

HP Printhead Cleaning Procedure

What do I do when I experience lines (bands) of missing color in a normally solid test print? Or faint colors or totally missing colors? Or a “Bad Printhead” or “IDS Failure” error message?

A: When you do experience partial or complete clogging of the printhead (and you are sure that your ink cartridge actually has INK left in it), you need to perform a cleaning as follows: Copyright 2007 Residential Design Co. Cleveland, OH. All Rights Reserved. Do not share this data and do not republish any or all of this document. Thank you for your honesty.

- Remove the clogged printhead from the printer, being careful to handle the printhead by its sides and never touch the nozzles (the small gold/copper strips on the bottom.)
- Don't touch the electrical contacts on the back of the printhead, as static electricity can easily kill the printhead.
- Set the printhead on its side onto a lint-free cloth (such as an old cotton t-shirt or underwear). A clean coffee filter also works well for this purpose. (Don't use paper towels; they have too many loose fibers.)
- Carefully tape over the newly exposed hole in the ink cartridge with scotch tape.
- You can now close the cartridge holder back down such that any remaining printheads are resealed against the ink tanks. You can also close the printer access panel temporarily and let the carriage go back to its home position if you like. (The printer knows that a printhead is missing and won't try to run a cleaning cycle.)

Scotch tape
over hole
in ink cartridge

Boil a few ounces of distilled water in a measuring cup inside your microwave. (This should take about 90 seconds or so if the quantity is one fluid cup, or 8 oz.) You can use bottled water (such as Evian) if you prefer. Do not use tap water, as the mineral contaminants are large enough to cause clogs rather than clear them.

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- Pour ½ inch of the (nearly) boiling water into a clean plastic or glass container (such as a yogurt container.) Use a separate container for each printhead.
- Place the upright printhead into the container such that the gold nozzles are face-down in the boiling water. You will immediately see ink begin to filter out of the nozzles and discolor the water as the ink clogs dissolve.
- Let the printhead soak for ten minutes.

Remove the printhead from the water and press it upright into a lint-free cloth several times. You are pressing the gold nozzles into the cloth. (Do not rub the cloth across the nozzles.) Any remaining ink will wick into the cloth from the nozzles as the water is drawn out of the printhead. You can dab the sides of the cartridge with a kleenex to remove excess water. • Note the ink pattern left on the cloth. If all of the nozzles have unclogged, it will be apparent from the continuous pattern of ink left on the cloth.

It is a good idea to clean the copper electrical contacts with a Q-tip dipped in rubbing alcohol to ensure good connections. You can also clean the mating electrical contacts inside the printer if they appear dull or soiled.

Now it is time to replace the printhead into the printer. First, remove the scotch tape off of the ink cartridges, and then reinstall the printheads. Close the cartridge holder and shut the printer access panel.

Let the printer go through its cleaning and alignment cycle, and inspect the test print for color defects.

- If defects are still observed, repeat the cleaning process again, but this time use hot Windex instead of water. (For my overseas customers, Windex is a window washing solution which can be imitated by mixing up a solution of approximately 10% ammonia and 90% distilled water.)
- **USE CAUTION WHEN HEATING WINDEX IN THE MICROWAVE IN A MEASURING CUP.** Several readers have commented that the Windex blew up in the microwave at 90 seconds of cook time and made a mess. I now recommend draping a dishcloth or washcloth over a Pyrex glass measuring cup to avoid making a mess. (I tried to duplicate the blow-up problem in my own microwave, but couldn't get a blow-up even at 2-1/2 minutes with a dishcloth draped over it. It did, however, discolor and cloud up my plastic measuring cup due to the ammonia fumes.) Watch the Windex as it heats up in the microwave and remove it as soon as it begins boiling.
- Soak the printhead in the hot Windex overnight this time. (Of course, the Windex will cool down overnight.)
- Reinstall the printhead in the printer the next morning.
- Let the printer go through its cleaning and alignment cycle again, and inspect the test print for color defects.
- If the printhead is still clogged, let it sit in the printer for a few hours before printing again. For some reason, it sometimes takes a day before the printhead decides to work right

Q: What do I do if I get the message “IDS Failure Call HP”? (IDS means Ink Delivery System.)

