

Ken Field

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Poor Motors

The most efficient and least stressful condition for an electric motor, except when it is off, is when it is running at full speed and under a load that it was designed for. Startup is the most stressful and least efficient time for a motor and even though it only happens for a second, it can add up. That is one of the reasons that I explained last week for not oversizing a system. When an air conditioning system is oversized, it will start and stop too often. On any day that it is not 95° outside every system is oversized because it was designed to run 100% of the time on those hot days. Every system will start and stop a few times an hour and that's fine but they are happiest when they can just keep running. A good thermostat can also help to eliminate wasteful short cycling. The motors on the indoor and outdoor units are designed to run constantly for any duration. They don't need rest, they don't need a drink, they don't need shade, and they don't charge for overtime service. The fan motors are cooled by air as hot as 200° because they run hotter than that and the motor inside the compressor is cooled by the residual vapor coming back from the indoor unit. When a system runs low on refrigerant, the compressor is the first part to know it. That residual cooling is lost and the compressor starts to run hot. If it gets hot enough there is an internal sensor that turns it off so it can cool down for a while. If the situation isn't resolved, eventually the house will get warm because the compressor isn't working enough. It is very common for us to have to run water over a hot compressor to get it to cool enough to operate so we can add refrigerant. Short cycling only makes it worse because motors make a huge amount of heat in the few seconds it takes them to reach full speed so the overheating problem may show up on days that aren't even scorching hot.

Here's the money saving tip for the week. DO NOT turn off your air conditioning system because you think it is running too long. Turn it off if it is on fire or making so much noise that you can't sleep or if water is coming through the ceiling or you see ice forming somewhere. Otherwise don't be so compassionate for an electric motor that you give it a rest and make yourself overheat. This article was made necessary by several phone calls I received this week.

Ken Field is the owner of Slate Belt Energy and Field's Service, Inc. As a certified energy rater and contractor, he is qualified to assess every aspect of energy usage and prescribe solutions to save energy. He can be reached at 610-759-6306 or email Ken@FieldsService.com



SECOND SATURDAYS at the 1753 BACHMANN PUBLICK HOUSE

By Michael Ortoski

EASTON - The Northampton County Historical & Genealogical Society is proud to announce Second Saturdays at the 1753 Bachmann Publick House in downtown Easton! You and your family are invited to visit monthly for tours, special activities, and programs at this beloved National Register structure.

Drop in after visiting the Easton Farmers' Market and other area shops!

On August 13, enjoy exploring this important historic site from 9 a.m. to 2 p.m. with our friendly guides. Don't miss a special presentation of traditional, live Irish music in the historic Tavern Room from 10:30 a.m. to 1 p.m. The Lenape Nation of Pennsylvania's Cultural Center and Trading Post, housed on the ground floor of the 1753 Bachmann Publick House, will also be open.

Future 2022 dates are: September 10, October 8, November 12, and December 10.

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