

Ink Fill and Use Instructions for the Refillable Cartridge for Epson™ 4000, 7600 and 9600 Printers

The instructions below describe how to fill and use refillable cartridges, in general terms. Color managed work flows are not discussed here, nor are instructions for using Piezography inks. Filling and using these cartridges is easy, provided you are prepared before you begin and follow the instructions below. A one liter ink bottle contains enough ink to fill a cartridge about four times, the 16oz bottles will fill a cartridge about two times and 8oz bottle is enough ink to fill a cartridge once. Additional bottles of ink are available from www.inkjetmall.com. For further information on ConeColor inks, visit www.conecolor.com. An info sheet for ConeColor and Piezography K7 ink use is located at the end of these instructions, please refer to it before filling the cartridges with ink.

Background Information to Read Before Beginning:

Cartridges are sold individually, as sets and with ink bottles. Refer to the item description to know what is included with the specific item you purchased.

1. Before beginning, make sure to have the following items on hand:

- Ink bottle(s), which can be ordered from www.inkjetmall.com.
- Empty refillable cartridge(s). **Each cartridge must have a dual fill/air vent plug on the top and chip attached.**
- Funnel(s) for filling and refilling cartridges with ink.
- A pair of thin rubber gloves to wear when filling or refilling cartridges.
- A 10ml syringe and priming tip to prime cartridge exit channel with ink before installing into the printer.
- A table or work surface large enough to hold all cartridges and ink bottles. If you wish, cover the table with newspapers or a plastic sheet to protect it from ink spills.
- Work near a sink for easy cleanup.
- A roll of paper towels.
- A bottle of Windex or other glass cleaner.
- Printer: before you begin, verify that all positions in the nozzle check pattern are fully printing and your printer is in perfect working order. Fix any printing related problems before proceeding.
- A chip resetter is needed when a cartridge reads empty to make it read full again- but is NOT necessary when installing new cartridges or when using a full set of refillable cartridges with the printer's chip sensors disabled. **If you're not using a full set of refillable carts or have not disabled the printer's chip sensor, chip resetters are available thru Inkjetmall.**

2. Treating and avoiding ink spills:

- If you spill ink, wipe it up as quickly as possible. Blot up ink with paper towels, then spray glass cleaner and wipe the surface with a paper towel.
- Ink spilled on clothing or other fabric, on carpets or on porous surfaces like wood or unglazed ceramic tiles will likely cause permanent stains. Keep this in mind as you choose the workspace area and clothing you wear.
- If you spill ink on the outside of a cartridge during filling, wipe the ink off with a paper towel, rather than rinsing it off, to avoid getting water into the cartridge.
- If you spill ink on your skin it will temporarily stain. Clean the ink off with water and an abrasive soap, such as "Lava" soap or with regular soap using a rough sponge. Thin rubber gloves are recommended when filling ink cartridges because accidents can happen.

Procedure for Filling Cartridges:

1. If you are filling cartridges for the first time, unwrap them and inspect them for damage. Contact Inkjetmall if you suspect that a cartridge is damaged. **Make sure the chip is attached straight and flush on each cartridge.** Also, make sure a plug is in the fill and air vent holes on top of each cartridge. If not, please check inside the cartridge wrapping before you discard it. Be careful not to touch the chip contacts and be aware chips are sensitive to static or electrical shock, which can short them out. We recommend everyone have a set of spare chips on hand in case any need to be replaced. Chips are very easy to replace by following instructions in the Troubleshooting section on page 5.
2. If you are using a 7600/9600 printer, verify that you have the correct black ink cartridge necessary for the Photo or Matte black ink you will be using. For Piezography inks, use whichever black cartridge that your printer is currently using to avoid having to do the "black ink change" procedure. **NOTE:** the Matte Black cartridge number ends in "8" and the Photo Black cartridge number ends in "1".
3. Place the ink bottle and cartridge on your work surface. Do not open the ink yet. For ConeColor, make sure that you have the correct black ink you want to use, either Matte or Photo Black. For Piezography ink, make sure to know what shade ink to pour into which color position cartridge- an info sheet that explains shade placement can be found on page 2. For Piezography ink users, we recommend writing the shade # on each cartridge by following the shade placement chart- this will make for easy refilling in the future and avoid accidental ink mixing.
4. Place the cartridge upright and remove the silicone plug from the filling hole on top. Select the correct bottle of ink for the cartridge, and shake it gently. Unscrew the cap, and if it is a new liter bottle, cut the foil seal from the bottle neck using a razor blade or knife. Cut away as much of this seal as possible so the ink will not splash as you pour. Carefully clean residual ink from your knife blade before using it on a different bottle of ink so as not to mix ink.