A: Well, don't bother calling HP support; they'll just tell you to replace the printheads for \$40 each.

- Perform the printhead cleaning as outlined above.

- Unplug the printer. Hold the # and 7 keys down while inserting the power cord to get the IDS Priming message. That should reset the IDS Failure message; at least it does on an Officejet.

Q: How long will my ink cartridges last after their expiration date?

A: The cartridge will die on whichever comes first:

- Printed expiration date on the box + 2 years.
- Or, 2-1/2 years (30 months) after being installed in printer.

Q: What do I do if I get the message “HP Supply Expired”?

A: This error indicates that your ink cartridge is expired (by date.) There are complicated ways to fix this that entail temporarily removing the CMOS battery from the inside of the printer, but that is way too difficult for most people. Here is a simple way to bypass the error: (This method requires a total of 3 cartridges, including your existing cartridge. The 2nd and 3rd cartridge can be empty and expired.)

- Remove the expired cartridge. Power off the printer completely, and then power it back up.

- Temporarily replace the expired HP 14 ink cartridge with a 2nd cartridge (expired or not.)

- Remove that cartridge. Power off the printer completely, and then power it back up.

- Temporarily replace that cartridge with a 3rd cartridge (expired or not.)

- Remove the third cartridge. Power off the printer, and power it back up.

- Reinstall the original expired cartridge, and you are back in business.
 - This works because the printer only remembers the last two ink cartridge serial numbers, so you have fooled it into thinking it has never seen your cartridge before. Be aware that if you use a good cartridge during this operation, then you have started the 30-month “death clock” ticking for that cartridge. But you can always juggle cartridges again in the future.
 - This swap trick works on many models of HP printers. Sorry if it does not work for yours.

Now- A few facts (and even a few secrets) about HP printers:

- HP uses a water-soluble ink that actually gets electronically heated to boiling inside the printhead to spit out ink droplets during printing.

- HP printers use one of the more effective capping systems on the market to prevent ink drying in the nozzles and clogging the printhead. However, it is still a really good idea to exercise your printer by printing with both color and black every week or two in order to help prevent clogged printheads.
- With many printers, it is important NOT to turn off the printer with a power strip or by unplugging it, but rather always turn it off by using the on/off switch. This allows proper capping of the printheads and helps prevent clogging.
- Do not ever run your black or color ink tank dry. The printhead has tiny resistance heating elements in each nozzle that heat the ink almost instantly to 930^o Fahrenheit. The reason these heaters normally don't burn up is due to the cooling effect of the ink passing through. If the ink level becomes too low, and you experience partial printing due to low ink, these heaters will burn up as they lose their cooling. For this reason, I always replace the ink tank when the printer indicates 1% ink remaining. Most Officejet series and HP 700 – 1200 series printers will cease to print when ink levels become too low, to protect the printheads.
- If you happen to have an ultrasonic jewelry cleaner, don't try to use it to clean printheads. The tiny heating elements are only 40 microns (that is 40 millionths of a meter) and are easily damaged by the vibrations from these cleaners.
- A clogged black printhead is more difficult to clean than a color printhead, due to the black ink being pigment-based rather than dye-based like the colored ink. The clog is more stubborn and may require repeated cleaning with Windex.
- Good luck with your printheads, and I hope these methods save you the cost of at least one \$40 printhead! Or at least, you can save these instructions to help you next time you experience a clogged printhead, an IDS error, or an expired ink cartridge.
- Please don't publish or share these instructions, as they are copyrighted and represent my own personal research and test results.
- If you follow these instructions and still can't salvage your printhead, then the heating elements may be burned out on it and the printhead will have to be replaced. If you truly don't feel that any of this information contained in this pamphlet will ever benefit you, then contact me for a full refund because my business is based on satisfied customers.