

COMPONENT SERVICE—YJ VEHICLES

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DESCRIPTION

The air conditioning evaporator housing is mounted to the bottom of instrument panel. The evaporator, blower motor, thermostat, and expansion valve are located in the evaporator housing. The compressor, condenser, receiver-dryer and refrigerant lines are located in the engine compartment.

The heater housing is mounted to the dash panel behind the instrument panel.

HEATER CONTROL REPLACEMENT

- (1) Remove instrument cluster bezel attaching screws (Fig. 1).
 - (2) Remove instrument cluster bezel.
 - (3) Remove screws attaching the heater control panel to the instrument panel.
 - (4) Slide control panel outward and disconnect the cables, vacuum hoses and electrical wires from the control panel.
 - (5) Remove control panel.
- To install control panel, reverse the removal procedures.

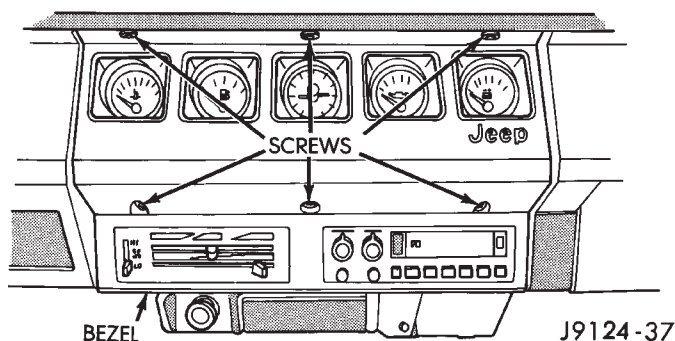


Fig. 1 Instrument Cluster Bezel

BLOWER MOTOR/AIR DOOR MOTOR SWITCH REPLACEMENT

- (1) Remove heater control panel (Fig. 2).
- (2) Remove air door motor switch.
- (3) Remove control knob from the blower switch.

- (4) Remove screws that attach the switch to the control panel.
 - (5) Remove switch from the control panel.
- To install switches, reverse the removal procedures.

VENT DOOR CONTROL CABLES

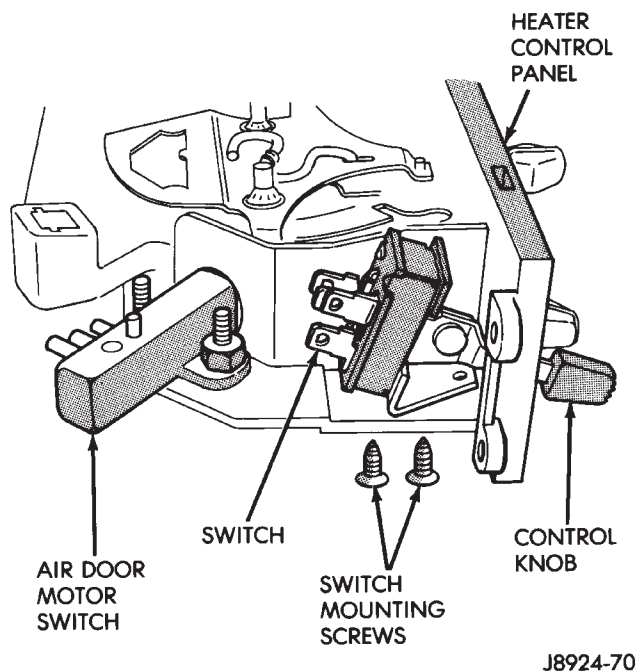


Fig. 2 Control Switches

REMOVAL

- (1) Disconnect cable from the vent door.
- (2) Disconnect cable from the heater control panel lever. The cables are attached to the control panel levers with plastic tabs. Press the tabs together and lift the cable upward to disengage it from the lever.
- (3) Remove the cable. The clip on the cable wire has 2 functions. It attaches the cable to the vent door and is also the self adjusting mechanism. The left cable operates the right cable. The cables must be installed as outlined to maintain the self adjusting feature and ensure proper vent door operation.

