

SPRING CLEANING YOUR COMPUTER

A Seminar
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Routine preventative maintenance can spell the difference between a reliable computer system and one that is prone to irritating and hard-to-diagnose problems. Just as tuning up your engine, rotating the tires, and changing the oil are necessary aspects of car ownership, so are the physical and operating system tasks that will be covered during this presentation. Some of these tasks will take some of your time and patience, but you'll be glad that you completed them in the long run.

Cleaning (with Extreme Care) Your Tower's Innards

Dust is the enemy of all computers. Dust clogs air vents in your computer case, diminishes the ability of your fans to cool your system, gets into your CD/DVD drive and floppy drive (if you still have one), and finally, makes the inside of your computer look like an attic in an old vintage 1880 Victorian house. Luckily, dust is one of the easiest problems to address during spring cleaning. By using a can of compressed air (available at such stores as Costco, OfficeMax, Office Depot, and Best Buy), cleaning your computer can be an easy task.

Follow these steps to clean the inside of your tower:

1. First, shut down your computer, unplug any power cords to avoid electric shock, and open your case. Many cases have "tool-less" chassis that use knurled screws to hold the panel in place. Others have screws that require a small Phillips-head screwdriver. Once the screws have been removed, the sides of the case should slide out towards the back of the chassis.
2. After the two sides of your case have been exposed, either place your tower on an antistatic mat or use an antistatic grounding strip to protect the computer's components. Static discharge can easily ruin your computer's electronic parts. At the very least, make sure that you touch the frame of the tower to minimize the charge of static electricity that could be transferred from your body to the computer's components. Also, it's best to open the computer case in an area that is **not carpeted**.
3. Looking inside, you'll see three main components: the motherboard, the power supply, and your storage devices [hard drive(s) and CD/DVDs drive(s)]. There will also be some small fans as well as a bevy of cables connecting all the components.

4. Before you begin blasting everything in sight with compressed air, take a moment and pick your targets. The main priority in this task is similar to the physician's credo, "Do no harm." Removing all the dust and debris is your goal; damaging your computer is clearly counterproductive.
5. Carefully blow compressed air into your computer case, using the wand (plastic straw) that comes with the can. The wand will help you direct the airflow with precision. Read the instructions on the compressed air container, paying close attention to the admonition to keep the can in an **upright position**. You'll be surprised at how much dust can accumulate over time, even in a "tight" Sun City home! (For this reason, you may wish to perform this cleaning function in your garage or out on the patio!)
6. Pay special attention to the fan blades as they tend to accumulate hard-to-dislodge dust. Here is where moist (alcohol-dipped and finger-squeezed) cotton swabs will come in handy. You may need to use several. Make sure that you don't leave any cotton fibers behind.
7. If your computer has an accumulation of dust balls, use your vacuum's wand attachment to carefully remove the offending items. **Be cautious about applying too much suction at or near the components, as you might inadvertently dislodge something.** If no dust balls have accumulated, do not execute this step.

Checking Your Fans

Your computer relies on fans for cooling. Although reliable, they can and will eventually fail. Many Motherboards have fans directly attached to them; should this fan fail, your Central Processing Unit could be damaged.

Most computer power supplies have a fan for cooling, and the power supply will overheat if the fan fails. **The lack of sound is the best indicator that your fans have stopped.** If it seems just a bit too quiet, take a look and see if the fans are functioning. If not, replace them immediately. The Club's Tuesday afternoon Hardware SIG can assist by advising you concerning replacement fans and by helping you with the actual installations. There is no charge for these services.

Checking Your Hard Drive

Listen for auditory signals. Like many machines that have moving parts, your computer is a constant drone of humming and whirring. We tend to ignore these sounds until one day we hear a different note, perhaps a clicking or scraping sound that may mean a bearing is on its way out. It may even be the absence of a sound. These are the clues for which you should be aware. (Note that a new sound or a new

silence does not always mean that your hard drive is failing. Most of the time it is an indication that one of the fans is on its last throes.)

If your hard drive is starting to fail, however, the auditory clues it provides may give you enough time to save your valuable data. If you hear any type of scraping noise emanating from your hard drive, now would be a good time to perform a backup of your data to another medium.

