

How To Clean Your Computer

It amazes me day in and day out how many computers come to me for repair because their owners didn't clean them out. It's no exaggeration to say that one system in ten sent to me for repair has a hardware failure of some sort caused by an excessive accumulation of dust. It's not just the novice or the office worker who is guilty of this, either. It's even the DIY and enthusiast crowd. Just last week I saw a HSF review on a hardware website that will remain nameless, and I could barely even see the motherboard, it was so covered in dust. If you run your computer in a dusty area, or if you smoke in front of your computer and you don't regularly clean out your system, you are playing Russian roulette with a single-chambered gun.

Here's why: Dust and nicotine coat the inside surfaces of your computer and act as insulation, thereby reducing the ability of the electronic components therein to radiate heat. This in turn leads to higher system temperatures. That's all nice, Jim, but what does it mean? It means that your parts will fail far more frequently than they should, especially your power supply. More sinister and fortunately far less common is the potential damage caused by thermal expansion and contraction, which may lead to a hairline crack in a trace on your motherboard. These are a complete pain in the ass to troubleshoot because they are often mistaken for some other type of failure and usually can only be fixed by replacing the board. I have once repaired a motherboard trace by building a soldier bridge, but it took me a vice, a magnifying glass, and four hours to do so.

As an example of a fault caused by thermal expansion, take a common light bulb. When a light bulb burns out, most of the time it is when you turn it on or off. What happens is that in the split second that the current runs through the filament when the light is first switched on, the filament is cold. As the current rapidly heats the filament, it expands. Repeated expansion and contractions make the surface brittle, and it eventually breaks. We call this break an open. Now when this happens on a motherboard where there are many such current paths, we get an intermittent failure.

Fortunately, all of this is very easily prevented. Go to the store and buy a can of compressed air, if you don't already have one lying around for spraying Doritos crumbs out of your keyboard. Yes, it is ridiculously over-priced; knotholes, grit your teeth, sell a kidney, and buy a can. Resist the urge to substitute something cheaper, my fellow cheapskates, such as a hair dryer and a lint free rag. Trust me on this one.

As for cleaning up the nicotine, don't smoke. Hasn't anyone ever told you that it will kill you? If you still insist on doing so, don't do it while sitting in front of your computer. Nicotine coats your motherboard components with a thin film so hard to remove I would have to write another article longer than this one to explain to you how to fully and safely do it. By the way, this means you, too, Dad. Thought I would throw that in, in case my father's reading this. I spent several hours cleaning the inside of your computer when I wanted to be watching that football game.

So now you have your can of compressed air. Once a month, take the sides off your case. Take what's left outside; you'll thank me later for that part. Take your can of air and point the straw toward the back of the power supply on the backside of the case, and let go a ten or fifteen second blast until the power supply fan is clean. Don't be concerned if this blows a large cloud of crap out the other side. We will get to that next; there's a reason why we do this part first.

Next spray off all the dust you see in the case and on the motherboard itself. Also spray off your HSF, as dust has a habit of collecting there. Now, do the same to your chipset, if you have a motherboard with active cooling on the chipset. Look around for any stray dust; some may be hiding by the memory and a few other places, depending on the design of your case. Now reassemble everything and enjoy! You are finished. By the way, if you want to ignore all this, feel free. I could use all the repair money, and if too many of you follow my advice and start doing this, I might have to sell a kidney of my own.

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