

## Air Conditioning

### Your Home's Cold, Cruel Heart

*"Summer afternoon. Those have always been the two most beautiful words in the English language." – Henry James*

When summer afternoons arrive, we plan summer holidays, grill hot dogs, cheer for our favorite baseball teams, go hiking in the woods, cut the grass, nap in the hammock, read "The Goldfinch" by the pool, or swim in the lake.

And we'll join millions across North America in an annual ritual when we close the windows, utter a hopeful prayer, flip that little thermostat switch to ON, and listen intently for the sound, and more importantly, measure the feel of the cool breeze of a properly functioning air conditioning (AC) system.

Your AC system is the cold, cruel heart of your home during long, hot summer days. If you've properly maintained your system, we suspect your system will continue to have a clean bill of health. If your system has been left to its own devices, we recommend that you pray a little harder because the sound you hear may be the "cha-ching" from your draining bank account and your sick-and-tired AC system.

In this month's publication, we discuss short-term and long-term energy efficiency tips as well as maintenance advice for your AC system and what to do when common AC problems occur.

### Forget Aspirin, Your Thermostat is Your Home's Best Heart Medicine

The US Food and Drug Administration (FDA) recently initiated a firestorm related to taking baby aspirin; contrary to previously popular advice, taking aspirin daily to prevent heart attacks for those of us who, gratefully, haven't suffered from a heart attack already, may actually not be advised after all. Thankfully, advice about energy efficiency isn't that controversial – your thermostat is the best medicine for your home.

- **Set your thermostat high.** The smaller the difference between indoor and outdoor temps, the lower your cooling bill.
- **Program your thermostat.** Program the thermostat for high temps when you're not at home. Keep the temp high at night. You won't notice the difference when you're REM-ing.
- **Shield your thermostat.** Keep heat away from your thermostat – TVs, lamps, and queimadas all generate heat which can make your thermostat think it's warmer than it really is.
- **Nurture your thermostat.** Don't set your thermostat to "super cold." It's still going to cool your home 1°F at a time.
- **Buy your thermostat a friend.** Combine the power of ceiling or floor fans to circulate cooled air from an AC wall unit; circulating air is an easy and effective way to increase energy efficiency.



## Miracle Drug: How to Prolong Your AC

We've all seen the ubiquitous adverts touting the benefits of miracle drugs which purport to prolong just about everything, particularly libido. If only there were a miracle drug for making your AC system last, and not just for four hours. However, there are very simple, natural and inexpensive methods for prolonging your AC system's useful life:

- **No brainer, change the filter.** Change the filter every three months. Your system will work more efficiently and you may even notice that you and your family will breathe easier.
- **Pretend you're a vampire.** Revel in darkness. Close the blinds, shades and draperies that cover windows facing the sun; close east-facing window coverings in the morning and west-facing windows in the afternoon. Install shades or blinds that are white, which reflect heat away from the house.
- **Your AC system is smarter than you.** Seriously, set your system to auto. If you have central AC, set the fan to shut off at the same time as the compressor, which is usually done by setting the "auto" mode on the fan setting.
- **Can someone please close the windows?** We know it may be obvious, but our inspectors see it all the time – AC on, windows wide open. If your unit is on, close the windows and doors. For room or wall units, isolate the room as much as possible from the other parts of the home.
- **Plant a shrub, save the world.** Well, not really. But you *can* keep your outdoor AC unit cooler by planting trees or shrubs that can provide shade but still allow air to flow around the unit. If you can safely walk (not squeeze) in between your shrubs and the AC unit, you're fine. Shading your system can make the HVAC unit operate up to 10% more efficiently.
- **Back off, I'm a scientist.** The best defense against AC problems is to have your system checked regularly by a professional. Pick a reputable service company, sign a service contract, and make sure your system is maintained year-round, especially right before the heavy heat of summer.
- **Crack the ice.** No, that's not Jet-Puffed Marshmallow Crème. If ice builds up, turn off the compressor by switching your thermostat to fan mode, dial HVAC 911, and prepare to be hot. From dirty coils to poorly designed ductwork, there are many things that can restrict airflow and cause ice to accumulate and it's best left to professionals to figure it all out.



## Longer-Term Savings Tips

We recognize that it is cold comfort (get it, cold comfort?), but when your AC system finally starts to kick the bucket and you have to pony up for a new AC system, you actually have an opportunity to invest in more efficient technology.

- **Be an energy rock star.** Consider upgrading to an energy-efficient model, even if your AC system hasn't bitten the dust. Look for ENERGY STAR and EnergyGuide devices; single room AC units are 10% more efficient, and central AC systems are about 14% more efficient than standard models.



- **Try a whole-house fan.** Central AC is cool when it works but it's also expensive. Many homes, including homes in hot climates, use whole-house fans, which help to cool a home by pulling cool air through the house and exhausting warm air through the attic.
- **Right-size the window unit.** Buying a bigger room AC unit won't necessarily make you feel more comfortable during hot summer months. In fact, an AC unit that's too big for a room will perform less efficiently than a smaller, properly sized unit; an oversized unit will cool the room to the thermostat temp before dehumidification occurs, making the room feel "clammy" and uncomfortable.

### Common AC Problems

- **Refrigerant leaks.** If your AC is low on refrigerant, it was undercharged at installation or, more likely, it leaks. If the system leaks, you can add refrigerant until the cows come home but that's expensive, tedious and harmful to the environment. Much wiser to secure a trained technician to fix any leaks, test the repairs, and then charge the system with the correct amount of refrigerant. The performance and efficiency of your AC unit is optimal when the refrigerant charge exactly matches the manufacturer's specification, and is neither undercharged nor overcharged.
- **Electric control failure.** The compressor and fan controls wear out, especially when the AC turns on and off frequently, which is common when a system is oversized. Because corrosion of wire and terminals also is a problem in many systems, electrical connections and contacts should be checked during a professional service call.
- **Sensor problems.** Room AC units feature a thermostat sensor, located behind the control panel, which measures the temperature of air coming into the evaporative coil. If the sensor is knocked out of position, the AC unit could cycle constantly or behave erratically.
- **Drainage problems.** When it's humid outside, check the condensate drain to make sure it is draining properly. Room AC units may not drain properly if not mounted level, which could cause leaks and water damage.

### Keep Your Home's Heart Healthy

According to the US Department of Energy (DOE), heating and cooling consume a 56% bite from the average monthly utility bill. As energy prices march ever upward, "going green" is no longer a preserve for cutting-edge environmentalists. Why? Because energy efficiency doesn't just help our environment – it saves cold, hard cash.

Tending to the heart of your home is important for you, your family, and your budget. From Dad to dog, having a comfortable, air-conditioned home is one of life's simple pleasures even when it's a lovely summer afternoon.



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