

## Technology Forecast

### *Conditioning the Air*

Air conditioning involves more than just keeping a vehicle cool as the temperature rises. Air conditioning must also work to condition the air. New air filters are being developed to remove pollen, dust, and other microscopic debris that can trigger a person's allergies. Unlike traditional filters used in some cars and trucks today, these elements operate as part of an electrostatic system.

The new air conditioning setup requires the implementation of a 42-volt electrical system, which is expected to be introduced early in the 21st century. Electrostatic filters are more efficient than the restrictive paper filters currently used by automakers. Electrostatic filters can block small items from entering the passenger cabin without reducing the airflow.

Engineers are also looking at other ways to improve air conditioner and heating operation. But they're starting in an unlikely place—the windows. Low-emissivity (low-e) glass has become common in home construction. *Low emissivity* means the glass reduces heat emission. The glass is treated with a transparent layer of vaporized metal. Automakers believe this technology could make vehicles more comfortable. It can keep the heat in and the cold out during the winter—and heat out and cool in during the summer.

#### **Action Activity**

Find out how an electrostatic system works. Draw a diagram that shows the major parts and how the system removes particles from the incoming air. Explain the operation of this system to the class.