Inspect your hard drive for errors. Hard drives are sensitive components. Not only can moving your computer while it's running damage a hard drive, but so can a sudden (too-fast) reboot, power failure, or system crash. (We will discuss Windows Chkdsk, Disk Cleanup, and Scandisk utilities later in the seminar.

You may wish to check the hard drive manufacturer's Web site and see if they have any diagnostic programs for your hard drive. These diagnostic tools can help you determine if the drive is still safe to use or if it should be replaced. Western Digital, Maxtor, and Seagate, all popular hard drive manufacturers, offer diagnostic tools at their Websites. Look in your CD collection. Perhaps a hard drive diagnostic tool is included. Many replacement hard drives come with a diagnostic CD.

You can get the manufacturer's name (or its abbreviation) by clicking **Start>My Computer>** Right-click the drive (probably C:)>and click **Properties> Hardware tab**.

Cleaning Your Keyboard

After you clean your computer case with compressed air, blow out your keyboard. The easiest way is to simply start at one end and work your way to the other. This should dislodge most crumbs as well as remove dust.

If you have stains from beverages, wiping your keyboard with a soft cotton lint-free cloth dampened with tap water will usually do the trick. Most of today's keyboards let you pop an individual key out of the keyboard if necessary. **Make sure that your system is shut down when you do this. Only pop a key if that key is not functioning properly!**

Cleaning Your Monitor

LCDs (liquid crystal displays) are among the most expensive computer monitors on the market so if you own one you should do your best to keep the display in tip-top shape. Since the LCDs are more sensitive than their CRT (the big and heavy cathode ray tubes) sisters extra care needs to be used to clean the screens. Instead of using paper towels or an old rag you should invest a few bucks in a **lint-free micro fiber cloth**. These cloths are readily available at most computer supply stores such as Office Max, Office Depot, or Best Buy and are composed of tiny crevices that pick

up the dirt particles and hold them in microscopic pockets. If you are a Costco member, check their automotive section for a significant bargain on micro fiber cloths. By storing the dirt and dust particles in these pockets, the towel keeps you from scratching the LCD's sensitive screen with the dirt that you were trying to wipe off.

Cleaning your CRT monitor is easy. By using a clean soft cotton lint-free cloth and plain tap water, you should be able to remove most fingerprints and stains. DO NOT spray a window cleaner solution of any kind (including water) directly on to your monitor.

Wipe down the outside of your computer case with the same cleaning cloth. This will remove any stains or dust.

Cleaning Your Ink Jet Printer

Most printer manufacturers supply a "user's guide" that comes bundled with the printer's installation CD. Since instructions for cleaning the print heads and the ink cartridges vary from one printer to the next, it is always wise to follow the manufacturer's instructions rather than any generic set.

To look for the User's Guide for your printer, go to Start>All Programs >*Printer folder* (e.g. *Hewlett-Packard, Epson*)>User's Guide. Once you access the User's Guide (or Reference Guide), you will be able to find such references as: maintenance, cleaning the print cartridge cradle, and maintaining the print cartridges.

Clean the exterior of your printer with a soft, water dampened cotton or microfiber cloth only. Most manufacturers will admonish you to avoid household cleaners or detergents. Do not attempt to perform any cleaning to the interior of the printer that is not consistent with the suggestions and steps given in the User's Guide.

Most printer manufacturers suggest that you use your printer at least once each week to keep the cartridge ports from drying out. This is particularly important for those of us who live in the Mojave Desert. If you plan to be away from your home for more than a month, you might wish to remove your ink cartridges, place them in an **air-tight** baggie and store them in your refrigerator (not the freezer!).

Cleaning Your Scanner

To keep your scanner operating at its best, you should clean it periodically. Before you perform any cleaning operation, however, unplug the power cord.

Clean the outer case with a cloth dampened with mild dishwasher detergent and water. Never use alcohol, thinner, or corrosive solvent to clean the scanner. These chemicals can damage the scanner components as well as the case.

If the glass of the document table gets dirty, clean it with a soft dry cloth (a microfiber cloth described earlier is an ideal product). If the glass is stained with grease or some other hard-to-remove material, use a water-dampened soft cloth to remove it. Wipe off all remaining liquid with a dry cloth. (Again, the microfiber cloths are perfect, either wet or dry.)