5. Put on your gloves.
6. Insert funnel into the cartridge fill hole. Support the funnel and the cartridge with one hand. Pour ink with the other.
7. Fill the cartridge until the ink level reaches the “Max” line on the end of the cartridge. If your cartridge doesn’t have a “Max” line, keep the ink level about 1/2” from the top of the cartridge. Do not add more ink than this, as it may cause problems during printing.
8. After filling a cartridge with ink, the funnel can be rinsed with water, air dried and used for later refilling. If the funnel stains and can’t be cleaned to a “new” condition, this will not contaminate your inks. However, introducing even small amounts of ink from one color bottle into another color bottle **will** contaminate your inks, so be careful of this.



Color Ink Users:

Match label on the ConeColor ink bottles, cartridge color position label and printer’s ink position label. Gently shake the ink cartridge every few weeks to keep pigment in suspension and printing full density, as pigment inks settle over time. Epson profiles can be used with Epson papers, but we recommend using ConeColor K2 specific ICC profiles to get the best results with non-Epson papers. Contact Inkjetmall for more information or to purchase custom ICC profiles.

Piezography K7 Ink Shade Placement:

The tables below apply to Piezography ink, make sure to follow the shade placement chart for the specific setup you’re using. Please note Piezography K7 inks are seven different shades of black, 1 being the darkest and 7 being the lightest. Gently shake ink cartridges every few weeks to keep pigment in solution and printing full density, as pigments settle over time. Note: For Piezography gloss printing with the 7600/9600, Gloss Overprint in place of shade #7 in the Y position and glossy curves MUST be used for the highest quality output. Contact Inkjetmall for more information or to have a custom Piezography curve made.

Before attempting to print with Piezography inks, thoroughly read our Piezography Manual on the Piezography technical-support page here: <http://www.piezography.com/technical-support/>. Other helpful documents are also available on this page as well as some pre-made glossy curves.

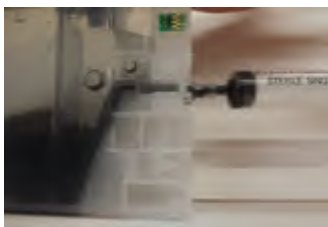
Epson 7600/9600:

Cartridge Position (Left to right)	1) Piezography K7: Matte*	2) Piezography K6: Gloss**
Black	Shade #1 (Matte Black)	Shade #1 (Photo Black)
Cyan	Shade #2	Shade #2
Magenta	Shade #4	Shade #4
Yellow	Shade #7	Gloss Overprint (for gloss printing)
Light Cyan	Shade #3	Shade #3
Light Magenta	Shade #5	Shade #5
Light Black	Shade #6	Shade #6
NOTES	* Use "K7" matte curves	** Use "K6" gloss curves

Epson 4000:

Cartridge Position (Left to right)	1) Piezography K7*	2) Piezography P2**
Matte Black	Shade #1 (Matte or Photo Black)	Shade #1 (Matte Black)
Cyan	Shade #2	Shade #2
Magenta	Shade #4	Shade #4
Yellow	Shade #7	Gloss Overprint (for gloss printing)
Photo Black	Gloss Overprint (for gloss printing) PiezoFlush (if NOT printing gloss)	Shade #1 (Photo Black)
Light Cyan	Shade #3	Shade #3
Light Magenta	Shade #5	Shade #5
Light Black	Shade #6	Shade #6
NOTES	* Change black ink for matte or gloss printing. Use "K7" curves	** NO need to change black ink. Use "P2" curves

Prime Cartridges Before Installing into Printer:



After filling a cartridge with ink, the exit channel must be primed with ink before installing into the printer for proper ink flow.

