

Automotive Air Conditioners

It's August, the car is jammed with kids and luggage, and you're finally on your way to the cottage. Suddenly you realize that your car's air conditioning system is on the fritz, and your family vacation really starts to heat up.

Automotive air conditioning systems were first introduced in 1940 to address customer demands for relief from unbearable heat. These systems use refrigerant to cool the air and remove the heat from the car's passenger compartment. Air conditioning also cleans the air that enters the car, and removes excess moisture as it dehumidifies the air.

There are three basic components to any automotive air conditioner system:

1. Compressor#Considered the heart of the air conditioning system, the compressor transfers and compresses refrigerant gas to let the heat out of the car.
2. Condenser#removes heat from the refrigerant and cools down the high-pressure gasses.
3. Evaporator#Acts as the heater core of the air conditioning system. The evaporator removes the heat from inside the car. The refrigerant then condenses the air and transforms it into water.

Cars manufactured in 1995 or later have been equipped with R-134A air conditioning system. These ozone-friendly units do not contain CFCs, are nontoxic and nonflammable.

Prior to 1995, automotive air conditioners came with R-12 refrigerant, most commonly Freon. During that time, a car owner experiencing air conditioner problems needed only to visit a local retailer to purchase a recharge kit. With a can of Freon and basic knowledge, the average driver could easily repair his or her own air conditioning system. When studies confirmed that R-12 systems were contributing to the damaged ozone layer, many countries including the United States banned their manufacture.

Common Problems

The most

common complaint about automotive air conditioners, particularly R-134 systems, is the odor that permeates from the A/C vents. Mechanics and car manufacturers have concluded that accumulated bacteria and fungus in the evaporator core likely cause the odor. Because the air conditioning system is loaded with moisture, it attracts microbes. The solution offered by automakers is to make the blower motor effective in drying out the evaporator after the A/C system is turned off. General Motors introduced this breakthrough, called Electronic Evaporator Dryer.

This

solution might offer relief to some car owners, but not to all. Installing this system can cost hundred of dollars. As a result, many car owners have resorted to finding alternative methods of fighting the odor. Using antibacterial chemicals such as Lysol can be an effective short-term solution. Keeping a can of Lysol handy can go along way for your odorous

air problem. Just spray the Lysol inside the car, and in the air intake once a week, for temporary relief from the problem. Another way to help eliminate the odor is to shut off the A/C unit at least one mile before reaching your destination. This will allow enough time for the evaporator to dry out, essentially doing away with the moisture and microbes that cause odor. This can be the easiest and least expensive method in combating the issue.

Caring For Your A/C System

- * To keep working efficiently, your automotive air conditioner must be recharged from time to time, depending on how often it is used. Consult your mechanic or your owner's manual for information about system recharges.
- *
Call your mechanic if you see water leaking from the A/C system's condenser, as this can affect the refrigerant. Have the system repaired before refilling it.
- * Replacing the filter once every three months will also help to maintain the performance of your automotive air conditioning system. This is where dust builds up when the A/C system is running.
- * Setting the gauge at one specific temperature will also help it perform well. If you constantly switch from one temperature to another, your system will have trouble adjusting accordingly.

Automotive

air conditioners can be a driver's best friend, whether you're traveling across town or from coast to coast. Keep your A/C unit well maintained, and keep your cool on the road.