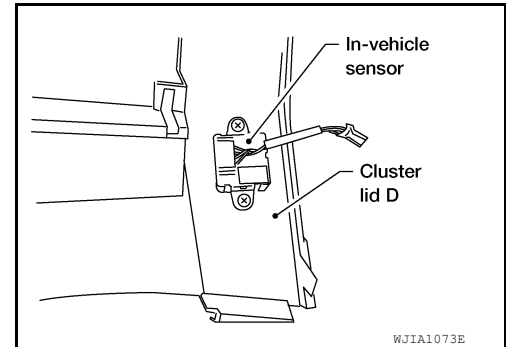
IN-VEHICLE SENSOR

Removal and Installation

INFOID:000000007356270

REMOVAL

1. Remove the cluster lid D. Refer to [IP-18. "Removal and Installation"](#).
2. Disconnect the in-vehicle sensor electrical connector.
3. Remove the two screws and the in-vehicle sensor.



INSTALLATION

Installation is in the reverse order of removal.

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OPTICAL SENSOR

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Removal and Installation

INFOID:000000007356271

REMOVAL

1. Remove the optical sensor and bezel from the center of the instrument panel.
2. Disconnect the optical sensor connector.
3. Remove the optical sensor from the bezel.

INSTALLATION

Installation is in the reverse order of removal.

INTAKE SENSOR

< REMOVAL AND INSTALLATION >

INTAKE SENSOR

Removal and Installation

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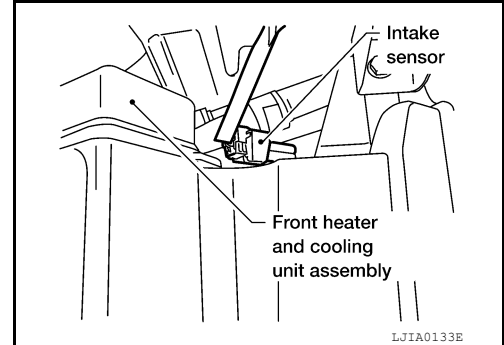
REMOVAL

1. Remove the upper glove box. Refer to [JP-19, "Removal and Installation"](#).
2. Disconnect the intake sensor electrical connector.

NOTE:

The intake sensor is located on the top of the front heater and cooling unit assembly next to the A/C evaporator cover.

3. Remove the intake sensor from the front heater and cooling unit assembly.



INSTALLATION

Installation is in the reverse order of removal.

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BLOWER MOTOR

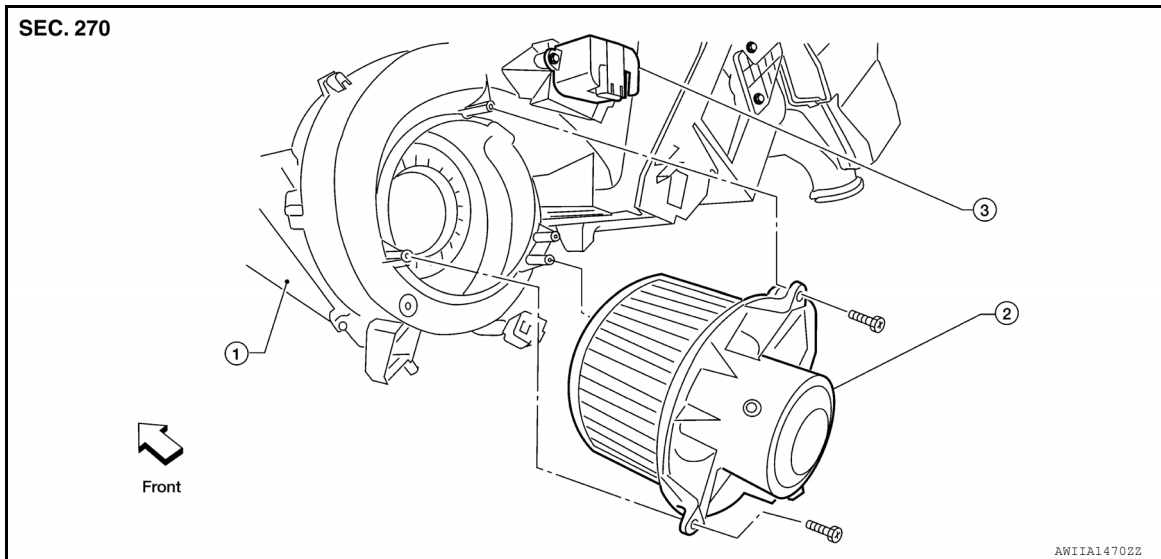
< REMOVAL AND INSTALLATION >

BLOWER MOTOR

Component

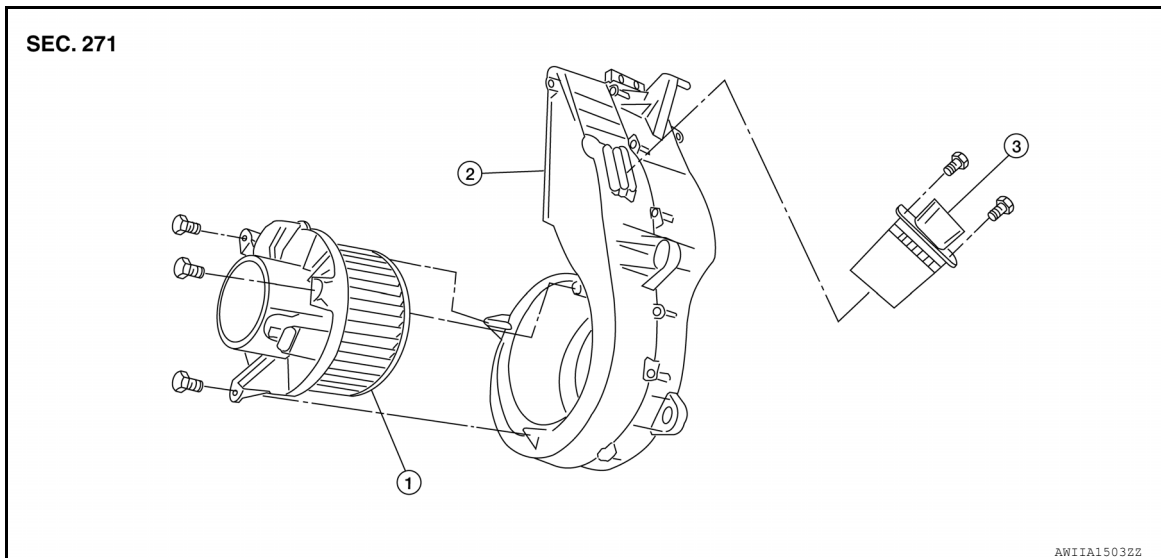
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Front Blower Motor



1. Front heater and cooling unit assembly 2. Front blower motor 3. Variable blower control (front)

Rear Blower Motor



1. Rear blower motor 2. Rear blower motor case 3. Variable blower control (rear)

Removal and Installation

INFOID:000000007356274

FRONT BLOWER MOTOR

Removal

1. Remove the instrument lower panel RH and lower glove box assembly. Refer to [IP-20, "Removal and Installation"](#).
2. Disconnect the front blower motor electrical connector.
3. Remove the three screws and the front blower motor.
4. Remove the blower motor wheel.

Installation

BLOWER MOTOR

< REMOVAL AND INSTALLATION >

Installation is in the reverse order of removal.

REAR BLOWER MOTOR

Removal

1. Remove the rear heater and cooling unit assembly. Refer to [VTL-18, "Removal and Installation"](#).
2. Disconnect the rear blower motor electrical connector.
3. Remove the three screws and the rear blower motor.
4. Remove the blower motor wheel.

Installation

Installation is in the reverse order of removal.

