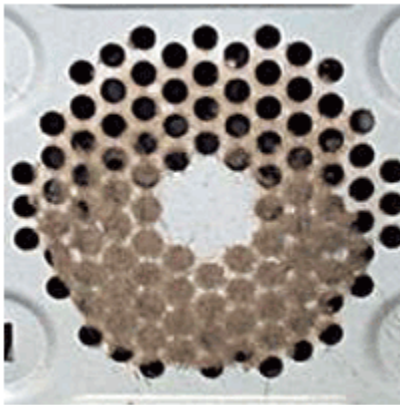


# COMPUTER MAINTENANCE

Many people don't think of their computer when doing a bit of cleaning around the home, but perhaps they should. We're talking about an effort far less unpleasant than doing windows or cleaning the bathroom, and the use of a can of compressed air can take care of a bulk of the work for you.

Cleaning your system on a somewhat regular basis can easily help extend the life of components, increase system stability, and reduce noise. This Tech Tip will take a look at a few areas to focus on, and all you really need to do is open your case and pull the trigger!

## Case Fans



A well-designed computer case will have at least two (sometimes many more) case fans in order to exchange air with the room in order to cool the internal components. With the typical home computer being installed in, well, the typical home, it is reasonable to expect things like dust, hair, pet fur, and so on to be drawn into these fans.

The blades of the fan, as well as the walls of the fan's frame, can grab hold of this debris which creates a thin film that can eventually grow in thickness. As it does, the cooling performance of the fan will decrease and more than likely the noise produced by the fan will increase. In addition, as the fan motor has to work harder to overcome the extra load and resistance created by the debris, the life of the fan can be expected to be cut short. A

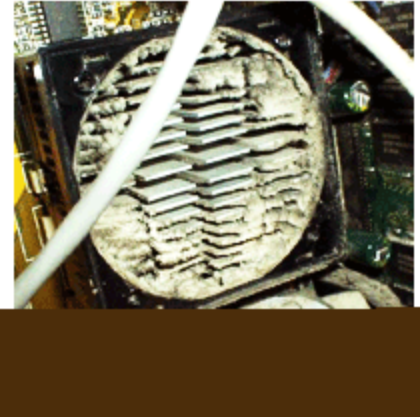
healthy blast of canned air will knock a good deal of this dust and debris away, and if the fans are running while the blast is administered, they will hopefully eject all the dust out of the case. If not, it should settle to the bottom of the case, and a cloth can be used to wipe it clean.

In addition to gunking up the fans, dust can also cover the fan grills, or other types of guards, intended to protect fingers from the spinning blades. Keeping these clear will allow the maximum airflow for efficiently cooling the components, as well as cutting down on noise created by the air trying to flow past a restricted opening.

Some case manufacturers now include removable filters in front of their case fans in order to make maintenance easier. These filters can then be removed and blown clean, while the fans and case internals remain relatively dust free. For those without such a thoughtful feature included in their case, fan filters are available in standard sizes to be added to just about any fan.

## Heat Sinks

Heat sinks are necessary for cooling the heat-generating chips inside your computer, and keeping them clean will help them keep your machine running smoothly. Whether we're talking about a CPU heat sink, or something like a VGA heat sink, dust and debris can not only cling to the blades/walls of the fan, but can also become trapped between the narrow fins of the heat sink body.



As with case fans, a dirty heat sink fan will suffer a drop in cooling efficiency, create more noise, and perhaps have its life shortened. The heat sink body, generally constructed of aluminum or copper, is the means by which the heat from the chip is transferred to the air. A layer of dust will act as a blanket and insulate the heat sink, thus preventing it from freely exchanging heat with the air.

### Keyboard



Keyboards seem to suffer most when it comes to accumulating the debris of every day usage. Not only do they gather dust and hair like most of the other components discussed, but they seem to be magnets for crumbs of food, cigarette ashes, and just about anything else that can slip down between the cracks. Eventually a keyboard may look too gross to actually want to use, and you may even find that the key action is less responsive or even blocked by items under the keys.

A sweeping blast of canned air will work wonders to eliminate the debris, and for best results hold the keyboard upside down while doing so. It might not hurt to give the keyboard a good shake while it is upside down, but be prepared as you never know what might fall out.

### Mice

Optical mice may be more immune from dust than the old roller ball mice, but both styles are still prone to diminished performance caused by dust. Roller ball mice require fairly frequent cleanings in the socket around the ball, as it can sweep just about anything you roll over up into its mechanism. Optical (and laser) mice have a smooth bottom surface that may not have anywhere for dust to gather, but there are still places for it to settle elsewhere.

The buttons on either type of mice are generally not sealed, and junk can get into the small cracks around the edges, potentially interfering with the click action of the device. In addition, the area around scroll wheels can easily become gunked up with dust and debris, which a blast of canned air can alleviate.



### Power Supply

Power supplies are much like heat sinks with respect to keeping them clean. The housing of a power supply features a fan (or two) used to cool aluminum heat sinks found inside, and the same issues



that impacted the performance of a chip's heat sink and fan will be found in a power supply.

Overheating power supplies can be a major cause of system instability and failure, but it seems like they receive the least attention when it comes to preventive system maintenance. A good blast of air through each of the fan openings and vents on the side can help keep these critical components operating well.

The components of a power supply run hot due to the resistance in the process of converting the 120V AC power to the various DC voltages needed inside the computer. Power supplies with better efficiencies are now available which reduce the heat generated, but keeping the fans and heat sinks free of dust will help keep them doing so for a much longer time.

### Laptops

Laptop computers can benefit equally from a cleansing blast of air. For example, the integrated keyboard and pointing device can get the same crud behind them as a desktop version and inverting the laptop and giving a blast can set this debris free.

The processor in a laptop computer may not be as readily accessible as in a desktop, but there are vents in the housing that lead to it. One set of vents allow a cooling fan to draw air in, and another set of vents allow the heated air from the processor to be expelled. Giving these vents a puff of canned air will help ensure that the pathway doesn't become restricted and that the processor's heat sink doesn't become insulated by a layer of dust.



Source: <http://www.geeks.com/techtips/2005/techtips-AUG04-05.htm>