INSTALLATION

- (1) Install the cables to the heater control panel.
- (2) Connect right vent door cable. DO NOT connect the left door cable at this time.
- (3) Open and close the right vent door (one time) using the air control lever on the heater control panel.
- (4) Connect left vent door cable.
- (5) Open and close both vent doors with the air control lever. Verify that both vent doors open at the same time.

HEATER CORE AND HOUSING

REVIEW ALL WARNINGS AND CAUTIONS IN THIS GROUP BEFORE PERFORMING THIS OPERATION.

REMOVAL

- (1) Drain coolant from the radiator.
- (2) Disconnect heater hoses.
- (3) Disconnect vent door cables.
- (4) Disconnect blower motor wire.
- (5) Disconnect defroster duct.
- (6) Remove nuts that attach the heater housing studs to the engine compartment side of the dash panel.
- (7) Remove heater housing assembly by tilting it downward, to disengage it from the defroster duct. Pull it rearward and out from under the instrument panel.
- (8) Remove heater hosing cover from the housing.
- (9) Remove heater core from the housing.

INSTALLATION

- (1) Install the heater core into the housing and install the cover on the housing.
- (2) Position heater housing on the dash panel. Be sure the housing studs all extend through the dash panel.
- (3) Install the seals on the heater core outlet and inlet tubes and over the blower motor housing.
- (4) Install attaching nuts on the housing studs.

CAUTION: DO NOT over tighten the attaching nuts. The housing could become distorted causing air leaks and improper heater door operation. Tighten the nuts alternately and evenly until 2 stud threads are visible beyond each nut.

- (5) Connect defroster duct to the housing.
- (6) Connect blower motor wire.
- (7) Connect vent door control cables.
- (8) Connect heater hoses.
- (9) Fill cooling system.
- (10) Check system operation.

BLOWER MOTOR (HEATING)

REMOVAL

- (1) Remove heater housing.
- (2) Remove blower motor-to-heater housing attaching screws/nuts.
- (3) Remove blower motor from the housing.

INSTALLATION

- (1) Position blower motor into housing.
- (2) Install and tighten blower motor-to-heater housing attaching screws/nuts.
- (3) Install heater housing.
- (4) Check blower motor and heater operation.

DEFROSTER NOZZLE AND DUCT

REVIEW ALL WARNINGS AND CAUTIONS IN THIS GROUP BEFORE PERFORMING THIS OPERATION.

REMOVAL

- (1) Drain coolant from the radiator.
- (2) Disconnect heater hoses.
- (3) Remove nuts attaching the heater housing studs to the engine compartment side of the dash panel.
- (4) Disconnect speedometer cable.
- (5) Remove glove box.
- (6) Tilt heater housing back and pull it rearward and out from under the instrument panel.
- (7) Disconnect vent control cables.
- (8) Remove fresh air intake grille from the cowl.
- (9) Remove fresh air intake duct.
- (10) Lower windshield.
- (11) Remove defroster nozzle attaching screws and remove the nozzle and duct.

INSTALLATION

- (1) Install defroster nozzle and duct.
- (2) Raise and secure the windshield.
- (3) Install fresh air intake duct.
- (4) Install fresh air intake grille on the cowl.
- (5) Install vent cables.
- (6) Position heater housing on the dash panel. Be sure all the housing studs extend through the dash panel.
- (7) Install seals on the blower motor and heater core inlet and outlet tubes.
- (8) Install on the housing studs.

CAUTION: DO NOT over tighten the attaching nuts. The housing could become distorted causing air leaks and improper heater door operation. Tighten the nuts alternately and evenly until 2 stud threads are visible beyond each nut.

- (9) Install glove box.
- (10) Connect speedometer cable.

- (11) Connect the heater hoses.
- (12) Fill cooling system.

FRESH AIR DOOR VACUUM MOTOR

REMOVAL

- (1) Remove glove box and assist handle.
- (2) Disconnect vacuum hose from the motor.
- (3) Remove motor lever retaining clip.
- (4) Remove motor attaching nuts and remove the motor from the fresh air duct.

INSTALLATION

- (1) Position motor on fresh air duct and install the motor attaching nuts.
- (2) Align motor lever with the air door lever and install the lever retaining clip.
- (3) Connect vacuum hose to the motor.
- (4) Install glove box and assist handle.

