Figure 63-1. The three major portions of the A/C and heat system are air inlet, plenum, and air distribution. The shaded portions show the paths of the four control doors.

FREQUENTLY ASKED QUESTION: What is Afterblow?

Afterblow is a term used to describe the operation of the blower motor after the ignition has been turned off. The purpose of afterblow is to dry the evaporator to help prevent the formation of mold and mildew in the evaporator case. The operation of the blower motor after the ignition is turned off has created some customer complaints. Check service information to be sure that the condition is normal or not on the vehicle being investigated. For example, in a typical General Motors system, the following conditions must be met for afterblow to occur:

1. The engine has been off for 30 minutes.
2. The outside air temperature is 70°F (21°C) or higher.
3. The battery voltage is 12 volts or higher.

If the above conditions exist, the afterblow is commanded to be on for 20 seconds, off for 10 seconds, and then back on for another 20 seconds.
Figure 63-2  The ambient temperature sensor in this system is located in the fresh air intake duct for the HVAC system.

Figure 63-3  A block diagram showing the inputs to the electronic control assembly and the outputs; note that some of the outputs have feedback to the ECM.

Figure 63-4  A typical cabin filter being removed from behind the glove compartment.
Figure 63-5  With no vacuum signal, the spring extends the actuator shaft to place the door in a certain position (top). A vacuum signal pulls the shaft inward and moves the door to the other position (bottom).

Figure 63-6  Three electric actuators can be easily seen on this demonstration unit. However, accessing these actuators in a vehicle can be difficult.

Figure 63-7  The feedback circuit signals the AC control unit with the blend door position.
Figure 63-8  A typical blower motor assembly with attached squirrel cage blower. A replacement motor does not include the squirrel cage blower so it needs to be switched to the replacement motor.

Figure 63-9  A "credit card" resistor used in the rear blower assembly in a Dodge minivan.

Figure 63-10  A dual climate control system showing the airflow and how it splits.
Figure 63-11 A typical dual-zone climate control panel showing left and right side temperature control levers.

Figure 63-12 Heated or cooled air is supplied to the rear seat passengers of most vehicles through ducts that run under the front seats.

Figure 63-13 A rear heat and air conditioning system on a Honda Odyssey minivan.