HOUSING, A/C AND HEATER

DESCRIPTION

Models equipped with the rear heating-A/C system are equipped with a common rear heater-A/C housing (1) that combines A/C and heating capabilities into a single unit mounted within the rear passenger compartment. The rear heating-A/C system is a blend-air type system. A blend-air door controls the amount of conditioned air that is allowed to flow through, or around, the heater core (5). The rear A/C system is designed for the use of a non-CFC, R-134a refrigerant and uses an A/C expansion valve (8) and A/C evaporator (7) to cool and dehumidify the incoming air prior to blending it with the heated air. A temperature control determines the discharge air temperature by operating the blend door actuator (6), which moves the blend-air door. This allows an almost immediate control of the output air temperature of the rear system. The mode control operates the mode door actuator (4) that positions the mode-air door to direct the flow of the conditioned air out the upper or lower air outlets, depending on the position selected. Both electric door actuators are connected to the vehicle electrical system by the rear heater-A/C wire harness (9). The rear blower motor (3) controls the velocity of air flowing through the rear heater-A/C housing by spinning the blower wheel within the rear housing at the selected speed by use of the rear blower motor resistor (2).

The rear heater-A/C housing must be removed from the vehicle for service of the mode door actuator, blend door actuator, blower motor and blower motor resistor and, it must be disassembled for service of the A/C evaporator, heater core, mode-air door and blend-air door.
REMOVAL

WARNING:

Review the applicable warnings and cautions for this system before performing the following operation. Refer to PLUMBING, FRONT, WARNING and PLUMBING, FRONT, CAUTION. Failure to follow the warnings and cautions may result in serious or fatal injury.

NOTE:

The rear heater-A/C housing must be removed from the vehicle for service of the mode door actuator, blend door actuator, blower motor and blower motor resistor and, it must be disassembled for service of the A/C evaporator, heater core, mode-air door and blend-air door.

Fig 2: Rear A/C Expansion Valve

Courtesy of CHRYSLER GROUP, LLC

NOTE:
1. Disconnect and isolate the negative battery cable.

2. Recover the refrigerant from the refrigerant system. Refer to PLUMBING, FRONT, STANDARD PROCEDURE.

3. Drain the engine cooling system. Refer to STANDARD PROCEDURE.

4. Raise and support the vehicle.

5. Remove the nut (1) that secures the underbody refrigerant extension lines (3) and the sealing plate (4) to the rear A/C expansion valve (1) which extends through the floor panel behind the right rear wheel housing.

6. Disconnect the underbody refrigerant extension lines from the rear A/C expansion valve and remove and discard the O-ring seals.

7. Install plugs in, or tape over the opened underbody refrigerant line fittings and rear expansion valve ports.

Fig 3: Rear Heater Core Tubes

Courtesy of CHRYSLER GROUP, LLC

⚠️ CAUTION:

DO NOT apply excessive force on underbody heater lines or rear heater hose quick connect fittings when disconnecting the connections. Excessive force may damage or deform the fittings and or lines,
causing an engine coolant leak.

8. Disconnect the underbody heater lines (4) from the rear heater core tubes (1) which extend through the rear floor panel in front of the right rear wheel housing by releasing the insert (2) in each rear quick connect fitting (3) and carefully pulling downward on the fittings while using a slight twisting motion.

9. Lower the underbody heater lines and drain any residual coolant from the lines into a suitable container.

Fig 4: Rear HVAC Housing & Components

10. Lower the vehicle.

11. Remove right rear quarter trim panel. Refer to PANEL, QUARTER TRIM, REMOVAL.

12. Remove the metal support strap from the rear quarter panel and floor.

13. Remove the rear floor distribution duct. Refer to DUCT, FLOOR DISTRIBUTION, REAR, REMOVAL.

14. Remove the rear ceiling distribution ducts. Refer to OUTLET, AIR, REAR, REMOVAL.

15. Disconnect the body wire harness from the rear heater-A/C wire harness connector (6).

16. Remove the two nuts (2) that secure the rear heater core tubes (8) to the floor panel (9).

17. Remove the bolt (7) that secures the rear heater core tubes to the right inner quarter panel (1).
18. Remove the two bolts (5) that secure the rear heater-A/C housing (4) to the two metal brackets (3) located on the rear inner quarter panel and remove the housing.