To prime a cartridge with ink, place it upright on a table with the fill hole side up. With priming tip attached to the slip-tip syringe, insert the priming tip straight into the exit valve to depress the spring and open the valve. Pull the syringe plunger to draw ink up the exit channel until air is removed and some ink enters the syringe. Remove the syringe by pulling it straight out of the exit valve. Now the cartridge is ready to be installed in the printer.

Installing Cartridges into the Printer:

NOTE: When installing the cartridges for the first time in your 7600/9600 printer, if you are also in the process of switching from Photo Black Epson to Matte Black refillable, or from Matte Black Epson to Photo Black refillable cartridges, you must first run a "black ink change" in order for the printer to accept the different black cartridge. Refer to your printer manual for information on this and run the black ink change before proceeding.

*These cartridges have small air vent holes, located on top next to the fill hole. The cartridges come with small air filters that can be used in the air vent holes to prevent dust from getting inside, but if ink gets in this filter it will dry and create a plug that air can't pass thru, which will restrict ink flow. We recommend plugging both the fill and air vent holes when the printer is not in use to prevent evaporation and anything from getting inside, but **OPEN the air vent hole whenever the printer is in use for proper ink flow**. Once the cartridges contain ink, you must take care in handling them to avoid dripping ink out of the air vent holes- plug both holes before removing cartridges from the printer to avoid accidental spills.

1. Before installing a cartridge into the printer, prime it with ink following directions above. If the cartridge is not primed before installation, air from the exit channel will enter the printer's ink line. An air bubble can cause interrupted printing or a poor nozzle check but is usually fixed with a cleaning cycle. After priming with ink, install the cartridge into the appropriate slot in the printer. Lower the cartridge lever, and turn the printer on if needed (cartridges can be installed with printer power on or off).
2. Purging the system: ConeColor inks provide such a good color match to Epson UltraChrome inks; therefore, purging the Epson inks from your printer is optional and may be skipped if desired. When installing one cartridge/ink at a time, continue printing as normal- purging is only recommended when switching the full set of cartridges. If you do choose to purge your printer after installing, run an Initial Fill Cycle, as described below. Be sure to have a spare maintenance tank on hand, if yours is nearly full. Piezography inks are compatible with Epson inks, although some color staining can occur when switching from color to Piezography inks. To avoid color staining, we recommend using flush cartridges in between the two inks, but flush is not required. If flush cartridges are not used and color staining occurs, a few cleaning cycles usually clears this up. We recommend flushing the printer's internal ink system with a set of flush cartridges if switching from any ink other than Epson, as this is the only ink we have tested and know our inks are compatible with, though other inks may not be compatible.
3. Verify all positions are fully printing in the nozzle check pattern.

Epson pro 4000 Initial Fill Procedure:

1. Start with the printer power OFF
2. Hold the Left, Down and Up buttons while turning the printer on. The printer will start in "Self Testing Mode".
3. Scroll to and select CLEANING.
4. Scroll and select INIT FILL.
5. When finished, exit Self Testing Mode by turning the printer off, then back on regularly.

Epson pro 7600/9600 Initial Fill Procedure:

1. Start with the printer power OFF
2. Hold the Down, Up and Cut/Eject buttons while turning the printer on. The printer will start in "Diagnostics Mode".
3. Push the Menu button, scroll to and select CLEANING.
4. Scroll and select INIT FILL.
5. When finished, exit Serviceman Mode by turning the printer off, then back on regularly.

Printing with ConeColor and Piezography Inks:

ConeColor Inks: You can use the same printer settings and workflow as when printing with Epson UltraChrome inks and Epson papers. The excellent color match between Cone Color and Epson UltraChrome inks allow Epson profiles to be used with CCK2 inks to produce very close results to Epson ink output, although the best quality is produced when using the full set of CCK2 inks and CCK2 specific profiles. Custom color ICC profiles are available thru Inkjetmall. Please contact Inkjetmall for further information.