Cleaning Your Mechanical (Ball-Type) Mouse

If your on-screen pointer doesn't move at all or responds erratically, most likely your mouse is in need of a cleaning.

Turn your mouse upside down. If you see a small rubber ball protruding from the mouse's base plate, the mouse is mechanical. These mice are often called "ball mice." Inaccurate or unresponsive pointer motions are common to ball mice.

As you slide your mouse across the mousepad, tiny bits of dust, fabric, and debris can enter the ball cage. When you glide your mouse across a surface, it causes the rubber ball to roll. Three wheels touch the ball. The first two are the horizontal and vertical wheels, which sit perpendicular to each other. When you move the mouse left or right, the horizontal wheel spins. When you move the mouse closer to or farther from your body, the ball makes the vertical wheel spin. The third wheel or rod has the function of holding the ball in place.

It is best to shut down your computer before you begin the cleaning process. Carefully remove the plastic donut disk from the underside of the mouse by rotating it counterclockwise. This will permit you to remove the rubber ball. (The plastic disk makes a great temporary pedestal for the rubber ball, preventing it from bouncing across the room). Always use a lint-free cloth to wipe the rubber ball (The microfiber cloth works great here!). Otherwise, the cloth introduces particles of lint (more troublesome debris) into the ball cage. Use a cotton swab dipped lightly in rubbing alcohol to gently rub the wheels and remove dirt and debris. For tough-to-remove debris, carefully rub the wheels with an eraser.

Cleaning Your Optical Mouse

Unlike mechanical mice that use physical moving parts to sense motion, optical mice use tiny cameras to "see" their own movement. An LED (light-emitting diode) illuminates the surface below the mouse by shining a light through a small window in the base plate. If you have an optical mouse, you can turn the mouse upside down and see the red light shining through the hole on the bottom of the mouse. Just as you need proper lighting conditions to create a clear, detailed photograph, an optical mouse needs the surface lit so it can distinguish surface details.

Because optical mice don't have exposed or moving parts, they aren't prone to the buildup of dust and debris. This means optical mice should provide more reliable performance than other mice, and they aren't prone to "stickiness" or erratic pointer behavior. Also, with normal use, an optical mouse doesn't require cleaning, and you don't have to use a mousepad. And because you don't have to worry about dust, lint, or other materials seeping into an optical mouse, you can use it directly on your desktop, a stack of papers, or even your leg.

If your optical mouse is not responding properly, then, what is the cause? The problem may be the mousing surface. Glass tabletops, mirrors, glossy paper, and other reflective surfaces may give your optical mouse trouble. When an optical mouse's beam of light shines on a reflective surface, the light bounces back and prevents the sensors from capturing a clear picture. If you suspect that your mouse can't handle the surface on which you use it, try it on another surface. If your desk is reflective, for example, try placing a mousepad, sheet of paper, or another non-reflective object under the mouse.

If your optical mouse is cordless, it gets its power from two AA batteries. You can double the life of your batteries by using a light-colored (pastel) mouse pad, rather than a darker colored one.

Keeping Your Registry Tidy

CAUTION: Beginners and Near Beginners should not venture into the Registry! However, the paragraph below provides some advice for how you may assist in keeping your Registry free of obsolete files.

An untidy, bloated Windows Registry can lead to performance and stability problems over time, particularly if you install and uninstall programs and utilities on a regular basis. All Registry actions occur behind the scenes; consequently, you have very little control over what takes place there. Most programs and many system utilities store data in the Registry, and Windows does its best to properly manage the data. However, if you remove programs by simply deleting the program folder, you'll often leave behind Registry information that is obsolete.

You can help Windows and the Registry by always uninstalling programs properly.

1. First, see if there is an uninstall utility associated with the program in the **Start** menu's **All Program** folder. If you find one, use it to uninstall the program.
2. If the program that you wish to uninstall has no such utility, then use Microsoft's generic Add or Remove Programs applet by going to **Start|Control PanellAdd or Remove Programs**. Either of these two processes will help keep the Registry free of useless data.

3. An excellent third-party free software product, MyUninstaller is an alternative to the Windows Add or Remove Programs tool. But it does more than mimic what Windows provides. MyUninstaller shows much more information about your programs. And it can help you with programs that don't include an uninstaller.

