



# Home Computer Repair

## – Yes You Can!



Many years ago I was curious to see inside my computer. I decided to get brave and open it up. I'm not afraid of electronics. I've been fooling around with this kind of stuff since I was a teenager.

My first obsession was with a transistorized shortwave receiver. I wanted one so bad I scrubbed my mother's kitchen floors to get an extra allowance so I could get it sooner! That was bad for a guy's self-image back in the early 60's! *She never knew that I climbed up on the roof without a ladder when she wasn't home so I could string out a copper wire antenna.*

Next I graduated to my first reel-to-reel tape recorder. Yes, we had TV and radio back then but it was during the last century.

I also played around with the TV to my mother's great fear that I'd either break it or electrocute myself. I was lucky – neither the TV nor I ever got more than a thousand volt shock.

Over the years I've taught myself how to replace hard drives, CD writers and bragged to my wife when I inserted a card in our computer so we could use our first HP scanner.



Lucky for me that I had a son who turned into a computer geek in high school and learned how to build computers. In fact, I'm using the computer he built and gave me for Christmas last year. I've learned much from him about operating on the entrails (I use that word advisedly) of the various computers I've used, revived and worn out over the years.

Fall has arrived and the weather has finally started to cool causing the appearance of my



annual stiff neck. Not to be outdone and on the same day, my computer came down with a sick fan - *obviously both temperature related and a real pain in the neck!* You know the sound – lots of vibration accompanied with a low frequency rumbling.

The first time I heard that sound coming from under the desk I thought my computer was going to blow! You can usually help it limp along by gently tapping the case or turning it off and back on. This will also help you diagnose which fan is going out since your computer may have several fans.

Don't put off replacing the fan. You should take care of it before it goes out and leaves your computer to overheat – *not something you want to take a chance with.*

It's been a little warmer the last few mornings so the fan has been spinning along without much noise at boot up and soon quiets down. However, this morning I decided it was time to take the journey to the dark place down under my desk with my trusty flashlight for support and defense. Who knows what lurks and lives down there in that mire of wires, dirt and lint?

I finally got the hundred cables unhooked so I could hoist the thousand pound gorilla out from under my desk. Whew! No killer black widow spiders rushed out and attacked me while I was down there slowly moving it out. I didn't even bump my head this time.

I next took it to my favorite workbench – the kitchen table - to my wife's chagrin. She wasn't moving about yet so I thought I might have it fixed before she ventured into the kitchen.

I took the case off. WOW! Lots of dust and lint babies. It looked like a perfect environment to cause a gigantic asthma attack or sinus headache for the next three days.

Naturally, the large noisy fan is buried behind my four hard drives so this will not be the five minute job as I'd hoped. However, if you think



the worst and it turns out a little bit easier you will feel like you conquered the world - so lower your expectations a bit before you start.

Here's what you need to do if you attempt some minor repairs or want to change a CD writer or other component.

1. **Digital Camera.** Use a camera to take photos of all the connections *before* you unplug anything. Note: You may want to print this out BEFORE you disable your computer since you will not be able to look at the digital photo (the little camera LCD will probably not be large enough to help). You could also draw a hand diagram, however, the photo will be better, easier and more accurate.
2. **Penlight / Flashlight.** Make sure you can clearly see what you are doing so you can remember where and what you unplugged later.
3. **Unplug the Power.** Remove all the connections from the back of the computer along with the power cord. This is an electrical device so the normal precautions should be taken before opening the case.
4. **Move the Computer.** Get the computer up onto a table or other well lighted area. It's very important to be able to see everything. Get one of the kids or

grandkids to help you to avoid dropping it which will cost you much more in repairs.

**5. DON'T JUST START UNPLUGGING WIRES.**



Take another photo or photos of the fan or item you are going to be changing or removing. Take several photos to make sure you don't have a blurry photo later when you need it. In worst case you can take the camera or card to a photo printer if you need to print and look at the photos if you forget what to do.

**6. GROUND YOURSELF.**



A static shock to a sensitive computer component or card could destroy it. Touch something metal to dissipate the static charge before doing anything inside the computer. Taking off your shoes may also help ground you better.

**7. Get Your Bearings.**



**Do not pull on any wire or connection.** Hold each side of the connector so that you will correctly disconnect the wires and not stress or disconnect the other end of the wire that goes somewhere else in the computer.

Some connectors require you to squeeze before the connector will release.



**8. Restrain Yourself.**



Take care not to disconnect other wires and connections. Do not touch the back of your hard drives (circuit board) or the motherboard.

**9. Be Organized as You Disassemble.**

As you take things apart, lay out the screws and other parts in the order they are removed so you will be able to reassemble it using the reverse order.

If you had surgery you wouldn't want the surgeon to tell you they had a few insignificant things left over and not to worry. **In today's world, nothing is nonessential.**



**10. Take the Part With You.** Years ago I worked in a gas station. I was the one to get the parts. My dad insisted I take the old grimy part with me so I could be sure the new part was exactly the same when I returned. He was a smart man. We saved time, money and frustration using this simple process. Times have not changed but gotten even more complicated.



Take the part or component with you to the computer store. You might feel dumb but you will feel dumber when you return to exchange the part because it's wrong or wouldn't fit. If it has screw holes, make sure the new part is the same shape and size with the same size holes in the same places. This will also help the store employee make sure you are buying the right part.

**11. Be Kind and Generous.** Here's a hint I've used over the years. Pick a helpful salesperson (one who smiles) and always go to them in the future. Give them a compliment, tip or some cookies, etc. They will be very helpful and it will pay off big time on your next trip. Be generous with compliments or a few dollars in a tip.

**12. Double Check Yourself.** After you get the replacement part, double check with the employee about what you need to do to make sure you will do it right, especially if the replacement part is a little different or needs to be installed in a certain way. **ASK QUESTIONS!**

**13. Canned Air.** This is an essential item. Blow out and clean all the lint and dust as you are moving around components. You should also blow out other areas of your computer that have an accumulation of dirt and lint. Take care not to get the sprayer too close to the component since it can condense moisture as you spray. The spray is also very cold and can give you a cold burn if you spray your hand or finger. It's probably the same stuff they use to burn or freeze off warts so be careful.



**14. Put It All Back Together.** Take your time and do it right! Consult your drawings or photos if necessary. It's better to be safe than sorry and much less expensive.

## Laptop Caution

I would not recommend any attempt to replace parts on a laptop computer. They have a million and one screws and the parts have to fit exactly right. There are some fragile components that are easy to damage so take your laptop to a certified service center or computer shop for assistance.

## Disclaimer

I don't claim to be a certified service technician. I've not had any special training or experience. The information supplied above is for your reference. You may wish to consult a qualified computer service technician before attempting to work on your computer. If you are doing something with a hard drive, I'd back it up to be safe.



**Warranty.** You may void the warranty if you open the case or replace a part so check your warranty and purchase date before opening the case.

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