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VARIABLE BLOWER CONTROL

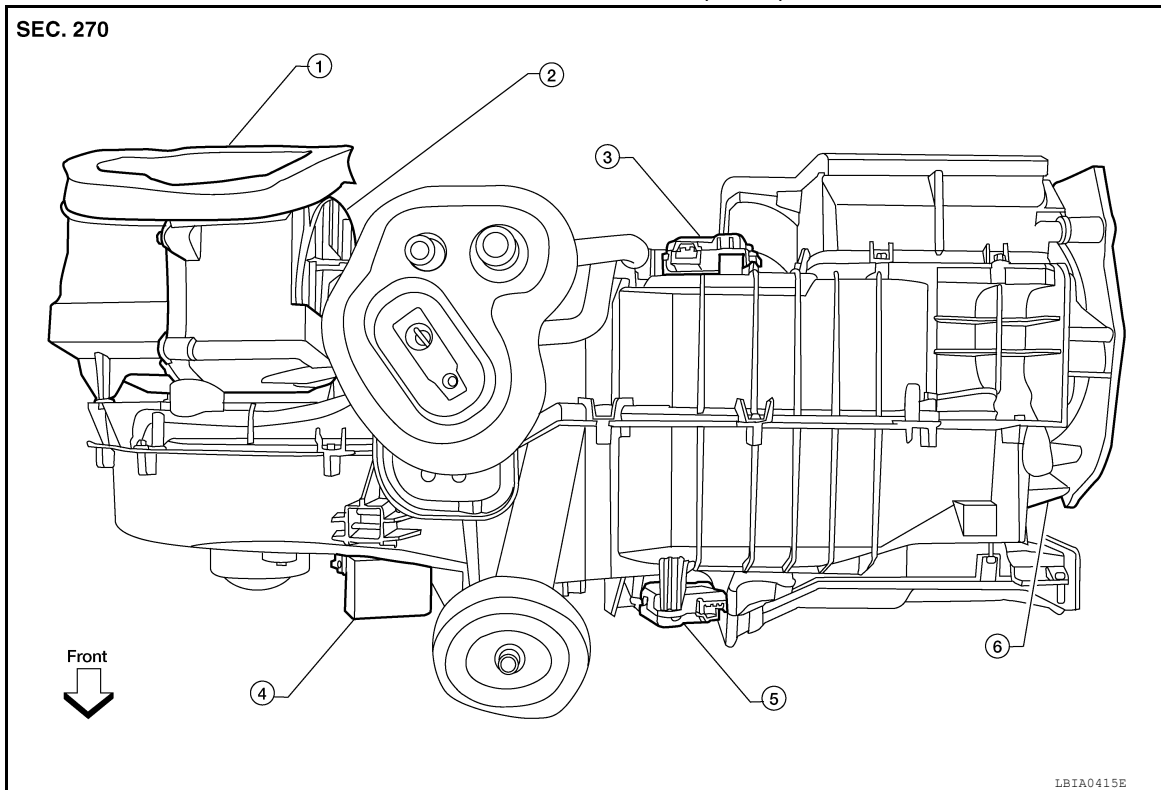
< REMOVAL AND INSTALLATION >

VARIABLE BLOWER CONTROL

Component

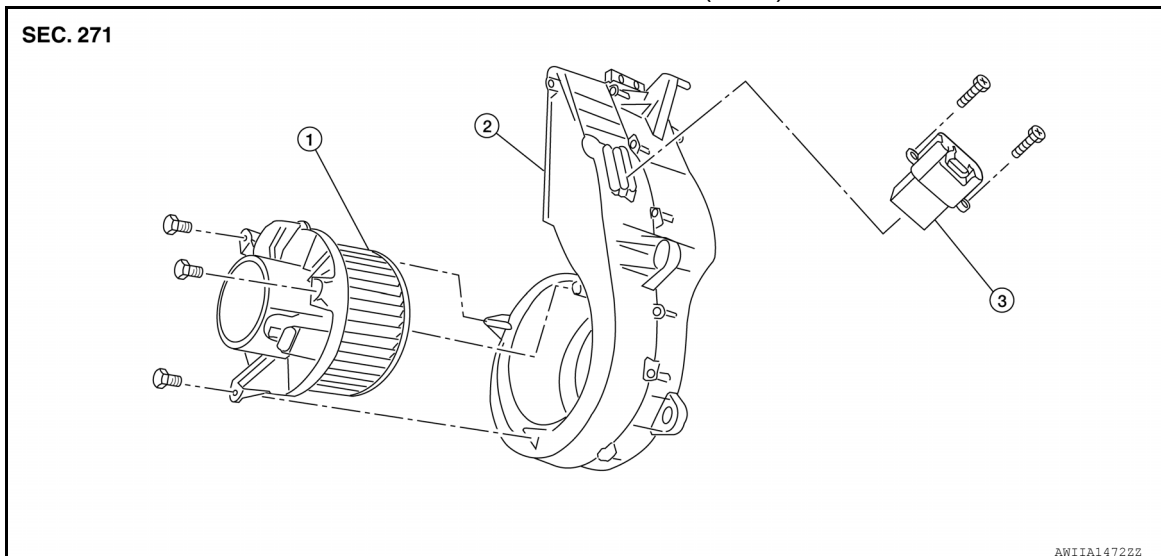
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Variable Blower Control (Front)



- | | | |
|---|--------------------------------|-----------------------------------|
| 1. Front heater and cooling unit assembly | 2. Intake door motor | 3. Air mix door motor (passenger) |
| 4. Variable blower control (front) | 5. Air mix door motor (driver) | 6. Mode door motor |

Variable Blower Control (Rear)



- | | | |
|----------------------|---------------------------|-----------------------------------|
| 1. Rear blower motor | 2. Rear blower motor case | 3. Variable blower control (rear) |
|----------------------|---------------------------|-----------------------------------|

Removal and Installation

INFOID:000000007356276

FRONT VARIABLE BLOWER CONTROL

VARIABLE BLOWER CONTROL

< REMOVAL AND INSTALLATION >

Removal

1. Disconnect the variable blower control (front) electrical connector.
2. Remove the 2 screws and the variable blower control (front).

Installation

Installation is in the reverse order of removal.

REAR VARIABLE BLOWER CONTROL

Removal

1. Remove the rear heater and cooling unit assembly. Refer to [VTL-18, "Removal and Installation"](#).
2. Disconnect the variable blower control (rear) electrical connector.
3. Remove the 2 screws and the variable blower control (rear).

Installation

Installation is in the reverse order of removal.

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FRONT BLOWER MOTOR RESISTOR

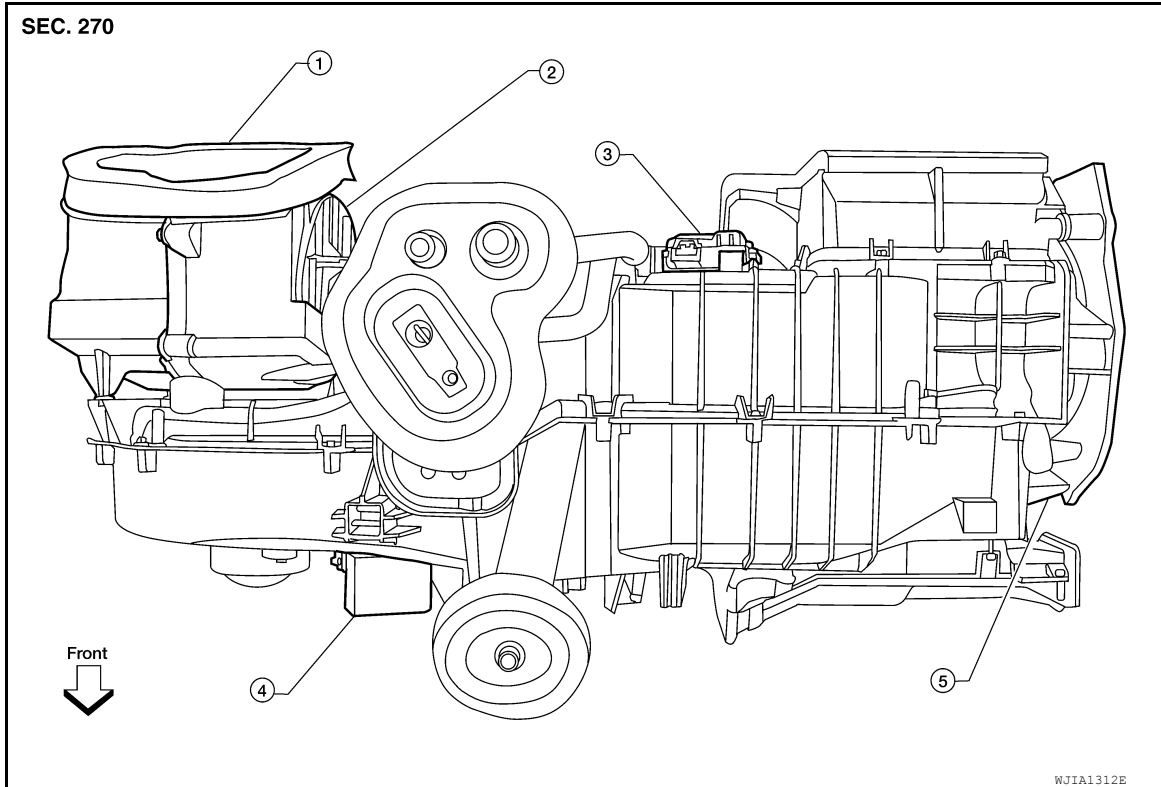
< REMOVAL AND INSTALLATION >

FRONT BLOWER MOTOR RESISTOR

Removal and Installation

INFOID:000000007356277

Blower Motor Resistor - Heater and Cooling Unit Assembly



- | | | |
|-------------------------------------|----------------------|-----------------------|
| 1. Heater and cooling unit assembly | 2. Intake door motor | 3. Air mix door motor |
| 4. Blower motor resistor | 5. Mode door motor | |

REMOVAL

1. Disconnect the blower motor resistor electrical connector.
2. Remove the 2 screws and the blower motor resistor.

INSTALLATION

Installation is in the reverse order of removal.

HEATER & COOLING UNIT ASSEMBLY

< REMOVAL AND INSTALLATION >

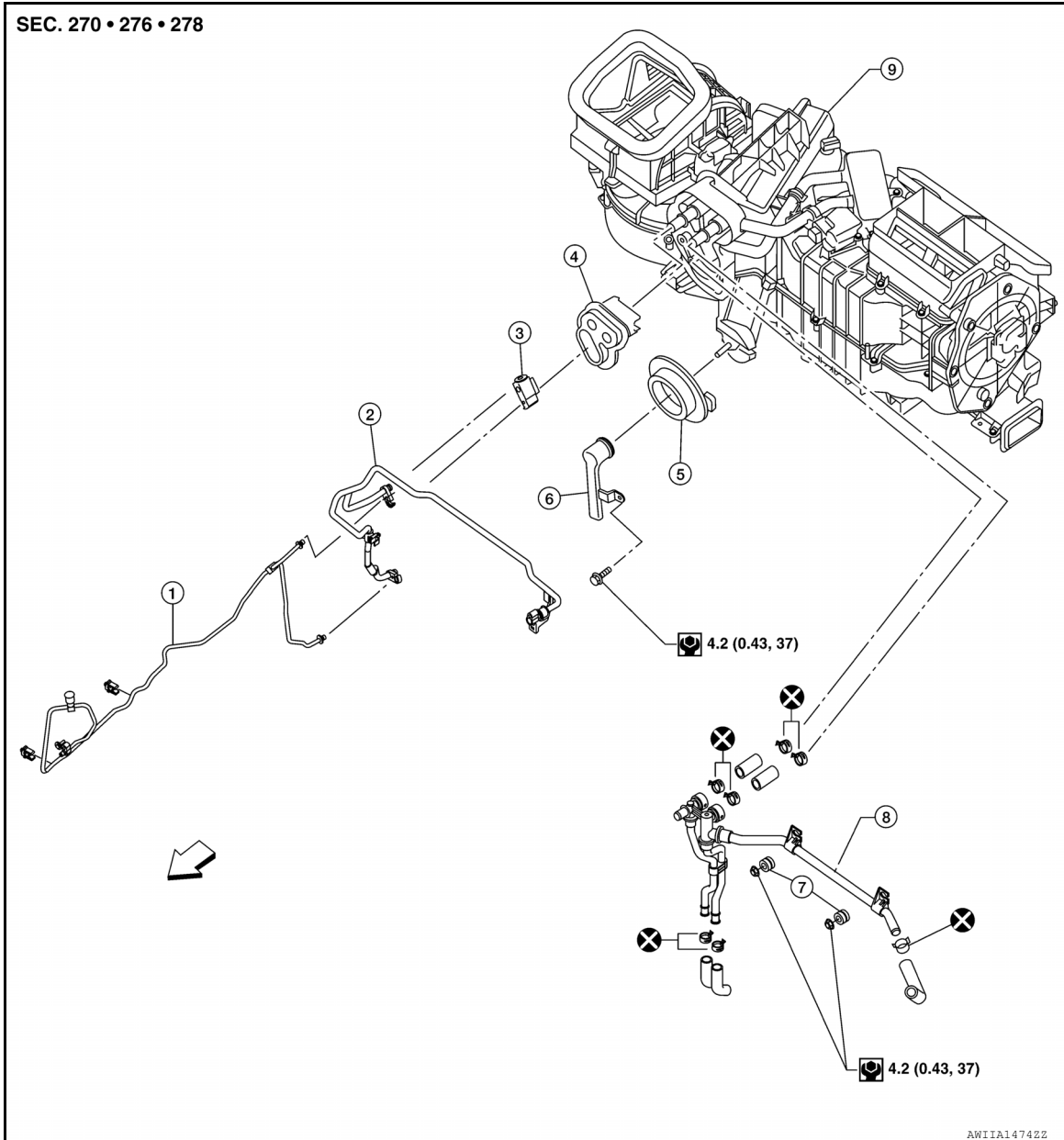
HEATER & COOLING UNIT ASSEMBLY

Component

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Front Heater and Cooling Unit Assembly

