

- dunhills -

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Reducing heat inside your laptop/desktop

Heat buildup can cause problems for any computer. Generally, when temperatures inside the case rise above 35 degrees Celsius (95 degrees Fahrenheit), the risk of damaging important internal components increases greatly. The most common cause of overheating is the accumulation of dust inside the computer. The electrical components in a computer generate heat and fans inside the computer help move the air to keep the components cooled to normal operating temperatures. Inadequate cooling can cause excess heat to build up inside the case which can damage components. The sound of the fan running all the time may indicate that the computer is not running as efficiently as possible and that there is a problem with accumulated dust clogging the air vents.

Symptoms of heat issues and causes of excessive heat

The following list describes some of the issues caused by too much heat in the computer:

- Games stop responding during play.
- Windows stops responding during use.
- Fans inside the computer become louder because they are spinning faster to remove the heat.
- When starting the computer, it sometimes stops at a black screen and does not open into Windows. Windows usually stops responding when it does open.
 - Mouse and keyboard stop responding.
- Windows 8, 7, Vista, XP - Computer unexpectedly restarts or displays a fault message.
Windows 95, 98, and Me - Frequent Fatal Exception, Illegal Operation, or General Protection Fault error messages occur in several software programs.

NOTE: These errors are not predictable. If these errors occur only in one software program, the issue is probably related to that software program and is not heat related.

The following list describes some causes of excessive heat:

- Dust inside the computer.
- A new component, such as a hard drive, is added. The extra component causes the power supply to work harder and generate more heat. Extra heat also radiates off the new component and adds to the temperature inside the case.
- Over time, some cooling fans might slow down and wear out, depending on the usage of the computer.
 - High ambient room temperature.

Step 1: Remove dust and lint by cleaning vents

Notebook PCs have vents located around the case to allow air to flow through the case. If these vents become clogged or heat generating parts become covered with dust, the fan cannot cool the components properly. Lint and dust accumulation prevents air from flowing around the cooling fins and causes the fan to work harder. If there is dust in the vents, you should clean the computer by blowing out the dust from around the fan and heat shield. This prevents dust from accumulating.

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Dust accumulation

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Figure 1: Dust accumulation



Figure 2: Dust accumulation around fan



Removing the dust increases the air flow to improve cooling and allows the fan to run quieter.

Step 2: Ensure proper space for ventilation

Proper ventilation for the system is important for workstation operation. Follow these guidelines to ensure adequate ventilation:

- Keep the computer upright and on a sturdy, level surface.
- Provide at least 15.25 centimeters (6 inches) of clearance around each vent.
- If the computer is being used at very high altitudes, above 1500 meters (5000 feet), take extra care to keep the computer cool. The maximum limit of 35 degrees Celsius (95 degrees Fahrenheit) drops 1 degree Celsius (~34 degrees Fahrenheit) every ~300 meters (1000 feet) of altitude.

Step 3: Book you laptop/desktop into dunhills workshop for professional cleaning