MyUninstaller (<http://www.nirsoft.net/utils/myuninst.html>) provides extra information including product descriptions, registry entries and installation dates. It also displays programs lacking uninstallers and others that don't show up in Windows Add or Remove Programs. You might discover old programs you had forgotten about. Another great feature is that you can select multiple programs to be removed all at once.

Although there are two or three FREE registry cleaner products available for downloading and installing from the Internet and dozens of commercial products that promise to do a thorough registry cleaning, one product (RegSupreme 1.7) stands out as the best registry cleaner on the market today—at a price of only \$12.95. (Note that this is not an annual fee, but rather is the total cost of ownership.)

Internationally renown guru Fred Langa recommends this outstanding full version registry cleaner program that offers a 30-day trial. Within the thirty days, you can put it through its paces before you decide whether or not you want to keep it. Langa never recommends a product unless he has fully tested it. This may be the best \$28.95 you will ever spend for a computer application!

RegSupreme 1.7 has two settings -- regular and aggressive, to help prevent over-cleaning -- and also categorizes the problems it detects so you can help see and separate the serious problems from those that are less so. The "aggressive" setting will dig far deeper into your Registry. This Registry Cleaner only shows you Registry items that should be safe to remove. A built-in safety feature requires that you make a backup of all items you remove so you can easily restore any Registry settings you delete in error.

<http://www.jv16.org/>

Clean Your Desktop of Unused Shortcuts

Microsoft's Desktop Cleanup Wizard (available only in Windows XP) helps you keep your desktop free of the shortcuts that you do not use. The Desktop Cleanup Wizard periodically checks the desktop for unused shortcuts (anything not used in the last 60 days) and provides an easy way to remove those shortcuts without harming the installed program.

If you want to access this feature:

1. Right-click any blank area of the Desktop.
2. Click on **Properties**.
3. Click on the **Desktop tab**.

4. Click on **Customize Desktop**.
5. Click **Desktop Cleanup**.

When the **Desktop Cleanup Wizard** runs, it places unused shortcuts into a folder on the desktop called Unused Desktop Shortcuts. The **Desktop Cleanup Wizard** displays a list of the desktop icons that have not been used for 60 days or more, enabling you to remove those icons that you don't want on your desktop. You can retrieve icons you have removed by opening the Unused Desktop Shortcuts folder on your desktop.

Clear the **Run Desktop Cleanup Wizard every 60 days check box** if you don't want the wizard to run automatically every two months.

In all versions of Windows, you can remove an individual desktop icon by right-clicking the icon and then selecting Delete.

To add or remove the file folder icons for My Documents, My Computer, My Network Places, or Internet Explorer, select or clear those items under Desktop icons by following these steps:

1. Right-click on any open area on your **Desktop**.
2. Click on **Properties**.
3. Click on the **Desktop Tab**.
4. Click on **Customize Desktop**.
5. Select/deselect the **Desktop Icons** of your choice.

Clean Up the Old “Stuff” on Your Hard Drive

If you want to clean up your hard drive, the question becomes “What files are okay to remove without causing any trouble?”

Remove Old Programs

For starters, get rid of those programs that you no longer use. Click on **Start** and then **All Programs**, and look for no-longer-used programs listed there. For example, if you are no longer using Norton AntiVirus, look for a file folder called Norton AntiVirus. Within the folder should be an uninstall feature. If any program that you wish to remove from your computer has its own uninstall feature, it is best to use it. Otherwise, use the generic Add/Remove Programs feature built in to each version of the Windows operating system. A third and best choice is to use the MyUninstaller program described earlier in this document.

To access the Windows' Program removal feature, Go to **Start>Control Panel>Add or Remove Programs**. You'll see a listing of programs installed on your PC. When you find a program you no longer use, select it and click Change/Remove.

Remove Old Internet Files

Next, get rid of files that have accumulated as you have used the Internet. In your Internet Explorer browser, select **Tools>Internet Options**. On the **General tab**, click the **Delete** in the **Browsing History** section.

Use Windows' Maintenance Tools

Windows includes a handful of simple applets necessary to do all the basic maintenance chores. Run these programs once in a while and you just might avoid bigger troubles down the road.

Windows includes utilities such as **Chkdsk**, **Disk Cleanup**, and **Defrag**. These tools clean up files, check hardware status, and help you maximize your system's performance.