FRESH AIR INTAKE DUCT

REVIEW WARNINGS AND CAUTIONS IN THIS GROUP BEFORE PERFORMING THIS OPERATION.

REMOVAL

- (1) Drain coolant from the radiator.
- (2) Disconnect heater hoses.
- (3) Remove nuts attaching the heater housing studs to the dash panel from inside the engine compartment.
- (4) Disconnect speedometer cable.
- (5) Remove glove box and assist handle.
- (6) Tilt heater housing back and pull it rearward and out from under the instrument panel.
- (7) Disconnect vent cables.
- (8) Remove windshield bracket bolts and lower windshield.
- (9) Remove fresh air intake grille from the cowl.
- (10) Remove fresh air intake duct.

INSTALLATION

- (1) Install fresh air intake duct.
- (2) Install defroster nozzle and duct.
- (3) Raise and secure the windshield.
- (4) Install fresh air grille on the cowl.
- (5) Install vent cables.
- (6) Position heater housing on the dash panel. Be sure all the housing studs extend through the dash panel.
- (7) Install seals on the blower motor and heater core inlet and outlet tubes.
- (8) Install nuts on the heater housing studs.

CAUTION: DO NOT over tighten the attaching nuts. The housing could become distorted causing air leaks and improper heater door operation. Tighten

the nuts alternately and evenly until 2 stud threads are visible beyond each nut.

- (9) Install glove box and assist handle.
- (10) Connect speedometer cable.
- (11) Connect heater hoses.
- (12) Fill cooling system.

TEMPERATURE CONTROL THERMOSTAT

REMOVAL

- (1) Remove mounting bolts and lower the evaporator housing.
- (2) Remove the attaching screws holding the top and bottom housings together.
- (3) Separate the housings.
- (4) Remove the thermostat.

INSTALLATION

- (1) Install temperature control thermostat. Insert thermostat capillary tube into the evaporator coil a minimum of 50 mm (2 inch).

CAUTION: Handle the tube with care to avoid bends or kinks that could cause the thermostat to malfunction.

- (2) Assemble the housing and install the attaching screws. **DO NOT** over tighten the attaching screws.
- (3) Install the evaporator housing.

A/C CONDENSER

REVIEW WARNINGS AND CAUTIONS IN THIS GROUP BEFORE PERFORMING THIS OPERATION.

REMOVAL

- (1) Recover refrigerant from A/C system.
- (2) Drain the radiator.
- (3) Remove fan shroud and radiator.
- (4) Disconnect A/C line from the condenser.
- (5) Remove condenser attaching screws and tilt the bottom of the condenser toward the engine. **Plug all the condenser openings to prevent entry of dirt or moisture.**
- (6) Working from under the vehicle, disconnect the receiver-drier to-evaporator hose fitting from the receiver-drier.
- (7) Remove condenser and receiver-drier as an assembly.
- (8) Remove receiver-drier from the condenser, if necessary.

INSTALLATION

Add 30 ml (1 fluid oz.) of refrigerant oil to the A/C system if the condenser is replaced.

- (1) Attach receiver-drier to the condenser.
- (2) Install condenser and connect A/C line to the receiver-drier.

- (3) Install condenser attaching screws.
- (4) Connect condenser A/C line.
- (5) Install radiator and fan shroud.
- (6) Fill coolant system (Refer to cooling for proper procedure).
- (7) Evacuate, charge and leak test the air conditioning system.

RECEIVER-DRIER REPLACEMENT

REVIEW ALL WARNINGS AND CAUTIONS IN THIS GROUP BEFORE PERFORMING THIS OPERATION.

REMOVAL

- (1) Recover refrigerant from A/C system.
- (2) Disconnect A/C lines from the receiver-drier.
- (3) Remove receiver-drier attaching screws and remove receiver-drier.