SEC. 270 • 276 • 278

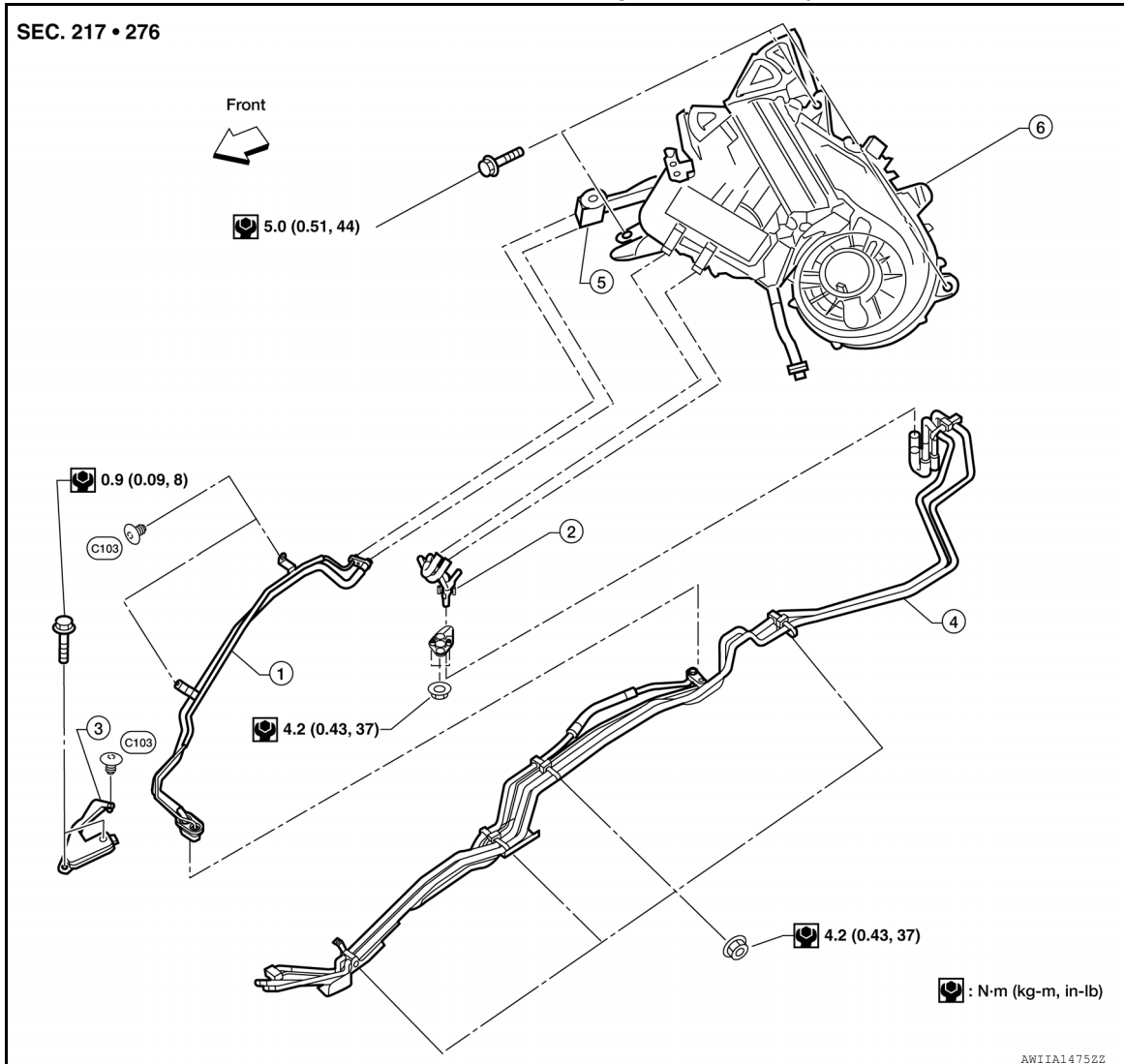


- | | | |
|---|---------------------------------|---|
| 1. Front high-pressure A/C pipe | 2. Front low-pressure A/C pipe | 3. Front expansion valve |
| 4. Front heater core and evaporator pipes grommet | 5. Front A/C drain hose grommet | 6. Front A/C drain hose |
| 7. Front heater core pipe mounts | 8. Front heater core pipes | 9. Front heater and cooling unit assembly |
| ↩ Vehicle front | | |

HEATER & COOLING UNIT ASSEMBLY

< REMOVAL AND INSTALLATION >

Rear Heater and Cooling Unit Assembly



1. Rear high- and low-pressure A/C pipes
2. Rear heater core hoses
3. Rear high- and low-pressure A/C pipes cover
4. Under floor rear high- and low-pressure A/C and heater core pipes
5. Rear expansion valve
6. Rear heater and cooling unit assembly

NOTE:

When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

Removal and Installation

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FRONT HEATER AND COOLING UNIT ASSEMBLY

Removal

CAUTION:

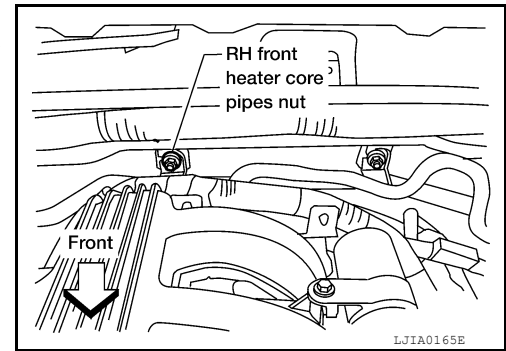
Before servicing, turn the ignition switch off, disconnect both battery terminals, then wait at least three minutes.

1. Discharge the refrigerant from the A/C system. Refer to [HA-36. "HFC-134a \(R-134a\) Service Procedure"](#).
2. Drain the coolant from the engine cooling system. Refer to [CO-12. "Changing Engine Coolant"](#) (VQ40DE), [CO-42. "Changing Engine Coolant"](#) (VK56DE).
3. Move the front seats to the rearmost position on the seat track.
4. Disconnect the battery negative and positive terminals, then wait at least three minutes.

HEATER & COOLING UNIT ASSEMBLY

< REMOVAL AND INSTALLATION >

5. Remove the front heater core pipes RH nut.
6. Disconnect the front heater core hoses from the front heater core.
7. Disconnect the high- and low-pressure A/C pipes from the front expansion valve.
8. Remove the instrument panel and center console. Refer to [IP-12, "Removal and Installation"](#).
9. Remove the two front floor ducts. Refer to [VTL-32, "Component"](#).
10. Remove the steering column. Refer to [ST-17, "Removal and Installation"](#).
11. Disconnect the instrument panel wire harness at the RH and LH in-line connector brackets, and the fuse block (SMJ) electrical connectors. Refer to [PG-39, "Harness Layout"](#).
12. Remove the covers then remove the three steering member bolts from each side to disconnect the steering member from the vehicle body. Refer to [IP-11, "Exploded View"](#).
13. Remove the front heater and cooling unit assembly with it attached to the steering member, from the vehicle.



CAUTION:

Use care not to damage the seats and interior trim panels when removing the front heater and cooling unit assembly with it attached to the steering member.

14. Remove the front heater and cooling unit assembly from the steering member.

Installation

Installation is in the reverse order of removal.

- Fill the engine cooling system with the specified coolant mixture. Refer to [CO-12, "Changing Engine Coolant"](#) (VQ40DE), [CO-42, "Changing Engine Coolant"](#) (VK56DE).
- Recharge the A/C system. Refer to [HA-36, "HFC-134a \(R-134a\) Service Procedure"](#).

CAUTION:

- **Do not reuse O-rings.**
- **Apply A/C oil to the O-ring of the low-pressure A/C pipe and high-pressure A/C pipe installation. Refer to [HA-34, "Component"](#).**
- **After charging the refrigerant, check for leaks. Refer to [HA-29, "Checking of Refrigerant Leaks"](#).**

REAR HEATER AND COOLING UNIT ASSEMBLY

Removal

1. Discharge the refrigerant from the A/C system. Refer to [HA-36, "HFC-134a \(R-134a\) Service Procedure"](#).
2. Drain the coolant from the engine cooling system. Refer to [CO-12, "Changing Engine Coolant"](#) (VQ40DE), [CO-42, "Changing Engine Coolant"](#) (VK56DE).
3. Remove the luggage side lower and upper finisher RH. Refer to [INT-25, "Removal and Installation"](#).
4. Disconnect the rear heater core hoses from the rear heater core.
5. Disconnect the rear A/C high- and low-pressure A/C pipes from the rear expansion valve.
6. Disconnect the following electrical connectors:
 - Rear blower motor
 - Rear variable blower control (rear)
 - Rear air mix door motor
7. Disconnect the ducts from the rear heater and cooling unit assembly.
8. Remove the 3 bolts and the rear heater and cooling unit assembly.