Disk Cleanup

As the least complicated of the Windows maintenance utilities, **Disk Cleanup** helps you eliminate clutter and maximize storage space on the PC. It helps by deleting unwanted files, such as temporary files, downloaded program files, and Recycle Bin files. In addition, it helps by showing you how to reduce the amount of space consumed by System Restore, as well as how to remove unwanted software and Windows components.

To access the utility:

1. Click the **Start** menu.
2. Select **All Programs**.
3. Select **Accessories**.
4. Select **System Tools**.
5. Select **Disk Cleanup**. A **Select Drive** dialog box may ask you to specify which drive you want to clean. If it does select the drive (usually C) from the Drives drop-down menu and click OK to continue.
6. At this time, you may see a pop-up message indicating that Disk Cleanup is calculating how much space it will be able to free up for you.
7. When Disk Cleanup finishes this task, the message will close automatically and the Disk Cleanup dialog box will open.
8. When it does, choose the **Disk Cleanup** tab. Here, you'll see a list of file types in a **Files to delete** scroll-down area. To the right of each file type is a number indicating the amount of space that will become available if you remove files of that type from your system.
9. It's your job to indicate which file types you want to include in the cleanup by selecting the appropriate checkboxes. If you're not certain whether to delete

files of a certain type, highlight the file type and review its description in the Description area below.

10. Click the OK button.
11. Disk Cleanup will present a message asking you to verify that you want to remove the selected files. Click **Yes** to continue and then wait for the process to finish.
12. Disk Cleanup will close automatically when the cleanup is complete.

Many experts suggest that you review the options found on the Disk Cleanup tab on a regular (**every two weeks**) basis to ensure your system isn't lugging around a bunch of space-hogging files that you don't really need.

Disk Cleanup might miss a few things. For instance, it won't delete anything that looks like a user-created file for fear that you might actually want it. With that in mind, it might be a good idea to browse around your **My Documents** folder for outdated documents you don't need or other folders on your hard drive for large graphics, video, and music files you no longer want.

Chkdsk

Your hard drive stores information in sectors on platters that spin at a very high speed. Over time, some of these sectors fail, and data stored in them is at risk. The **Chkdsk** utility will search for bad sectors and evaluate the surface of your hard drive. To run this utility:

1. Click on **Start**.
2. Click on **My Computer**.
3. Right-click your **hard drive** and select **Properties**.
4. Select the **Tools** tab.
5. Find the **Error-Checking** section and click the **Check Now** button.
6. Select both disk options: 1) automatically fix file system errors, 2) Scan for and attempt recovery of bad sectors.
7. Then click **Start** and **Yes** to the question, "Do you want to schedule this disk check to occur the next time you restart your computer?" The time required to check the disk at your next boot will vary with the size of your hard drive. Some experts suggest that you should **run this utility monthly**.

Disk Defragmentation (Use it sparingly)

What happens when you save files on your computer's hard drive? For one thing, Windows does its best to use your hard drive space efficiently. It tries to fill in small gaps left behind by deleted files. To do it, Windows may split some files into pieces that will fit. This happens again and again as you move, delete or save files.

Eventually, all those split files affect your computer's speed. Your favorite program might be stored as dozens of fragments. Your computer has to find them all just to start it up. Your waiting time will eventually test your patience.

To keep your computer up to speed, you should defragment the hard drive periodically, but probably not more than every six months! (see box below.)

In its **June 26, 2006** issue, *PC World* reported that its test center set out to determine the effectiveness of the defrag utilities in popular sets of suites. Much to their surprise, their analysts found no evidence that defragmentation enhanced performance. On a desktop system from the *PC World* office with a heavily used, never-defragmented hard drive, the lab conducted speed tests using a range of applications before and after defragmenting the drive with each utility. In the end, the **Test Center saw no significant performance improvement after defragmenting with any program.** This result flies in the face of the perceived wisdom that fragmentation hinders performance, though much older PCs with slower and smaller hard drives may benefit more from defragging.

