

## Why an Oversized Air Conditioner Is Bad News

*An oversized air conditioner doesn't mean cool comfort for you. It means higher first costs, higher electricity bills, and a home that's uncomfortable to be in.*

- **Oversized air conditioners run up your utility bill.** An oversized unit short-cycles (runs for shorter periods of time than it should), and uses more electricity than a properly sized unit. Air conditioners operate more efficiently the longer they run continuously, and should be sized so they don't turn on and off frequently on hot days.
- **An oversized air conditioner can cover up other problems.** Ducts that are leaky or have constricted air flow, improper refrigerant charge, and dirty coils and filters can make an air conditioner work much harder than it should. An oversized unit may be able to put out cold air even when these problems exist. But these conditions can mean costly breakdowns and the spread of pollutants into your living space.

- **Oversized air conditioners cost more to buy and don't last as long.** Don't pay extra for an air conditioner that's too big for your house. The larger system will cost you hundreds of dollars more and give you fewer years of service—and *bad* service besides.

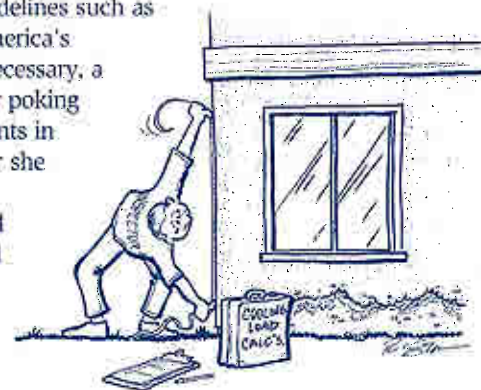
- **An oversized air conditioner makes your house clammy.** A unit that's too big can't dehumidify the air effectively because it runs for only short periods at a time. The indoor coil never gets cold enough to do its job of removing moisture from the air. An oversized unit will leave your home cold and clammy, especially in humid climates.

- **Oversized air conditioners are noisy.** The bigger the air conditioner the faster the air rushes through the ducts and grilles. Often the grilles are not designed for the larger unit, so the noise will get even louder as air tries to force its way through the small openings.

*There is no happy medium with an oversized unit. It delivers noisy blasts of frigid air, then shuts off while moisture builds. On hot days, it will do this repeatedly, making the home more and more uncomfortable as the day passes.*

## Tips for Buying the Right Size Air Conditioner

- **Don't use a contractor who wants to size your unit solely on the square footage of your house.** Contractors should calculate how much cooling a home needs according to guidelines such as the Air Conditioning Contractors of America's *Manual J*. To gather the information necessary, a contractor should spend about an hour poking around your house, taking measurements in each room and asking questions. He or she needs to measure floors, ceilings and walls—including all the windows—and check insulation in the attic, walls, and crawlspaces. Some other factors that go into the cooling load formula include indoor and outdoor temperatures, number of occupants, shading, siding, and roof color.



- **Insist on getting a copy of the cooling load calculations (or computer printout).** These can be useful in comparing bids from contractors. Question the contractor if the calculations do not include at least all the items mentioned above, or if they require an explanation.
- **Don't be tempted by the lowest bid.** Be willing to pay for the time the contractor must spend to do the job right.
- **Check for duct leaks.** Be sure air flow is not restricted by ducts that are disconnected, crushed, or too small for the system. Ideally, the contractor should use diagnostic equipment to find leaks and then fix them with quality duct sealants (*not* duct tape). It doesn't make a lot of sense to buy a larger air conditioner to cool your attic or crawlspace!
- **Buy a high efficiency unit.** Central air conditioners are rated by SEER, or Seasonal Energy Efficiency Ratio. New air conditioners are required by federal law to have a SEER of 10 or higher. Even though it will cost more, it is usually worth it to buy at least a SEER 12 unit because over time that initial investment will be paid back with energy savings. An easy way to identify SEER 12 and higher-rated units is to look for the EPA ENERGY STAR<sup>®</sup> logo. If you are replacing an existing air conditioner, you must replace the whole unit, including the inside coil and often the blower fan, to achieve the rated efficiency.
- **Install for ease of maintenance.** Make sure the inside coil can be reached for cleaning. The contractor may have to install an access panel, depending on the model. The coil should be cleaned every two years. The air filter should be located where it is easy to remove. Check it every month during the summer, and change or clean it whenever it is dirty.
- **Place outside unit on north or east side of the house, out of direct sunlight.** Leave plenty of room for free airflow on all sides, and at least four feet at the top. Keep the area free of debris and shrubbery.