

Shutting Off Central Air During Long Weekend

Can anyone shed some light? My wife and I disagree (surprise) about whether when leaving the house for a longer period of time, eg a weekend, it is better to shut off the central AC or set the thermostat on a higher temperature and leave it on.

She says by turning it on again the AC has to work harder to bring down the temp which means more energy use and strain on the system. I say what difference does it make- either its running or it isn't and why cool an empty house?

Fwiw I left the AC off this weekend and came home to interior temperatures in the mid 80s. The ac brought the temp down to a tolerable high 70s in about an hour and a half and then down to low 70s about 2 hours later.

Thanks

If I understand the way they work correctly, AC systems do the same thing to cool your home whether it's at 85 or at 72. They don't work any "harder" at it if they have farther to go - it just takes longer. If you can deal with having the house in the mid-80s (and there isn't anything, like pets or spouse, who would mind), I think it saves energy to leave the AC off altogether.

Carl Archer, New Jersey

Do you want to die on this battlefield?

If not, "yes, dear" is your best answer.

Personally, I'd concede this one.

Andrew
Andrew Flusche, Virginia

First, back in the day when I made living as a line mechanic in a chemical plant, my maintenance supervisor used to say "It's a machine. It doesn't get tired. It doesn't 'work harder', it only works or it doesn't".

You're better off shutting it down. In fact, I always shut down the A/C when I leave the office at the end of the day and turn it on when I come in, and definitely shut it down over the weekend.

Look:

Unless you are setting the thermostat so high that it essentially doesn't cycle on at all, it's always going to be cheaper, use less electricity and

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less work to cool down after a period of being off than cycle off and on and off and on; the compressor doesn't care whether it runs for an hour and a half for one period or whether it runs for 30 minutes for three periods or 15 minutes six times; the total run time is identical. And, because there are certain natural variations in the temperature over a weekend, it will cycle on each time to lower the temperature to the desired point; and then as heat comes into the house, it will cycle on again to reach the desired temperature again and again. Total usage, a LOT more than shutting it off and then turning it on later to reach particular temperature.

See, for instance:

<http://www.rodale.com/efficient-air-conditioner-use>

and

<http://michaelbluejay.com/electricity/cooling.html>

Heat goes to where it's not. That's why heat from outside goes into your cooler home. With the AC off, at some point your house will be so hot it can't absorb any more heat. When you come home and turn the AC on, the AC removes all that heat.

But if the AC is on when you're gone, then you've turned your house into a heat magnet. But keeping it artificially cool, there's no limit to the amount of heat it can absorb. It can always absorb more heat. And your AC has to remove that heat constantly. Your AC kicks in and removes some of that heat, then the house is cooler so it sucks in more heat from outside, so your AC kicks in again and removes that heat, and so on.

This means that throughout the day, your house has absorbed way more than one houseful of heat. And your AC had to remove it all. By contrast, with the AC off all day, then it has to remove just one houseful of heat when you come home and turn it on.

Let's say you leave the AC off, and your house absorbs 20k BTU's of heat and then stops, because that's all it can absorb.

Now let's say that you have the AC running instead. The house absorbs 5k BTU's of heat, so the AC kicks in and removes it. Then it absorbs another 5k BTU's, and your AC kicks in and removes that. Repeat that process several times during the day.

The actual numbers will vary, and I haven't tested this to see exactly how much the penalty for leaving the AC on during the day is, but there is zero question that running the AC all the time uses more energy than turning it on when you get home. This is not a gray area, it's simple physics, and no person with any knowledge of this subject disputes it. Running the AC when you're not home wastes energy, period.

Ronald Jones, Florida

The only suggestion I would have is that if you are unsure whether you are correct or not, give in and let her be right even if you doubt her wisdom. Doing so will get you further than proving her wrong. "A woman convinced against her will, is of the same opinion still."

FWIW

Marilou, a nonlawyer who would rather be appeased than proven wrong when it really doesn't matter and who would hasten to point out that leaving the air on will keep the humidity down so it will feel much cooler than it really is, Virginia

It depends on how hot and humid it gets while you are gone.

In the late 80s when I was living in Houston, we left our air conditioning off for a week in August while we were on our honeymoon. It never got above the mid 90s while we were gone, but the humidity was 100% most of the time (typical for Houston). When we got back, part of the sheet rock ceiling had caved in from the humidity.

Ever since, whenever we go out of town for a few days, we leave the AC running with the thermostat set around 85.

Neal A. Kennedy, Texas

The key to a successful marriage is for the wife to know who is boss and to occasionally allow the husband to pretend that it is him.

Also, after any disagreement, the husband should remember to recite these simple words: "You were right. I was wrong. I'll never do it again."

Neal S. Kennedy

Just program the thermostat to go to the temperature you think the house will heat to while your gone. Then, about an hour before your due back home, program it to go to the temperature you want it to be at.

TADA you BOTH WIN. You've not turned it off, but set it high enough that it won't kick on (or will rarely) and she will come home to an already cooled house (because that is what she really wants you know)

Erin M. Schmidt, Ohio

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1. As pointed out by others, it does not matter generally who is right in the disagreement. It frequently is a no-win situation when you understand the real problem is she doesn't want to do it.
2. No great harm in setting thermostat to 85 for vacation. It is a common solution.
3. Nothing technically wrong with your position in terms of the equipment. However, one does have to look at house plants, candles and other items that may decline in temps above 85 degrees. Biggest issue is that you are probably really having an issue because she does not want to come home to a hot house.

Darrell G. Stewart

Your wife is right.

Rod Alcidonis, Pennsylvania

Well, Robert, think about this...what about all those houses on the East Coast who have lost power since Friday night. Temps in triple digits, very high humidity. How long, once the power is restored, will it take to cool the house down to tolerable levels? The entire house is now at the same (or close to) the outside temps. So, once the air is first cooled off, the contents and the structure will still be radiating heat. For hours to come.

Now, if you live in a locale with low humidity, it's not quite so bad.

But, like Neal Kennedy said, I live in Houston. I was out of town for 4 days. I turned to AC off. The outside temps were in the upper 90's.

Inside temps were about 90. The AC ran for hours to get the placed cooled down to where it was comfortable, in large part due to the humidity.

Set it at about 82 and don't worry about it.

Tom Simchak, Texas

My father would quote "A man convinced against his will, is of the same opinion still." I haven't heard that since he died in 1991 at the age of 89. Thanks for the memories.

William B. Richards

Neal nailed it. The real issue is the humidity. And a humid house will also destroy electronics.

Andy Simpson, U.S. Virgin Islands

Absolutely unarguable point. Well said, William's father.

Kathleen Havener

Install a thermostat that you can control from your smartphone or any internet-capable computer or tablet. Leave the a/c off for the weekend, and with your phone turn it back on several hours before you get home.

My mother was having a difficult time figuring out how to use her thermostat, and at least once a week I had to go over to her house and reset it after she or her caregiver pushed the wrong button. So, I did some research and decided to install the Bay Controls internet thermostat. It lets me control the a/c and heat via an app on my phone as well as via the company's website. It's a terrific piece of equipment!

My \$.02.

Scott I. Barer, California

Happy wife, happy life. Enough said.

Anna D. Collins Ford, Paralegal

If you live in an area that is susceptible to mold (i.e. South Florida) it can develop in some cases in as little as 36 hours. The thought of leaving an air-conditioner turned off here for a long weekend, is a bad thought.

Danny E. Meek