INSTALLATION

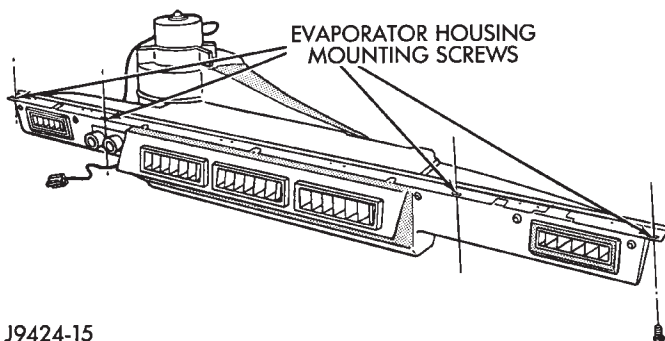
- (1) Position receiver-drier in place and install receiver-drier attaching screws.
- (2) Connect A/C lines to receiver-drier.
- (3) Evacuate, charge and leak test the air conditioning system.

EVAPORATOR AND HOUSING

REVIEW ALL WARNINGS AND CAUTIONS IN THIS GROUP BEFORE PERFORMING THIS OPERATION.

REMOVAL

- (1) Recover refrigerant from A/C system.
- (2) Disconnect A/C lines.
- (3) Remove hose clamps and dash grommet retaining screws.
- (4) Remove the evaporator housing-to-instrument panel attaching screws and the housing mounting bracket screw (Fig. 3).



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Fig. 3 Evaporator Housing

- (5) Lower the evaporator housing and pull the hoses and hose grommet through the dash opening.

- (6) Remove upper housing and remove evaporator. The evaporator core, control switches, expansion valve, blower motor and housing can be serviced after removing evaporator housing (Fig. 4).

INSTALLATION

Add 30 ml (1 fluid oz.) of refrigerant oil to the A/C system if the evaporator is replaced.

- (1) Install evaporator into housing and install upper housing.
- (2) Push A/C hoses through the grommet openings and install the hose grommet by pushing it toward the engine compartment.
- (3) Install hose grommet attaching screws.
- (4) Raise evaporator housing and install the evaporator housing-to-instrument panel attaching screws.
- (5) Install A/C lines.
- (6) Evacuate, charge and leak test the system.

EXPANSION VALVE

REVIEW WARNINGS AND CAUTIONS IN THIS GROUP BEFORE PERFORMING THIS OPERATION.

