Don't Let the A/C Go Out on the Hottest Day of the Year

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No matter where we live, we rely on our HVAC systems to keep us either cool and comfortable or warm and cozy. Sometimes though, the HVAC maintenance cost freezes us out.

And that's especially true when the system inevitably breaks on either the coldest or hottest day of the year. Or on a weekend when service call rates for an HVAC technician jump.

Maintaining your system can help prevent some costly emergency repairs.

But what really needs to be done and how much should it cost?

HVAC Basics

HVAC stands for heating, ventilation, and air conditioning. There are several different types of HVAC systems, but split systems with one component inside and another outside are the most popular for residences.

The components vary based on the climate where you live.

- **Furnace and air conditioner:** These are most popular in climates with extremes in temperatures, from cold winter to hot summers. Most furnaces are gas but some use heating oil. The condensing unit for the air conditioner is outside and the evaporator coil is inside. It's the evaporator coil that takes the heat and then sends it through copper lines to the refrigerant.
- Air handler and heat pump: In temperate climates, a heat pump is a good option. The heat pump heats and cools with just a reversal of the operations. A blower motor in the air handler delivers the hot air.

• **Furnace and heat pump:** In places where it is very cold, one heating system isn't enough. A dual fuel or hybrid system automatically switches from the heat pump to a furnace if the temperature drops too low.

All types of systems need maintenance.

"If there are issues that are creating a dirty or clogged system, that can have a negative impact on the performance of the system and wear and tear on the equipment," said Wes Davis, Director of Technical Services, Air Conditioning Contractors of America (ACCA). "That has very real consequences both on the life of the equipment and how well it keeps your house cool or warm."

Reasons for Preventive Maintenance

Treat your HVAC like a car. You change the oil regularly to keep the engine running smoothly and hopefully prevent you from getting stranded on the side of the road. The same is true for the HVAC system.

Being proactive instead of reactive can save you money as well as:

- Preventing breakdowns.
- Improving the quality of the air inside the home.
- Reducing energy costs.
- Extending the life of the system.
- Providing proof of maintenance to keep warranty coverage.
- Keep dangerous carbon monoxide from entering the home through a crack or leak.

The frequency of the maintenance depends on several factors.

"A relatively new system may not need to be checked as often as a mature system," Davis said. "It also depends on the region of the country and where the equipment is installed. If it's in a hot attic in the South where the temperatures really climb, that equipment is going to experience more wear and tear than one in a basement in a fairly dry environment where the equipment will last many years longer."

Ultimately, Davis said it's up to you and your HVAC specialist to decide on a maintenance schedule based on your system and climate.

HVAC Preventive Maintenance

Some regular HVAC maintenance is easy enough for any homeowner to do. Other tasks require a trained professional.

Changing the air filter is one of those easy tasks and should be done every one to three months. The filter is often in the air return area before the airflow makes it into the unit.

More expensive high-efficiency filters, such as HEPA, are not always better.

"If you have a system that's designed for a low-efficiency filter so that air passes through it very easily and you pull it out and replace it with a very high efficiency filter, they are more restrictive so air cannot move through the system and that does have dire consequences," Davis explained. Low airflow can cause components to overheat and shut the system down.

But letting more air through can also mean more junk makes its way to the coils, causing them to get dirty.

Change these filters more often if you have allergies, pets, or if the unit is in constant use.

A 20-by-20-inch air filter sells for \$2 to \$12 depending on quality. That is a popular size, but make sure you know what size your unit needs. There are dozens.

Davis said it's also important to:

- **Clear the space around the outdoor unit:** Make sure there is at least 2 feet of space around the compressor. Remove leaves and vegetation that are too close. Trim trees that could drop leaves and seeds onto the unit.
- **Clean the condensing unit:** The metal fins on top get clogged with dirt, pollen, and other stuff. Use a regular garden hose to do this, not a power washer which could damage the delicate fins. Use a fin comb to gently bend back any bent fins that block airflow through the coil.
- Make sure the unit is level: The compressor could fail if it isn't.
- Clear drain pipe and drain pan: Blockages can cause leaks or backups.

If you have a furnace, turn off the water to the humidifier in the summer when it isn't running. Before it gets cold, replace the filter in the humidifier and turn the water back on.

For window units, make sure the seal between the air conditioner and window is solid and that it makes contact with the metal case of the air conditioner. Moisture can damage the seal and allow cool air to get out of the house.

While some tasks are easy to do, there are others you should leave to the professionals. Depending on where you live, maintenance checks can cost anywhere from a special price of about \$30 to more than \$100.

Davis said the difference between what services companies provide and what they charge for them led the ACCA to develop national standards. The standards created a set of minimum tasks that should happen at an HVAC maintenance inspection. Technicians should:

- Flush the coils.
- Check the drainage.
- Vacuum blower compartments.
- Look at the voltage and all connections.
- Check refrigerant levels.
- Look for any leaks which could cause the system to run harder than it should.
- Lubricate the motor.
- Clean the condenser lines.
- Measure the airflow through the evaporator coils.
- Inspect all accessible ductwork for areas of moisture accumulation or biological growth.
- Inspect safety devices.

Some HVAC companies have annual maintenance plans, which may include priority service, so ask the company you use about possible benefits of having these plans.

Davis recommended asking the HVAC company what tasks will be performed during the maintenance call, adding that some of the less expensive companies are looking for lead generation and new customers instead of preventing problems. In addition, he suggested asking if a company follows the ACCA standards or belongs to a trade association.

"Things like that tend to point out the contractors who do better work," he said.

Signs of an HVAC Problem

Even if you maintain your HVAC system, problems can certainly still happen.

Signs of possible problems include:

- Warm air is coming out of the vents when the AC is on.
- The system shuts down on its own intermittently.
- The temperature is not balanced around your home.
- Noises are louder than usual while the unit is running.
- Energy bills are higher than usual

At the least, Davis recommends scheduling a maintenance service call if you can't remember the last time you had one.

Tiffani Sherman is a Florida-based freelance reporter with more than 25 years of experience writing about finance, health, travel and other topics.