Windows includes a handy tool for the job. It's aptly named Disk Defragmenter. Disk Defragmenter will sort those scattered fragments back together. You can find it by clicking **Start Button>All Programs>Accessories> System Tools.**

Disk Defragmenter can run into problems, however, so be very cautious about running it. Disk Defragmenter will stop if it discovers errors on your hard drive. This could cause the Defragmenter to stop consistently at the same place. It could also leave your hard drive only partially defragmented. **For this reason, always run the Windows Chkdsk utility first.**

The Defragmenter needs lots of space

A near-full hard drive is the bane of the Defragmenter. Windows requires at least 15 percent of your hard drive free to complete defragmentation. According to Microsoft, less space will result in an incomplete defragmentation.

(Check out your drive's free space by clicking on the **Start Button**, then clicking on **My Computer**. Right-click on your hard drive (generally named Local Disk C:), and then left-click on Properties. A pie graph will show you how much free space you have available.)

A nearly full hard drive is a likely culprit for older computers where hard drives are small by current standards. They could be quickly overwhelmed with videos and music. And new software packages tend to take more space than older versions. If you are running short on free hard drive space, consider using **Disk Cleanup** to free some hard drive space (described earlier in this document).

The Defragmenter must work alone

Disk Defragmenter does not play well with others. In fact, it often won't play at all if something else is running in the background. So it is necessary that all other programs be shut down while Disk Defragmenter is doing its thing.

Most experts advise that you run Defragmenter in **Safe Mode**. (Safe Mode lets you start your computer with a minimal set of programs running, which can make troubleshooting your system easier.) To do that, reboot the computer and keep tapping the F8 key during the boot up process. That should get you into a menu of startup options, including Safe Mode. If it doesn't, reboot and try again.

Once you get the menu, pick Safe Mode. It will look odd, because only a minimum of drivers and other programs are started with Windows. You will be able to run Disk Defragmenter in Safe Mode. When the defrag process is done, simply use Microsoft's standard procedures for rebooting your computer.

Installing Critical Patches From Microsoft

Microsoft periodically issues patches that fix vulnerabilities in the Windows operating system. Many of these are considered critical. However, if you are running a software firewall (Zone Alarm, for example) the danger is greatly reduced. Nonetheless, you should install these patches in a timely manner.

To activate the Automatic Update function:

1. Click on **Start**.
2. Right-click on **My Computer**.
3. Click on **Properties**.
4. Click on the **Automatic Updates tab**, and make your choices. It's best to select the option which will notify you of updates, but will not download them to your computer until you request them.

If you don't have automatic update turned on, you can update manually:

1. Open **Internet Explorer**.
2. Click **Tools**.
3. Click **Windows Update**.
4. Let Microsoft scan your computer.
5. Install any **Critical Updates and Security Packs**.

Delete Website Favorites That You No Longer Need

As your list of favorite Webpages grows, eventually you will find that it is so large that it contains many sites that you no longer need. During your Spring cleaning

activities, you may wish to clean up your Favorites list by deleting many of them. It won't save you much hard drive space; however, it will make searching for your true favorites a much easier and faster chore.

1. On the **Favorites** menu, click **Organize Favorites**.
2. In the right pane, find a Webpage that you wish to delete.
3. Right-click on the target site.
4. Left-click on Delete.

Unfortunately, you cannot delete multiple sites at one time. You must delete them one-by-one.

AM-DeadLink is an excellent URL cleanup as it detects dead links and duplicates in your browser Favorites. If a Favorite has become unavailable you can delete it from your Browser. AM-DeadLink checks Favorites from Internet Explorer and Bookmarks from Firefox. <http://www.aignes.com/deadlink.htm>

Reorganizing Your Website Favorites That Are Left

As your list of favorite pages grows, you can keep it organized by creating subject folders. You might want to organize your pages by topic. For example, you could create a folder named Health for storing information about health issues.

1. On the **Favorites** menu, click **Organize Favorites**.
2. Click **Create Folder**, type a name for the folder, and then press ENTER.
3. Drag the favorites in the list to the appropriate folder.

If the number of shortcuts or folders makes dragging impractical, you can use the **Move to Folder** button instead.

Taking a Look at Your Address Book for Obsolete Entries

Just as your Website Favorites lists tend to grow, the same is true for your address book. Now is a good time to go through your Address Book and cull any obsolete addresses.

1. Open your email client, e.g. Outlook Express.
2. On the **Menu** bar, click on **Addresses**.
3. Right-click on any address that is obsolete.
4. Left-click on **Delete**.