Installation

Installation is in the reverse order of removal.

- Fill the engine cooling system with the specified coolant mixture. Refer to [CO-12, "Changing Engine Coolant"](#) (VQ40DE), [CO-42, "Changing Engine Coolant"](#) (VK56DE).
- Recharge the A/C system. Refer to [HA-36, "HFC-134a \(R-134a\) Service Procedure"](#).

CAUTION:

- **Do not reuse O-rings.**
- **Apply A/C oil to the O-ring of the low-pressure A/C pipe and high-pressure A/C pipe for installation. Refer to [HA-34, "Component"](#).**

HEATER & COOLING UNIT ASSEMBLY

< REMOVAL AND INSTALLATION >

- After charging the refrigerant, check for leaks. Refer to [HA-29. "Checking of Refrigerant Leaks"](#).

EVAPORATOR

< REMOVAL AND INSTALLATION >

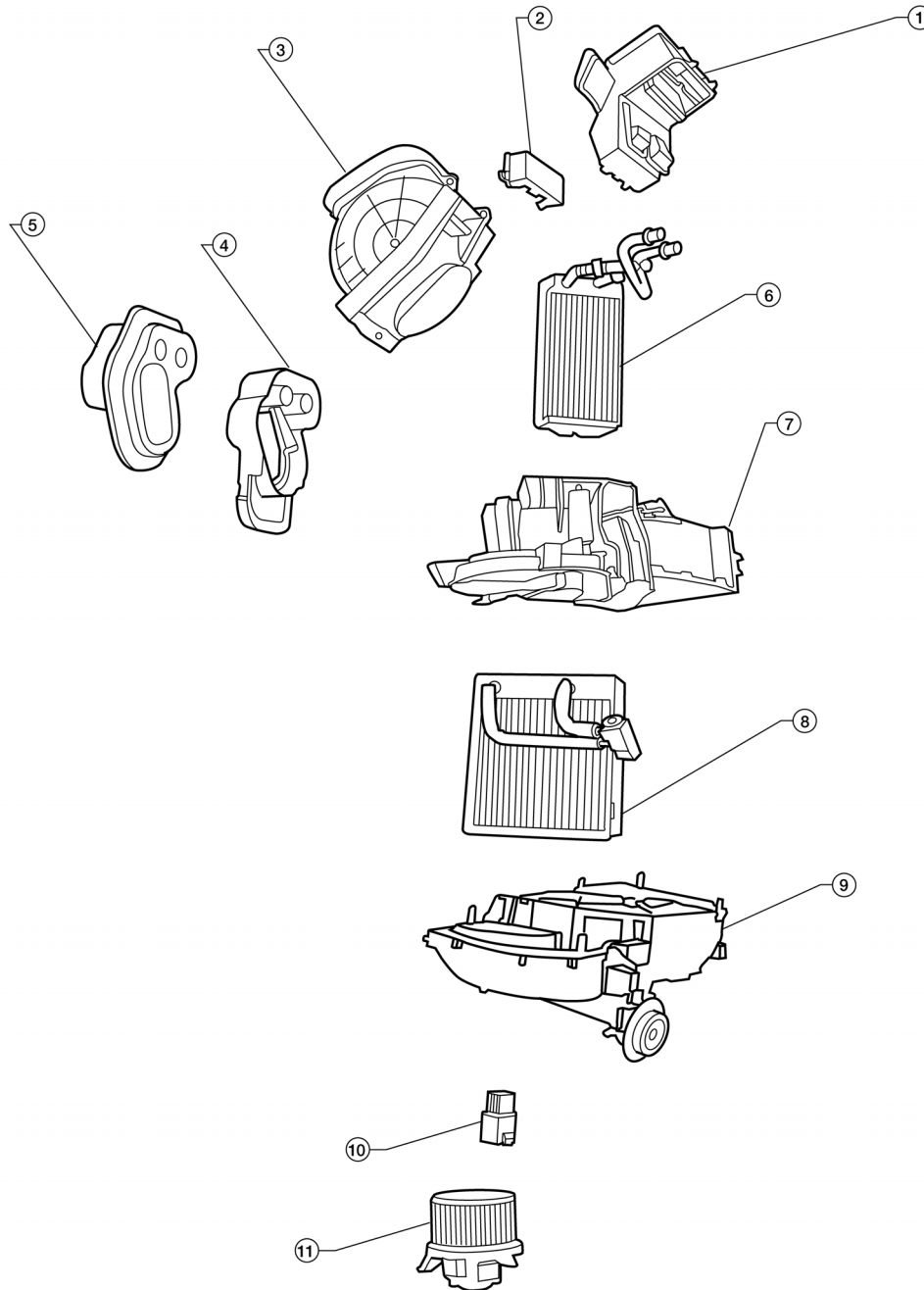
EVAPORATOR

Removal and Installation for Front Evaporator

INFOID:000000007356280

Front Heater and Cooling Unit Assembly

SEC. 270



- | | | |
|---|---|---------------------------------------|
| 1. Center ventilator connector duct | 2. Front heater core cover | 3. Intake air case |
| 4. Front heater core and evaporator pipes bracket | 5. Front heater core and evaporator pipes grommet | 6. Front heater core |
| 7. Upper heater and cooling unit case | 8. Front evaporator and expansion valve assembly | 9. Lower heater and cooling unit case |
| 10. Variable blower control (front) | 11. Blower motor | |

AWI1A15332Z

EVAPORATOR

< REMOVAL AND INSTALLATION >

REMOVAL

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18, "Removal and Installation"](#).
2. Separate the heater and cooling unit case.
3. Remove the front evaporator and expansion valve assembly.

INSTALLATION

Installation is in the reverse order of removal.

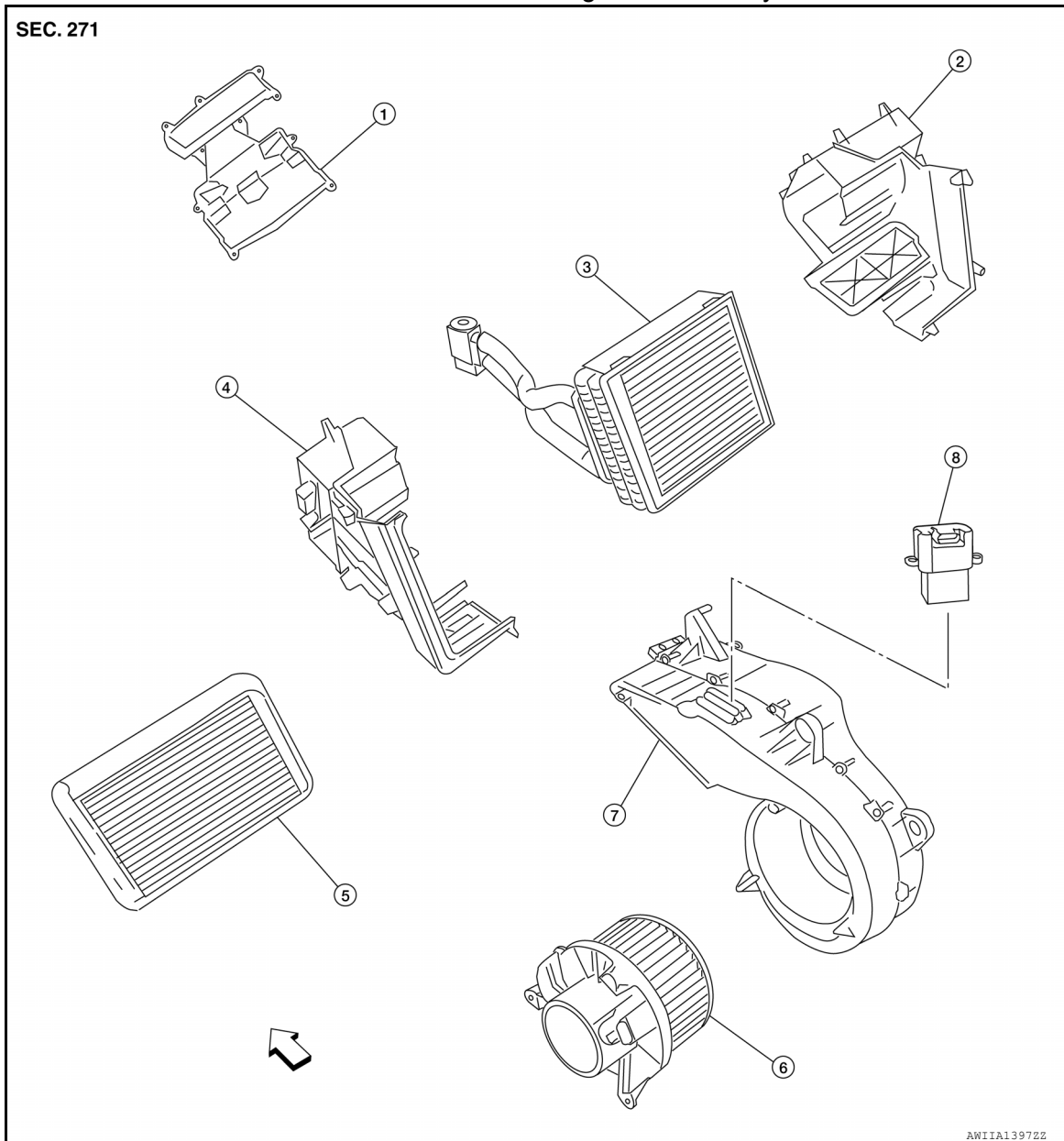
CAUTION:

- Do not reuse O-rings.
- Apply A/C oil to the O-rings on the front A/C low-pressure flexible A/C hose and the front high-pressure A/C pipe for installation.

