

Preventative Maintenance Physical Cleaning (Part 1)

by Ross Hendry



Keeping your PC in tip-top condition protects your data and investment in technology. In last month's article I looked at backing up and this month it will be a physical clean-up.

Public enemies of your PC are moisture, heat and dust. Dust is the pest often responsible for blocking airflow and creating heat that does the real damage! Dust will clog and stick to the cooling fans, it will block airways and vents and this eventually leads to overheating, in turn causing thermal runaway. (Thermal runaway refers to a situation where an increase in temperature changes the conditions in a way that causes a further increase in temperature, often leading to a destructive result. It is a kind of uncontrolled positive feedback. Wikipedia).

Dust will corrode components and electrical contacts and junctions, and if your room gets damp this will accelerate the corrosion. Remember that damp may be caused by temperature changes - if a room gets hot in the day then very cold at night, this may lead to condensation building up in the room, allowing damp in the air. This sticks to the dust obstructing the airflow in your PC and even more damage may be caused. If the dust levels in your PC are high you may even get an electrical short that could cause fire!

To physically clean your PC you will need some lint-free cloths or specialist PC wipes and some PC cleaning fluid (normally this is a very weak solution of isopropyl alcohol and distilled water). You could look for TV cleaning kits for LCD and LED TVs, this will have the correct cleaning solution or fluid and cloths. I also use a clean, unused, 1" paintbrush, cotton-buds, a can of spray duster (compressed air) and a vacuum cleaner.

Before cleaning make sure to turn off the PC and unplug the mains cable from the wall socket. I unplug all cables as these get a good wipe with a damp cloth as well, if you are not sure where they go, simply do one at a time and plug it back where it came from.

External Case Cleaning

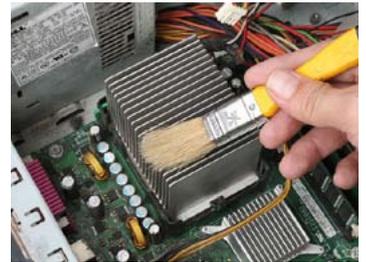
I use a very mild washing-up liquid/warm water solution and a moist cloth to wipe the outer cases. The secret here is to wring-out the cloth pretty thoroughly before wiping the case to reduce the moisture levels as much as possible. If you are able to remove the panel you are cleaning from the case/tower, so much the better, but do not put the PC back together until the panel you have cleaned is thoroughly dry. A far safer way is to use proprietary wipes and discard them when they get slightly contaminated as you will spread more dirt and grime around your PC if you let them

get too dirty. When cleaning the case ensure you spend time making sure all of the air vent holes are unblocked and clean, this is where the paint brush and cotton buds are great. Once you have removed the dust, give each surface a wipe with the cleaning fluid to get rid of any residue that more dust can stick to.

Internal Cleaning of the PC case/Tower

Before removing any access panels, make sure you have unplugged the PC from the mains connection. I also remove any network or modem cables. Ideally you will use an anti-static wrist strap connected an earth point, but in practice most people do not own one. So to prevent static discharge damaging the delicate internal electronics, discharge any static you may have by 'earthing' yourself. This means simply touching something metal, then doing the cleaning before moving away and collecting more static. If you do get distracted, remember to discharge any static before you start again.

First take a picture of your PC's internals, this is just in case you dislodge a cable, plug or other component. You can refer to your picture to ensure everything is where it should be when you are finished.



Now you should get rid of the dust, I try to loosen the dust first by using the spray duster and paintbrush, paying particular attention to the air vents and any cooling fans. There are usually at least three of these, one on the CPU, one on the case and the fan in the power supply unit. It will be difficult to get at this one because it is sealed in a metal case, but try to use the spray duster to get rid of what you can and then use the paint brush and/or cotton buds to get the grime off the fan blades. Finally, once you have removed the dust use a wipe or an almost-dry cloth to remove any grime that more dust could stick to.

Whenever you are removing dust with the air duster or paint brush try to capture it by having a vacuum cleaner near to where you are brushing/dusting, but not in the PC. This is because fast moving air especially from a vacuum cleaner can create static electricity. I try to brush the dust towards the vacuum nozzle. This is the best way to clean your keyboard, simply tilt the keyboard towards the vacuum nozzle and brush or spray the dust toward it.

Remember! You are cleaning a precision instrument so take your time and be thorough, you should not need to do this too frequently depending on the conditions of your room. If it is a clean office, once a year should suffice - if it is in a workshop or somewhere where there is a lot of dust, such as a room with a log burner or open fire, you may need to do this monthly or even weekly.

Ross Hendry is the proprietor of Interface Consulting and Engineering, who has over 42 years experience in Communications, Computer Technology and Direct Marketing. (See advert below).

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