**DISASSEMBLY**

**NOTE:**

The rear heater-A/C housing must be removed from the vehicle for service of the mode door actuator, blend door actuator, blower motor, heater core, blower motor resistor or power module and it must be disassembled for service of the A/C evaporator, mode-air door and the blend-air door.

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**Fig 5: Flange & Foam Seal**

1. Remove the rear heater-A/C housing and place it on a workbench. Refer to HOUSING, A/C AND HEATER, REMOVAL.

2. Carefully remove the foam seal (1) from the flange (5) located at the bottom of the rear heater-A/C housing (3). If the seal is deformed or damaged, it must be replaced.

3. If required, remove the rear A/C expansion valve (6) from the rear A/C evaporator. Refer to VALVE, A/C EXPANSION, REMOVAL.

4. Remove the four retaining clips (2) and four screws (4) that secure the flange to the
rear heater-A/C housing and remove the flange.

Fig 6: Rear Heater Core Tube Bracket, Screw & Tabs

![Diagram of rear heater components](image_url)

5. Remove the screw (5) that secures the rear heater core tube bracket (4) to the rear heater-A/C housing (1).

6. Release the two retaining tabs (2) that secure the rear heater core and tubes (3) in the rear heater-A/C housing.

7. Carefully pull the rear heater core out of the end of the rear heater-A/C housing. If the foam seals on the heater core are deformed or damaged, they must be replaced.
Fig 7: Rear HVAC Wire Harness

8. Disconnect the rear heater-A/C wire harness (5) from the rear blower motor resistor or power module (1) (depending on application), rear blower motor (2), rear mode door actuator (3) and the rear blend door actuator (4).

9. Release the retaining tab that secures the connector of the rear heater-A/C wire harness to the rear heater-A/C housing and remove the wire harness from the housing.

10. Remove the rear blower motor resistor or power module (depending on application). Refer to RESISTOR, BLOWER MOTOR, REMOVAL or MODULE, POWER, BLOWER MOTOR, REMOVAL.

11. Remove the rear blower motor. Refer to MOTOR, BLOWER, REAR, REMOVAL.

12. Remove the rear mode door actuator and rear blend door actuator. Refer to ACTUATOR, MODE DOOR, REMOVAL and ACTUATOR, BLEND DOOR, REMOVAL.
13. Remove the 15 screws (2) and three metal retaining clips (4) that secure the two halves of the rear heater-A/C housing (3) together.

14. Release the three plastic retaining tabs (1) that secure the two halves of the rear heater-A/C housing together and separate the housing halves.

15. Carefully lift the rear A/C evaporator (2) out of the inboard half of the rear heater-A/C
housing (3).

16. Remove the mode-air door (4) and blend-air door (1) from the rear heater-A/C housing. If the foam seal on any air-door is deformed or damaged, the air door must be replaced.

ASSEMBLY

ASSEMBLY

Fig 10: Rear HVAC Air Doors

1. Install the blend-air door (1) and the mode-air door (4) onto the pivots located in the inboard half of the rear heater-A/C housing (3).

2. Install the rear A/C evaporator (2) into the rear heater-A/C housing.
3. Align the pivot shafts of the blend-air door and the mode-air door to the pivot holes located in the outboard half of the rear heater-A/C housing and install the two halves of the rear housing (3) together. Make sure the three plastic retaining tabs (1) are fully engaged.

4. Install the 15 screws (2) and three metal retaining clips (4) that secure the two halves of the rear heater-A/C housing together. Tighten the screws to 2 N.m (17 in. lbs.).
5. Install the rear blend door actuator (4) and the rear mode door actuator (3) to the rear heater-A/C housing. Refer to ACTUATOR, BLEND DOOR, INSTALLATION and ACTUATOR, MODE DOOR, INSTALLATION.

6. Install the rear blower motor (2). Refer to MOTOR, BLOWER, REAR, INSTALLATION.

7. Install the rear blower motor resistor or power module (1) (depending on application). Refer to RESISTOR, BLOWER MOTOR, INSTALLATION or MODULE, POWER, BLOWER MOTOR, INSTALLATION.

8. Install the rear heater-A/C wire harness (5) onto the rear heater-A/C housing and connect it to the rear blower motor resistor or power module (depending on application), rear blower motor, rear blend door actuator and the rear mode door actuator. Make sure the harness connector is properly secured to the side of the rear heater-A/C housing.