Removal and Installation for Rear Evaporator

INFOID:000000007356281

Rear Heater and Cooling Unit Assembly



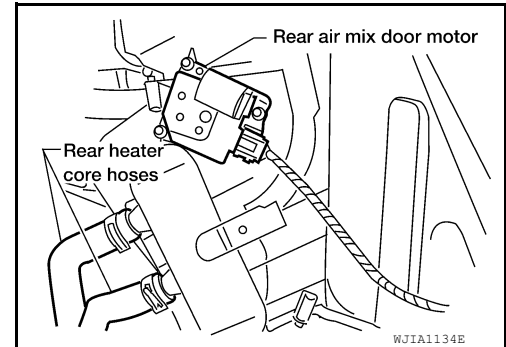
- | | | |
|----------------------|---|----------------------|
| 1. Front cover | 2. Rear evaporator and heater core case | 3. Rear evaporator |
| 4. Side cover | 5. Rear heater core | 6. Rear blower motor |
| 7. Blower motor case | 8. Variable blower control (rear) | ↩ Front |

EVAPORATOR

< REMOVAL AND INSTALLATION >

REMOVAL

1. Remove the rear heater and cooling unit assembly from the vehicle. Refer to [VTL-18, "Removal and Installation"](#).
2. Remove the rear blower motor.
3. Remove the variable blower control (rear).
4. Remove the rear air mix door motor.
5. Remove the rear duct and blend door assembly. Refer to [VTL-34, "Removal and Installation"](#).
6. Disassemble the rear heater and cooling unit assembly to remove the rear evaporator.



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- Do not reuse O-rings.
- Apply A/C oil to the O-rings on the rear high- and low-pressure A/C pipes for installation.
- After charging refrigerant, check for leaks.

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VTL

EXPANSION VALVE

< REMOVAL AND INSTALLATION >

EXPANSION VALVE

Removal and Installation for Rear Expansion Valve

INFOID:000000007356282

REMOVAL

1. Discharge the refrigerant. Refer to [HA-36, "HFC-134a \(R-134a\) Service Procedure"](#).
2. Reposition the third row seat out of the way.
3. Remove the luggage side lower finisher RH access door.
4. Disconnect the rear high- and low-pressure A/C pipes from the rear expansion valve.

CAUTION:

Cap or wrap the A/C refrigerant pipe ends with a suitable material such as vinyl tape to avoid the entry of air and contaminants.

5. Remove the expansion valve.

INSTALLATION

Installation is in the reverse order of removal.

Expansion valve bolts : Refer to [HA-34, "Component"](#).

A/C refrigerant pipe to expansion valve bolt : Refer to [HA-34, "Component"](#).

CAUTION:

- Do not reuse O-rings.
- Apply A/C oil to the O-rings on the rear expansion valve and the rear high- and low-pressure A/C pipes for installation.
- After charging refrigerant, check for leaks.

HEATER CORE

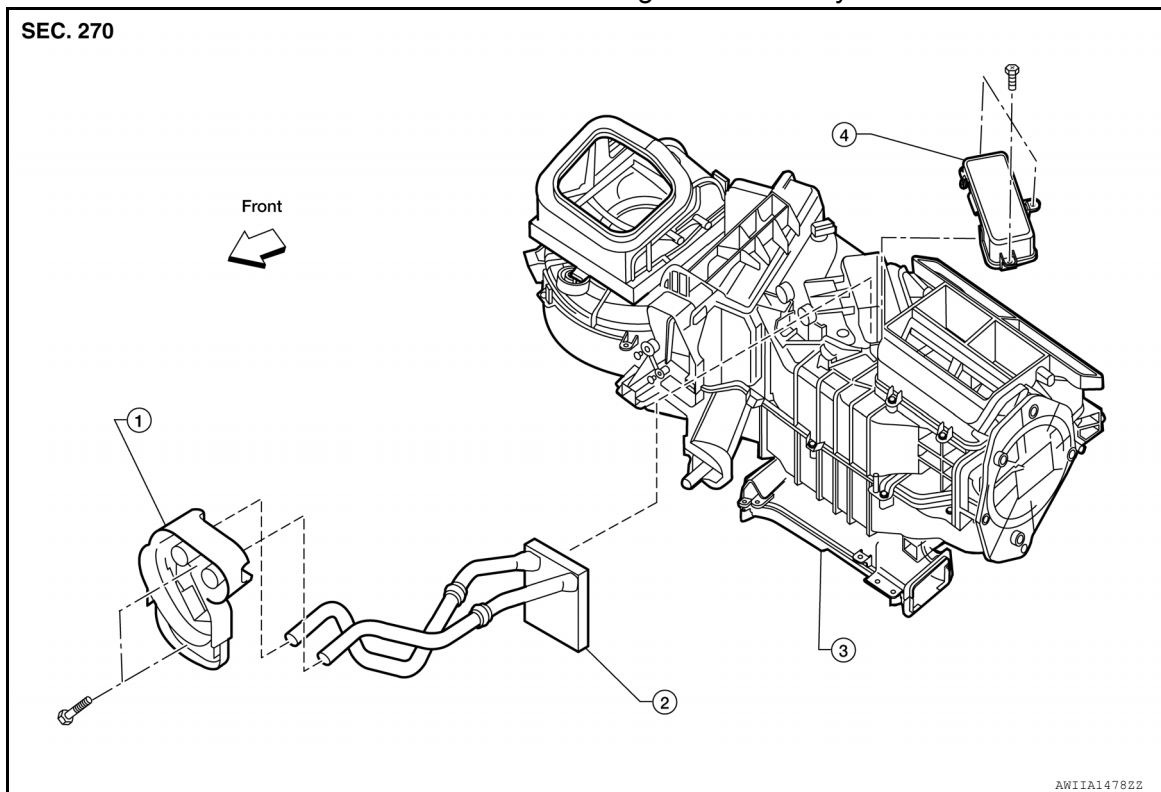
< REMOVAL AND INSTALLATION >

HEATER CORE

Component

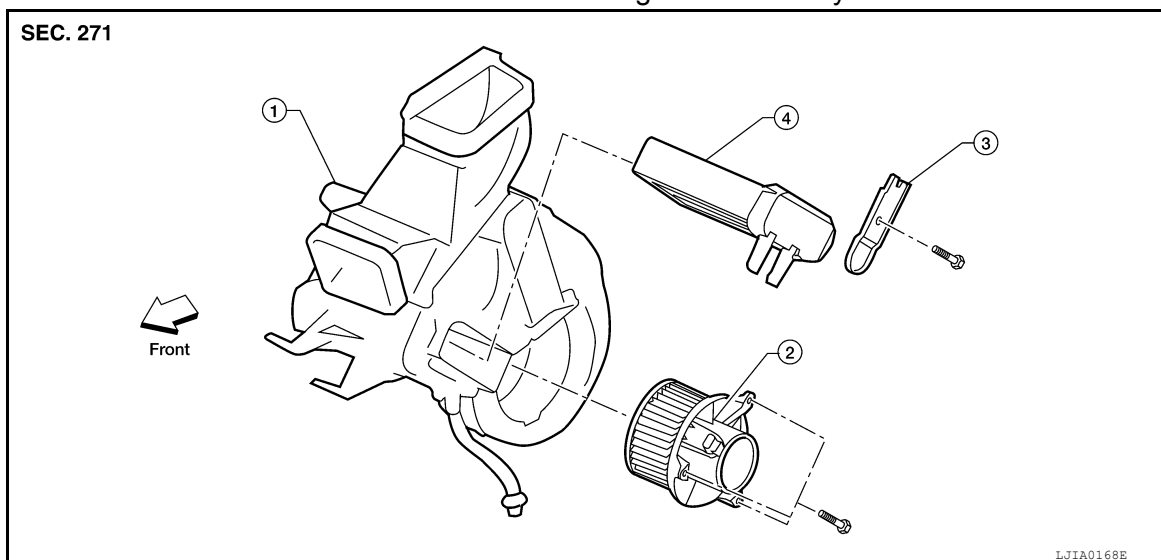
INFOID:000000007356283

Front Heater and Cooling Unit Assembly



1. Front heater core and evaporator pipe
2. Front heater core bracket
3. Front heater and cooling unit assembly
4. Front heater core cover

Rear Heater and Cooling Unit Assembly



1. Rear heater and cooling unit assembly
2. Rear blower motor
3. Rear heater core bracket
4. Rear heater core

HEATER CORE

< REMOVAL AND INSTALLATION >

Removal and Installation

INFOID:000000007356284

FRONT HEATER CORE

Removal

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18, "Removal and Installation"](#).
2. Remove the screws and the front heater core cover.
3. Remove the front heater core and evaporator pipe bracket.
4. Remove the front heater core.

NOTE:

If the in-cabin microfilters are contaminated from coolant leaking from the front heater core, replace the in-cabin microfilters with new ones before installing the new front heater core.

Installation

Installation is in the reverse order of removal.

REAR HEATER CORE

NOTE:

When removing components such as hoses, tubes/lines, etc., cap or plug openings to prevent fluid from spilling.

Removal

1. Partially drain the engine cooling system. Refer to [CO-12, "Changing Engine Coolant"](#) (VQ40DE), [CO-42, "Changing Engine Coolant"](#) (VK56DE).
2. Remove the rear heater and cooling unit assembly. Refer to [VTL-18, "Removal and Installation"](#).
3. Remove the rear heater core bracket.
4. Remove the heater core.

Installation

Installation is in the reverse order of removal.

