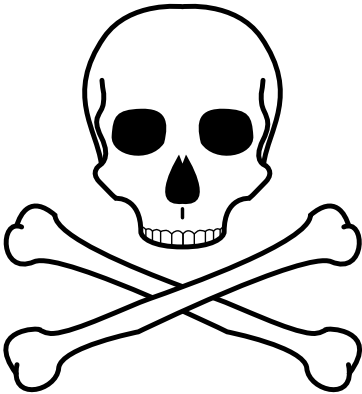


POISON GAS FROM YOUR LASER PRINTER AND HOW TO CONTROL IT



□ Andy Niemic

As the owner of a laser printer you have reason to be proud. The quality of your printed documents now show you are a professional. But what you *don't know* about your laser printer and what you *should know* about your laser printer are the reasons why it's important for you to read on.

Your health surely depends on it!!!

If your laser printer is an Apple® LaserWriter, LaserWriter Plus, II, IINT, IINTX, II, IIg, Hewlett-Packard LaserJet, LaserJet +, II or LaserJet III, like most people, you haven't read the owners manual that came with it. Let's face it, when you purchase a laser printer the first thing you want to do is print with it, not read the manual. But to protect your investment and health, you should read the information about printer maintenance.

These two classes of laser printer use either the Canon® CX or SX printer engine that as a normal by-product of printing a document produces a gas known as ozone. Ozone gas is colorless and odorless. In small amounts it's believed to be harmless. Having a printer that releases ozone gas into the air you breathe in itself is not the problem. The issue of ozone gas becomes a problem when the special filter in the printer is not changed because the user didn't read or forgot about the instructions to change the filter as stated in the printer's owners manual.

To compound the problem, the manual suggests changing the ozone filter every 50,000 to 100,000 printed pages (depending on model) but the page count is based on a filter that has been kept clean. The key word here is clean. In addition to trapping ozone, the filter also serves as a catcher for paper dust and toner. What I find alarming is that whenever I'm asked to check a laser printer, I find the ozone filter is almost always crusted with dirt and debris. In most cases, the filter has never been changed, and even more upsetting—the user doesn't even know there is an ozone filter, much less where it's located!

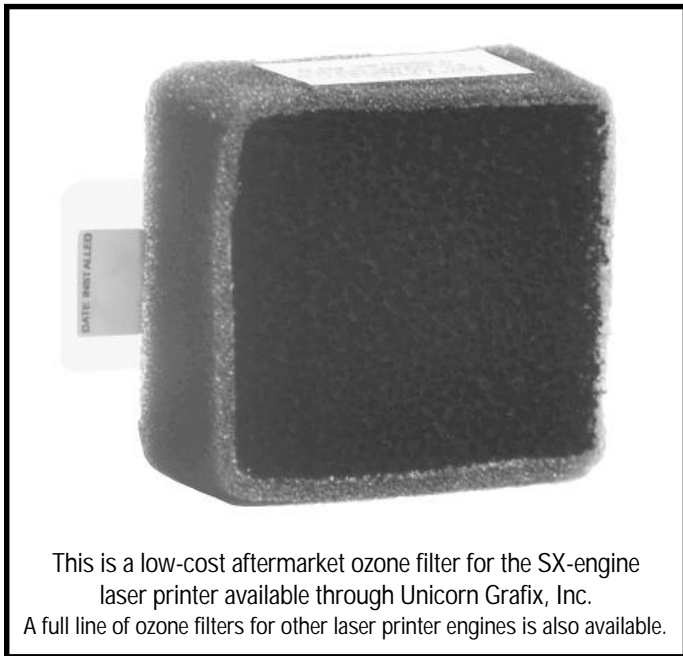
When I ask the users if they have been having headaches, feeling nauseated, depressed, or irritable they all answer yes. The problem is it's hard to tell how much of their symptoms are due from the ozone gas produced by the laser printer and how much are the users personalities themselves. One thing is sure, ozone gas can produce all the nasty side effects listed above.

But in addition to that, ozone gas also eats into or destroys the printer itself. Ozone gas reacts with the plastic parts in the printer and the toner cartridge and damages them. Take a look at the inside of your laser printer. Does the plastic inside have a "yellow" tint when compared to the grayish plastic outside (which has not been heavily exposed directly to ozone gas)? What you are seeing are the effects of ozone on plastic. The toner cartridge, which is closest to the area where the ozone gas is released, is even more adversely effected.

Andy Niemic is a respected writer of technical information and how-to manuals. As a world renown expert and consultant, he has set many of the standards for the laser printer repair industry and the cartridge recycling industry. He continues to evaluate products and procedures for these industries.

How can you stop the damage to both your health and the printer? The answer is simple: **CHANGE THE OZONE FILTER!!!** You have a number of choices when purchasing a replacement ozone filter. Your first reaction will probably be to purchase a new one from your printer's manufacturer. The OEM filter will be the highest costing replacement. However, there are a number of aftermarket replacements which sell for under \$10 that are equal to, if not better than the \$50 filter offered by the printer manufacturer.

Changing the ozone filter for the newer SX-engine (or Series II) laser printers, (those manufactured after 1989) is very easy. There is a plastic trap door that opens near the rear of the printer on the side where the fan is located. The filter is very easily removed and replaced so there is no reason to have to pay some high-priced repair technician to slide in a new ozone filter.



This is a low-cost aftermarket ozone filter for the SX-engine laser printer available through Unicorn Grafix, Inc.
A full line of ozone filters for other laser printer engines is also available.

Printers manufactured prior to 1989 require a different method for removing the ozone filter. In the old CX-engine (or Series I) laser printers such as the Apple LaserWriter, Apple LaserWriter Plus, H-P LaserJet and H-P LaserJet+, the filter holder is held in by a single screw. Remove the cartridge from the printer and look inside the opening where the cartridge was and you will see the filter. It is above where the handle of the cartridge would be if it was

still in the printer. Place a cloth in the printer before removing the screw. If you drop the screw, you will appreciate having the cloth there to catch it.

The older SX-engine laser printers such as the Apple LaserWriter II, IINT, H-P LaserJet II, and other pre-1989 SX printers require the printer case be removed to reach the ozone filter. Depending on the model of printer you own, you will have to remove some 12 screws to remove the outer case. It's not difficult, but does take the use of a Phillips-head screwdriver and about three minutes.

Printer manufacturers, concerned about possible problems caused by the printers they have made, have all switched to a new technology in which the printer no longer produces ozone gas as a by-product of printing. This change occurred in the early 1990s. However, there is nothing wrong with the older style technology printers. In fact, these printers are excellent "workhorses" and in many cases, have actually been manufactured better than today's non-ozone models.

The key to protecting your investment and health is common sense and printer maintenance. And it is something you can do yourself!

To learn about other printer maintenance you can do yourself, see additional information on the following topics:

"What's Wrong With This Picture?"

Identifying print defects and their cause

"Repair Fuser & Paper Pick-Up Assemblies"

Step-by-step instructions with photos

"Care & Feeding of Your Laser Printer"

Basic laser printer maintenance and are recycled toner cartridges in your best interest

As I stated in the beginning, as the owner of a laser printer you have a right to be proud. As the owner of a laser printer, you also have the right to be healthy and keep most of your hard earned money. For information on purchasing pictorial manuals, quality ozone filters, and other products for the laser printer, contact:



Unicorn Grafix, Inc.

(602) 234-0363

Fax (602) 274-6115

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