Fig 13: Rear Heater Core Tube Bracket, Screw & Tabs

9. Install the rear heater core (3) into the end of the rear heater-A/C housing (1). Make sure that the foam seals are properly installed and that the two retaining tabs (2) are fully engaged.

10. Install the screw (5) that secures the heater core tube bracket (4) to the rear heater-A/C housing. Tighten the screw to 2 N.m (17 in. lbs.).
11. Position the flange (5) onto the bottom of the rear heater-A/C housing (3). Make sure that the evaporator drain is clean and unrestricted.

12. Install the four screws (4) and four retaining clips (2) that secure the flange to the bottom of the rear heater-A/C housing. Tighten the screws to 2 N.m (17 in. lbs.).

13. If removed, install the rear A/C expansion valve (6) onto the rear A/C evaporator. Refer to VALVE, A/C EXPANSION, INSTALLATION.

14. Install the foam seal (1) onto the flange. If the seal is deformed or damaged, it must be replaced.

15. Install the rear heater-A/C housing. Refer to HOUSING, A/C AND HEATER, INSTALLATION.
1. Position the rear heater-A/C housing (4) into the vehicle.

2. Install the two bolts (5) that secure the rear heater-A/C housing to the two brackets (3) located on the rear inner quarter panel (1). Tighten the bolts to 3 N.m (27 in. lbs.).

3. Install the two nuts (2) that secure the rear heater core tubes (8) to the floor panel (9). Tighten the nuts to 3 N.m (27 in. lbs.).

4. Install the bolt (7) that secures the rear heater core tubes to the rear inner quarter panel. Tighten the bolt to 3 N.m (27 in. lbs.).

5. Connect the body wire harness to the rear heater-A/C wire harness connector (6).

6. Install the rear ceiling distribution duct. Refer to OUTLET, AIR, REAR, INSTALLATION.

7. Install the rear floor distribution duct. Refer to DUCT, FLOOR DISTRIBUTION, REAR, INSTALLATION.

8. Install the metal support strap to the rear quarter panel and floor. Tighten the fasteners securely.

9. Install the right rear quarter panel trim. Refer to PANEL, QUARTER TRIM, INSTALLATION.
10. Raise and support the vehicle.

11. Lubricate new rubber O-ring seals with clean engine coolant and install them onto the rear heater core tube fittings. Use only the specified O-rings as they are made of a special material designed for use with engine coolant. Use only engine coolant of the type recommended for the engine in the vehicle.

⚠️ **CAUTION:**

*DO NOT apply excessive force on underbody heater lines or rear heater hose quick connect fittings when connecting the connections. Excessive force may damage or deform the fittings and or lines, causing an engine coolant leak.*

12. Connect the quick connect fittings (3) for the underbody heater lines (4) to the rear heater core tubes (1) and engage the inserts (2). Make sure the inserts are fully engaged to the rear heater core tube fittings.
Fig 17: Rear A/C Expansion Valve

NOTE:
Illustration shown with rear body cradle removed for clarity.

13. Remove the tape or plugs from underbody refrigerant extension line fittings and rear expansion valve ports.

14. Lubricate new rubber O-ring seals with clean refrigerant oil and install them onto the rear underbody refrigerant line fittings. Use only the specified O-ring seals as they are made of a special material for the R-134a refrigerant system. Use only refrigerant oil of the type recommended for the A/C compressor in the vehicle.

15. Connect the underbody refrigerant extension lines (3) to the rear A/C expansion valve (1).

16. Install the nut (2) that secures the extension lines and sealing plate (4) to the to the rear A/C expansion valve. Tighten the nut to 23 N.m (17 ft. lbs.).

17. Lower the vehicle.

18. Reconnect the negative battery cable.

19. If the heater core is being replaced, flush the cooling system. Refer to STANDARD PROCEDURE.

20. Fill the engine cooling system. Refer to STANDARD PROCEDURE.
21. Evacuate the refrigerant system. Refer to PLUMBING, FRONT, STANDARD PROCEDURE.

22. Charge the refrigerant system. Refer to PLUMBING, FRONT, STANDARD PROCEDURE.

23. Calibrate the A/C-heater control. Refer to the appropriate Electrical Diagnostic article.