INTAKE DOOR MOTOR

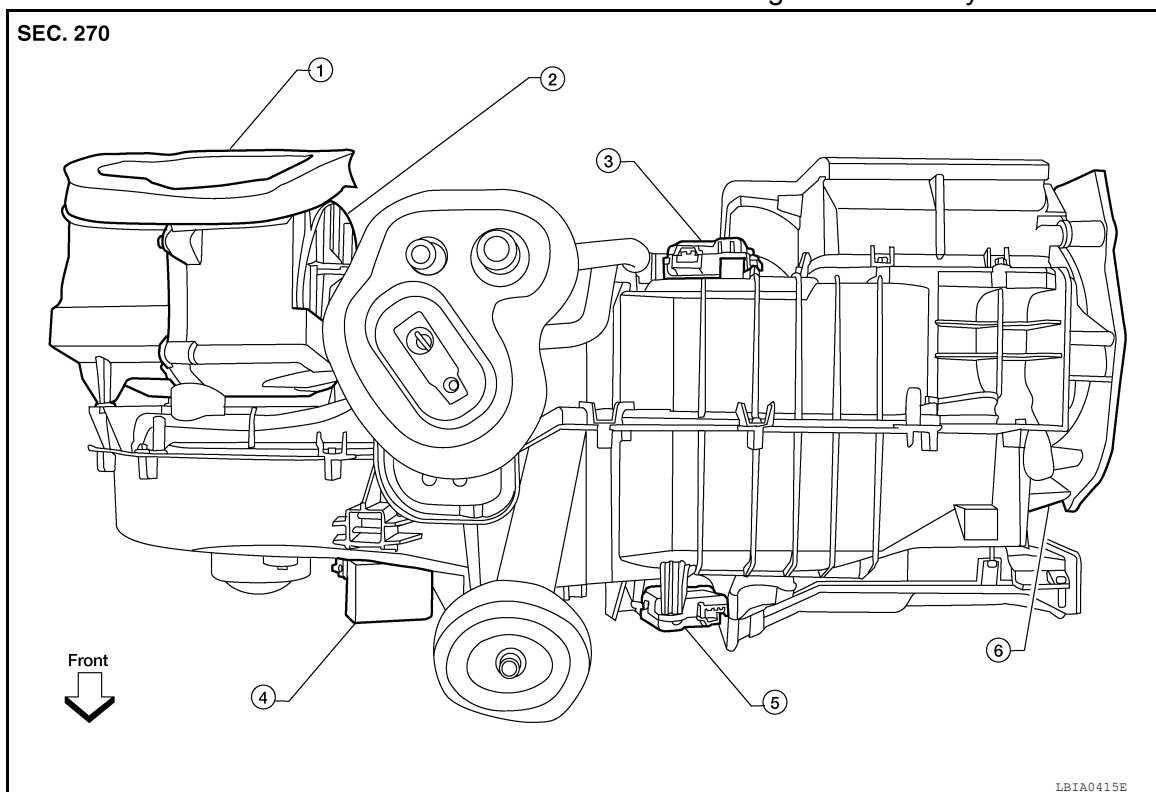
< REMOVAL AND INSTALLATION >

INTAKE DOOR MOTOR

Removal and Installation

INFOID:000000007356285

Intake Door Motor - Front Heater and Cooling Unit Assembly



- | | | |
|---|--------------------------------|-----------------------------------|
| 1. Front heater and cooling unit assembly | 2. Intake door motor | 3. Air mix door motor (passenger) |
| 4. Variable blower control (front) | 5. Air mix door motor (driver) | 6. Mode door motor |

REMOVAL

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18. "Removal and Installation"](#).
2. Remove the steering member from the front heater and cooling unit assembly.
3. Disconnect the intake door motor electrical connector.
4. Remove the 3 screws and the intake door motor.

INSTALLATION

Installation is in the reverse order of removal.

MODE DOOR MOTOR

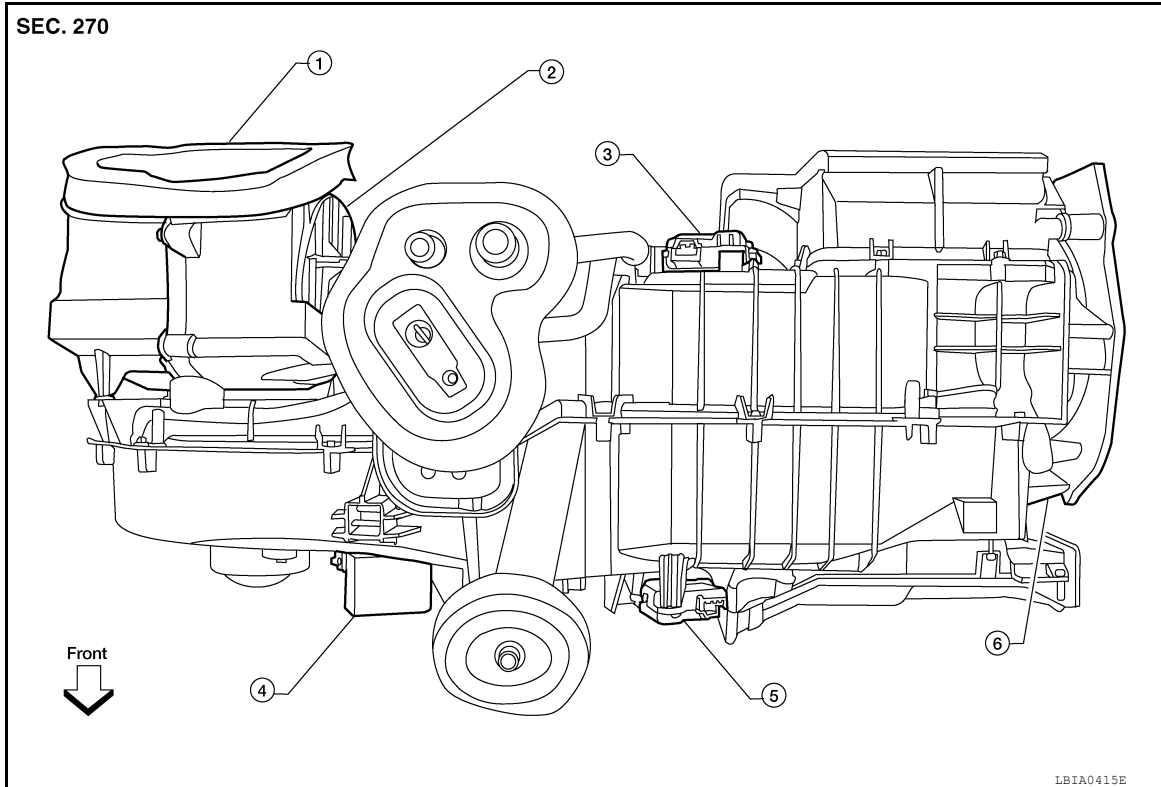
< REMOVAL AND INSTALLATION >

MODE DOOR MOTOR

Removal and Installation

INFOID:000000007356286

Mode Door Motor - Front Heater and Cooling Unit Assembly



- | | | |
|---|--------------------------------|-----------------------------------|
| 1. Front heater and cooling unit assembly | 2. Intake door motor | 3. Air mix door motor (passenger) |
| 4. Variable blower control (front) | 5. Air mix door motor (driver) | 6. Mode door motor |

REMOVAL

1. Remove the BCM. Refer to [BCS-53, "Removal and Installation"](#).
2. Disconnect the mode door motor electrical connector.
3. Remove the 3 screws and the mode door motor.

INSTALLATION

Installation is in the reverse order of removal.