REMOVAL

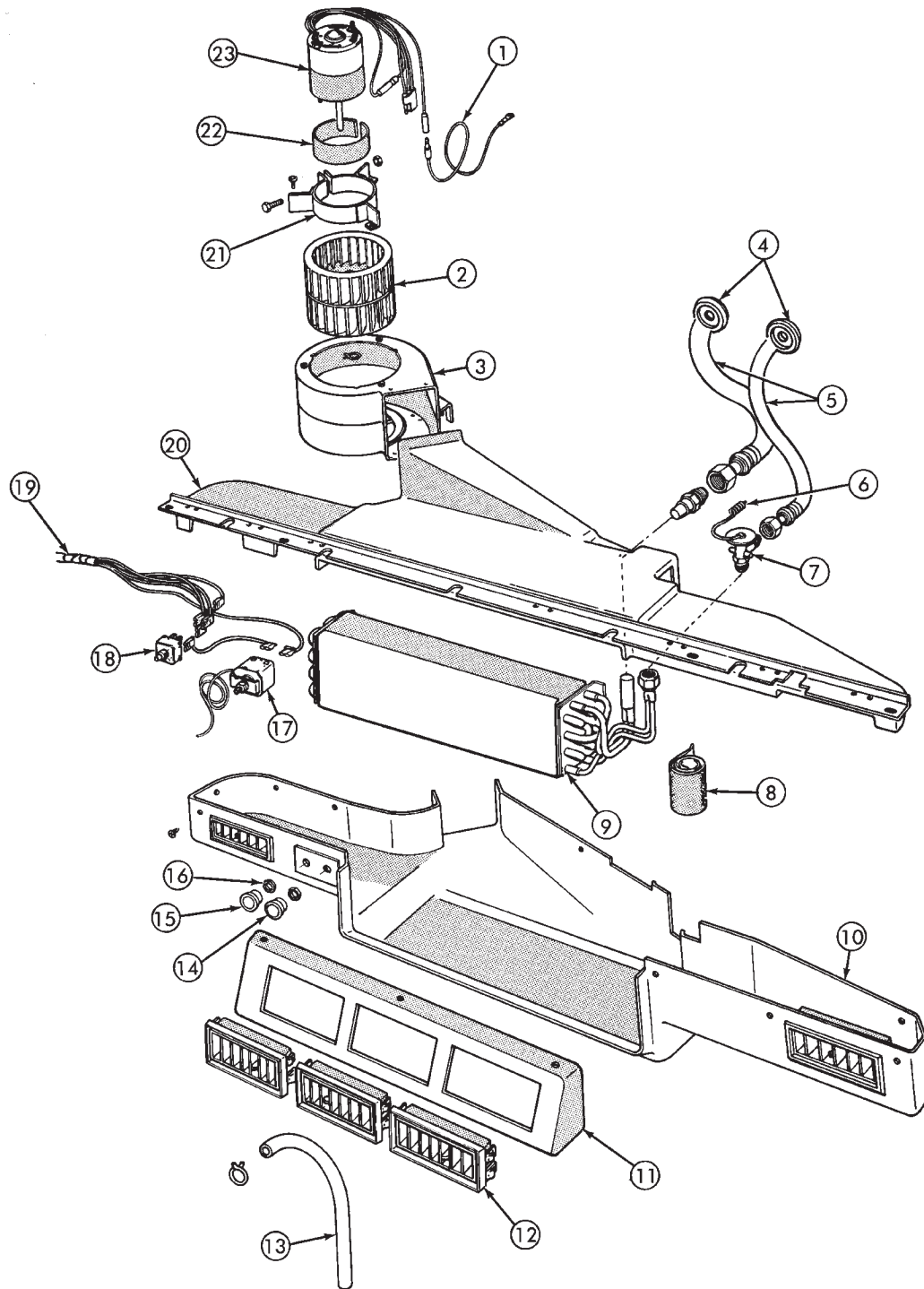
- (1) Recover refrigerant from A/C system.
- (2) Remove evaporator housing
- (3) Remove the insulation wrapped around the suction hose fitting, expansion valve and evaporator tubing.
- (4) Mark the capillary tube location on the evaporator tubing.
- (5) Disconnect inlet and outlet hose fittings, and remove the capillary tube clamp.
- (6) Disconnect and remove the expansion valve.

INSTALLATION

- (1) Clean evaporator tubing to provide a positive contact with the expansion valve capillary tube.
- (2) Install expansion valve.
- (3) Clamp the capillary tube at the marked location on the evaporator tubing.
- (4) Connect inlet and outlet hose fittings. **The capillary tube must be securely clamped and have positive metal-to-metal contact with the evaporator tubing.**
- (5) Wrap expansion valve, inlet hose fitting and capillary tube with insulation.
- (6) Install evaporator housing.
- (7) Evacuate, charge and leak test the system.

A/C BLOWER MOTOR

It is not necessary to discharge the system to service the blower motor. The evaporator housing need only be lowered for access to the blower motor attaching screws.



- | | |
|--------------------|------------------------------|
| 1. FEED WIRE | 13. DRAIN TUBE |
| 2. BLOWER FAN | 14. TEMPERATURE CONTROL KNOB |
| 3. BLOWER HOUSING | 15. FAN CONTROL KNOB |
| 4. GROMMET | 16. NUT |
| 5. HOSE | 17. THERMOSTAT |
| 6. CAPILLARY TUBE | 18. FAN CONTROL SWITCH |
| 7. EXPANSION VALVE | 19. SWITCH HARNESS |
| 8. INSULATION | 20. UPPER HOUSING |
| 9. EVAPORATOR CORE | 21. BRACKET |
| 10. LOWER HOUSING | 22. INSULATION |
| 11. LOUVER PANEL | 23. BLOWER MOTOR |
| 12. LOUVER | |

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Fig. 4 Evaporative Housing and Components

TORQUE SPECIFICATIONS

AIR CONDITIONING

DESCRIPTIONTORQUE

Compressor

Mounting Bolts.....27 N·m (20 ft. lbs.)
Bracket Bolts.....27 N·m (20 ft. lbs.)
Shaft Nut14.4 N·m (10.5 ft. lbs.)