AIR MIX DOOR MOTOR

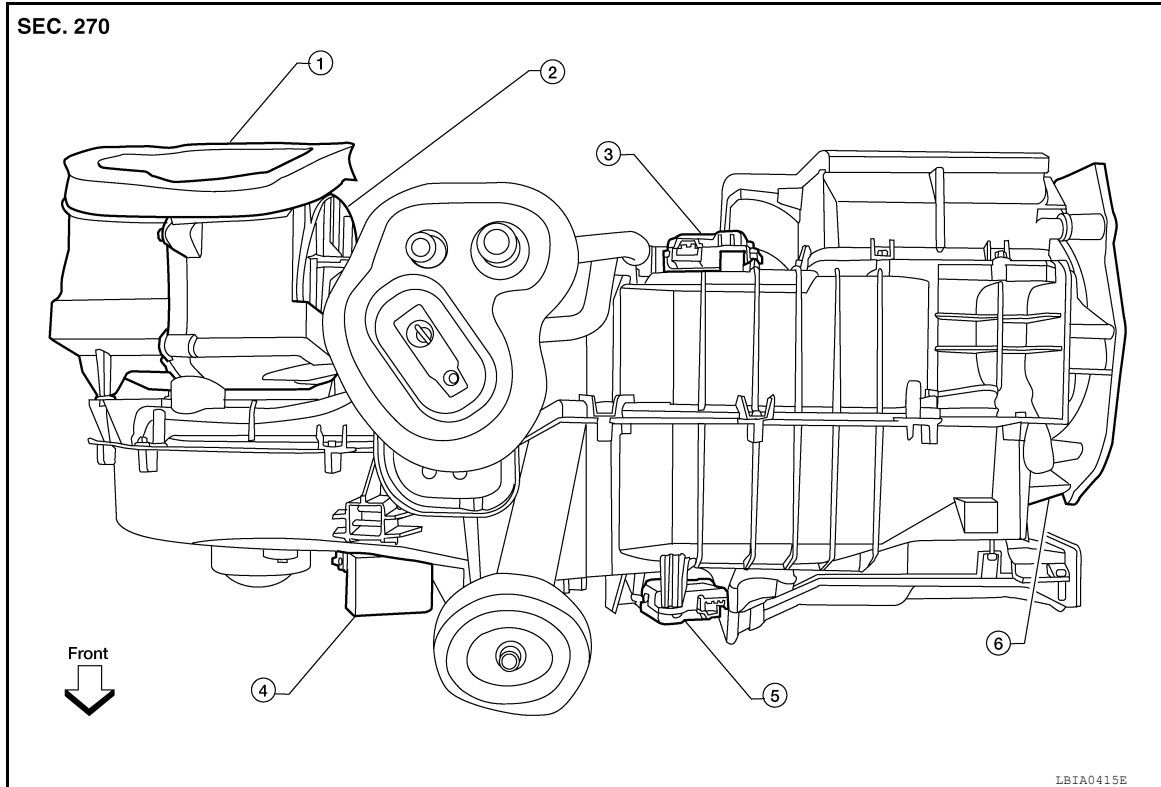
< REMOVAL AND INSTALLATION >

AIR MIX DOOR MOTOR

Component

INFOID:000000007356287

Air Mix Door Motors - ATC - Front Heater and Cooling Unit Assembly

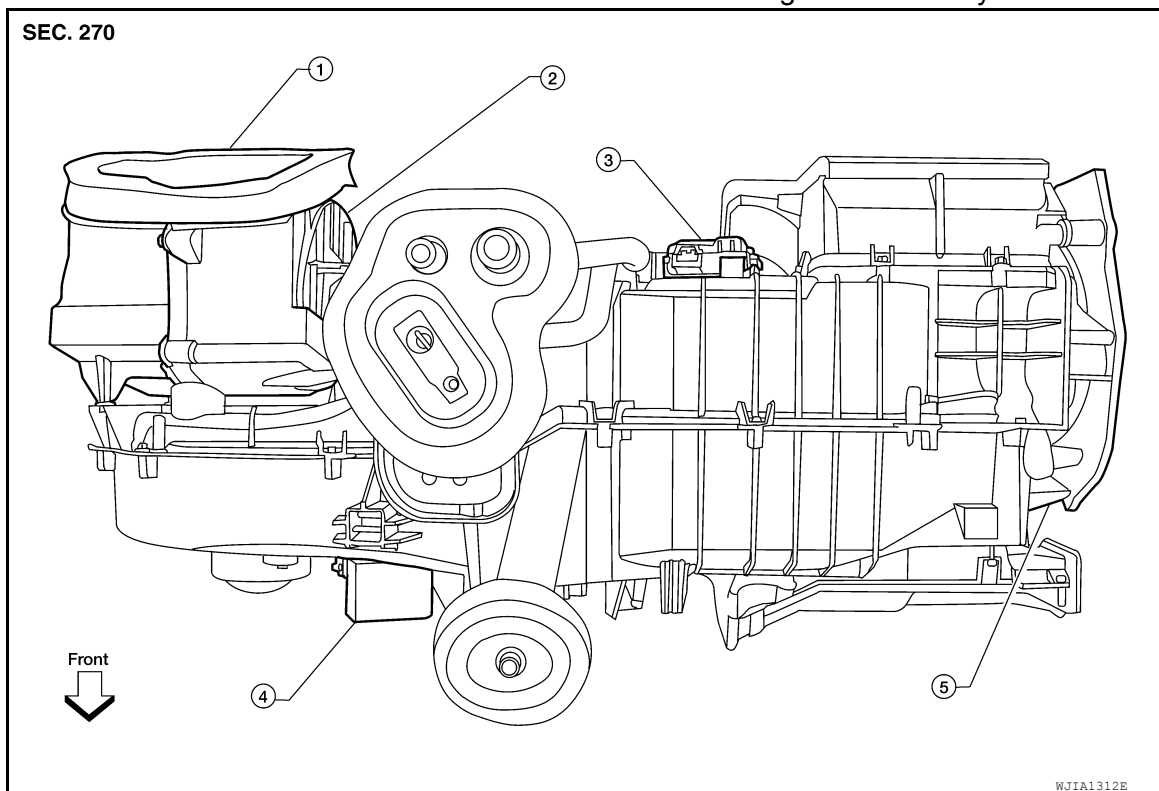


- | | | |
|---|--------------------------------|-----------------------------------|
| 1. Front heater and cooling unit assembly | 2. Intake door motor | 3. Air mix door motor (passenger) |
| 4. Variable blower control (front) | 5. Air mix door motor (driver) | 6. Mode door motor |

AIR MIX DOOR MOTOR

< REMOVAL AND INSTALLATION >

Air Mix Door Motor - MTC - Heater and Cooling Unit Assembly



- | | | |
|-------------------------------------|----------------------|-----------------------|
| 1. Heater and cooling unit assembly | 2. Intake door motor | 3. Air mix door motor |
| 4. Blower motor resistor | 5. Mode door motor | |

Removal and Installation

INFOID:000000007356288

FRONT AIR MIX DOOR MOTOR - DRIVER - ATC

Removal

1. Remove the lower dash side finisher. Refer to [INT-19, "Removal and Installation"](#).
2. Remove the instrument lower panel RH and lower glove box. Refer to [IP-20, "Removal and Installation"](#).
3. Disconnect the air mix door motor harness connector.
4. Remove the three screws and the air mix door motor.

Installation

Installation is in the reverse order of removal.

FRONT AIR MIX DOOR MOTOR - PASSENGER - ATC

Removal

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18, "Removal and Installation"](#).
2. Remove the steering member from the front heater and cooling unit assembly.
3. Disconnect the air mix door motor electrical connector.
4. Remove the three screws and the air mix door motor.

Installation

Installation is in the reverse order of removal.

FRONT AIR MIX DOOR MOTOR - MTC

Removal

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18, "Removal and Installation"](#).
2. Remove the steering member from the front heater and cooling unit assembly.
3. Disconnect the air mix door motor electrical connector.

AIR MIX DOOR MOTOR

< REMOVAL AND INSTALLATION >

4. Remove the three screws and the air mix door motor.

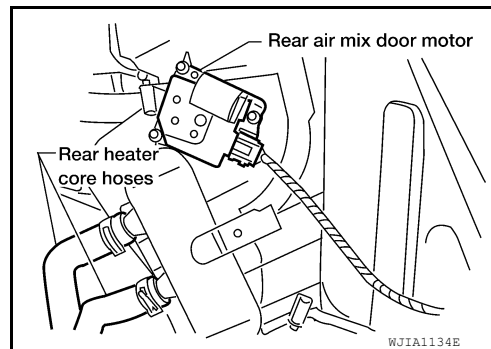
Installation

Installation is in the reverse order of removal.

REAR AIR MIX DOOR MOTOR

Removal

1. Remove the luggage side lower and upper finisher RH. Refer to [INT-24, "Component"](#).
2. Disconnect the rear air mix door motor electrical connector.
3. Remove the three screws and the rear air mix door motor.



Installation

Installation is in the reverse order of removal.

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DUCTS AND GRILLES

< REMOVAL AND INSTALLATION >

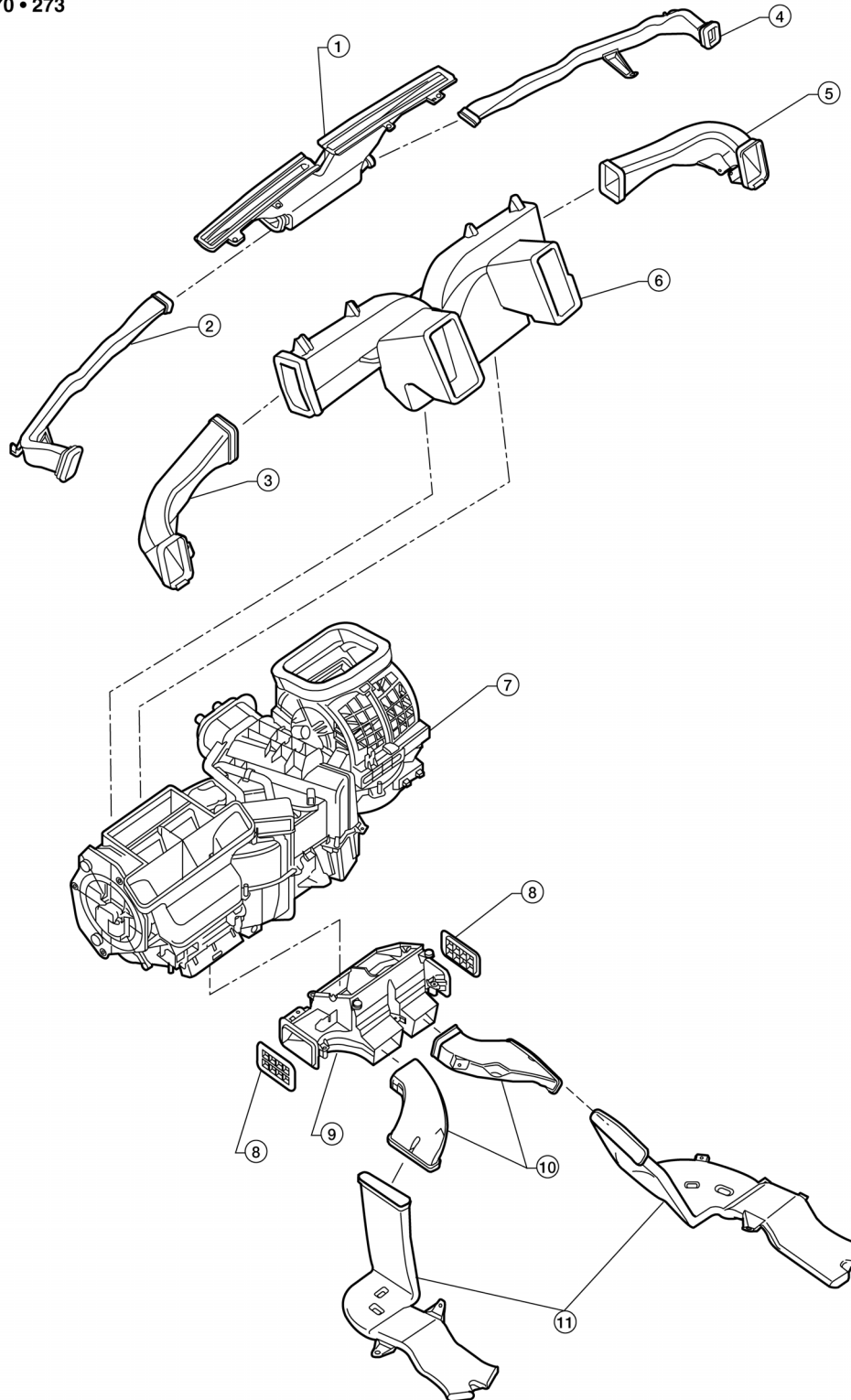
DUCTS AND GRILLES

Component

INFOID:000000007356289

Ducts - Front Heater and Cooling Unit Assembly

SEC. 270 • 273



AWI1A14792Z

- 1. Defroster nozzle
- 4. RH side demister duct

- 2. LH side demister duct
- 5. RH ventilator duct

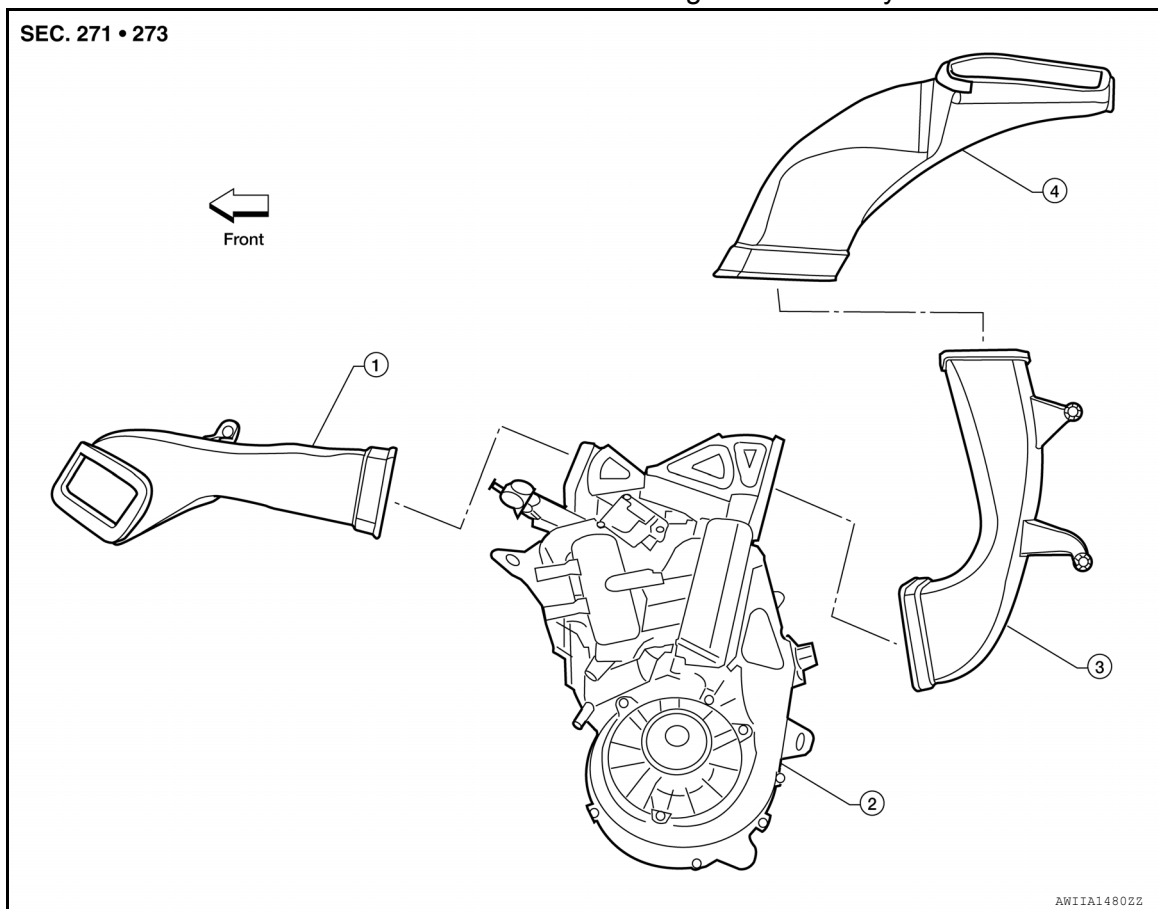
- 3. LH ventilator duct
- 6. Center ventilator duct

DUCTS AND GRILLES

< REMOVAL AND INSTALLATION >

- | | | |
|---|---------------------------------|-------------------------|
| 7. Front heater and cooling unit assembly | 8. Floor connector duct grilles | 9. Floor connector duct |
| 10. Front floor ducts | 11. Rear floor ducts | |

Ducts - Rear Heater and Cooling Unit Assembly



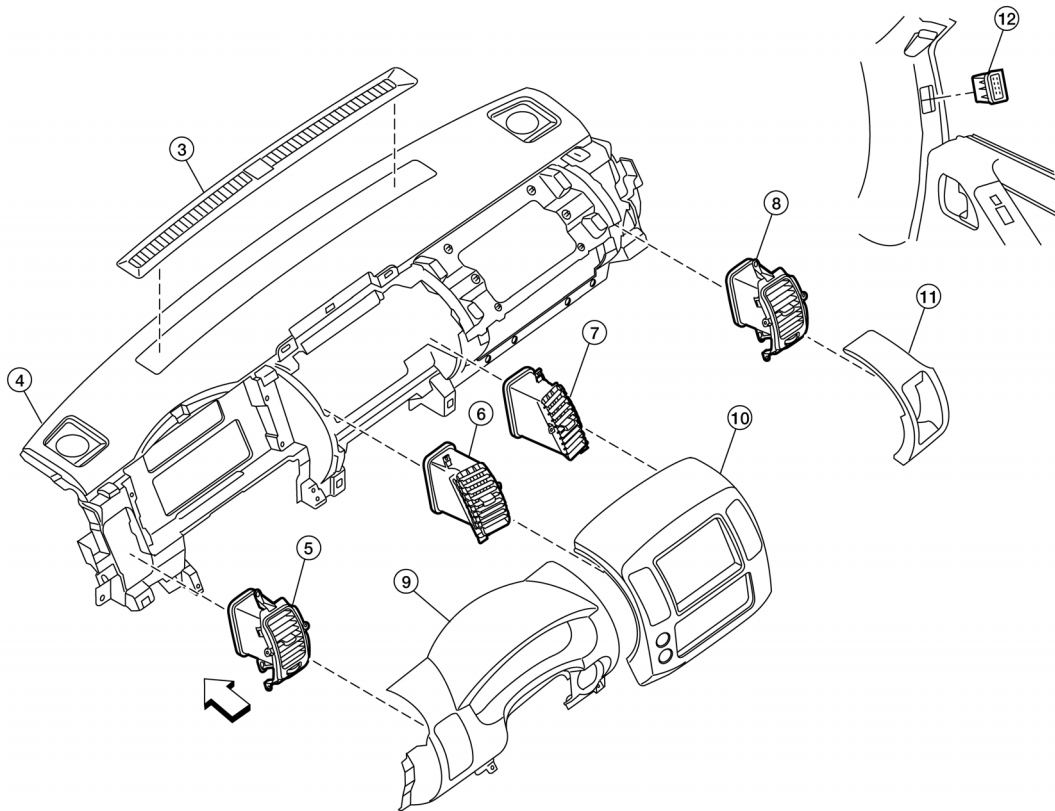
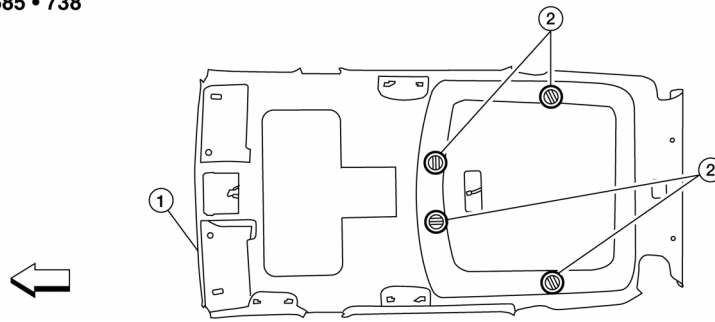
- | | | |
|-----------------------------|--|-----------------------------|
| 1. Side rear floor duct | 2. Rear heater and cooling unit assembly | 3. Rear lower overhead duct |
| 4. Rear upper overhead duct | | |

DUCTS AND GRILLES

< REMOVAL AND INSTALLATION >

Grilles

SEC. 680 • 685 • 738



AWI1A1481ZZ

- | | | |
|--------------------------------------|------------------------------|-----------------------------|
| 1. Headliner | 2. Overhead grilles | 3. Defroster grille |
| 4. Instrument panel and pad assembly | 5. LH side ventilator grille | 6. LH ventilator grille |
| 7. RH ventilator grille | 8. RH side ventilator grille | 9. Cluster lid A |
| 10. Cluster lid C | 11. Instrument side finisher | 12. RH side demister grille |
| ↩ Front | | |

Removal and Installation

INFOID:000000007356290

DEFROSTER NOZZLE

Removal

DUCTS AND GRILLES

< REMOVAL AND INSTALLATION >

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18. "Removal and Installation"](#).
2. Remove the defroster nozzle.

Installation

Installation is in the reverse order of removal.

RH AND LH SIDE DEMISTER DUCT

Removal

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18. "Removal and Installation"](#).
2. Remove the RH or LH side demister duct.

Installation

Installation is in the reverse order of removal.

RH AND LH VENTILATOR DUCT

Removal

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18. "Removal and Installation"](#).
2. Remove the RH or LH ventilator duct.

Installation

Installation is in the reverse order of removal.

CENTER VENTILATOR DUCT

Removal

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18. "Removal and Installation"](#).
2. Remove the defroster nozzle.
3. Remove the RH and LH ventilator ducts.
4. Remove the RH and LH side demister ducts.
5. Remove the center ventilator duct.

Installation

Installation is in the reverse order of removal.

FLOOR CONNECTOR DUCT

Removal

1. Remove the front heater and cooling unit assembly. Refer to [VTL-18. "Removal and Installation"](#).
2. Remove the floor connector duct.

Installation

Installation is in the reverse order of removal.

FRONT AND REAR FLOOR DUCTS

Removal

1. Remove the center console. Refer to [IP-22. "Removal and Installation"](#).
2. Remove the floor carpet. Refer to [INT-21. "Removal and Installation"](#).
3. Remove the clips and remove the front and rear floor ducts.

Installation

Installation is in the reverse order of removal.

REAR OVERHEAD DUCTS

Removal

1. Remove the luggage side lower finisher RH. Refer to [INT-24. "Component"](#).
2. Remove the headliner. Refer to [INT-22. "Removal and Installation"](#).

NOTE:

The rear headliner duct (connected to the rear upper overhead duct) is part of the headliner and is replaced as an assembly.

3. Remove the clips and remove the rear upper and lower overhead ducts.

DUCTS AND GRILLES

< REMOVAL AND INSTALLATION >

Installation

Installation is in the reverse order of removal.

SIDE REAR FLOOR DUCT

Removal

1. Remove the luggage side lower finisher RH. Refer to [INT-24, "Component"](#).
2. Reposition the floor carpet out of the way.
3. Remove the clips and remove the side rear floor duct.

Installation

Installation is in the reverse order of removal.

GRILLES

Removal

1. Remove the necessary interior trim panel(s) to access the grille. Refer to [INT-18, "Component"](#).

NOTE:

The overhead grilles are part of the headliner. To replace the overhead grilles the headliner must be replaced. Refer to [VTL-34, "Removal and Installation"](#).

2. Remove the grille from the interior trim panel.

Installation

Installation is in the reverse order of removal.