Piezography K7 Inks: Roy Harrington's QuadTone RIP or Ergosoft's StudioPrint RIP support many different printer models with our inks. Be sure to follow our tutorial for using QuadTone RIP with our Piezography inks to get the best results, as our workflow differs from Roy Harrington's. Please contact Inkjetmall for information about custom Piezography curves for use with QuadTone RIP. *Before attempting to print with Piezography inks, be sure to read the Piezography manual, located at www.Piezography.com, along with other helpful documents related to Piezography printing.

Refilling Cartridges:

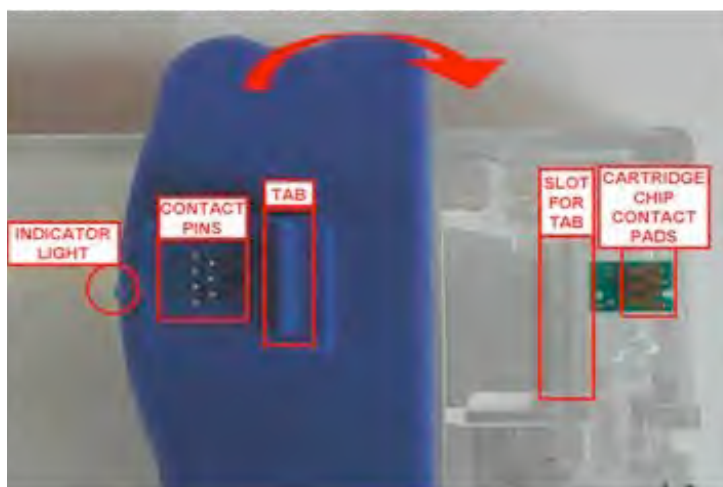
Monitor ink levels in the refillable cartridges and refill any before the ink reaches about 1/2" from the bottom to avoid introducing air into the ink lines of your printer. Use the necessary steps from the procedure above for refilling cartridges. **Always shake the bottles gently before pouring ink from them and make sure to refill cartridges with the correct ink.** Fill each cartridge to the "Max" line (or 1/2" from the top), securely replace the plug in the ink fill hole, gently shake the cartridge so ink is in suspension, tilt the cartridge forward to ensure the exit channel is filled with ink, reinsert the cartridge into the printer and lower the cartridge locking lever.

Resetting Cartridge Chips:

The photo below shows the chip resetter next to a cartridge chip. Note that the resetter has seven pins and the chip has seven rectangular gold pads. To reset a chip, you must put each of the seven pins in contact with a gold pad on the chip. To properly align the resetter to the cartridge, flip the resetter over and onto the cartridge as indicated by the arrow below.

When the resetter is pushed against a chip, make sure the tab on the resetter fits into the slot next to the cartridge chip (see photo below). Slide the resetter upwards, alongside the cartridge, so that it pushes against the top of the slot in the cartridge, then press the resetter gently against the gold pads on the chip – the pins on the resetter are spring loaded and will depress slightly when pushed against the chip. As soon as the resetter and chip have made contact, a red LED will flash several times while the chip is resetting. When the chip has been reset the light will turn solid green. After seeing the green LED, separate the resetter from the cartridge. Your cartridge chip has now been reset and is ready to use.

NOTE: Chips are fragile, sensitive to electrical shock and can short out. We recommend resetting and reusing them whenever possible, but suggest having a set of replacement chips on hand if needed. New chips can be attached in place of the old chips by using double sided tape, by following the procedure in the troubleshooting section. Replacement chips can be purchased thru www.inkjetmall.com



Disable Printer's Chip Sensor When Using a FULL Set of Refillable Cartridges:

If you have a **FULL SET** of refillable carts installed, we recommend turning off the printer's chip sensor to turn off ink tracking, which eliminates the need to reset chips. The sensor can be easily turned back on at any time if desired. If you do not have a full set of refillable carts installed, we do not recommend turning off the sensor and you will need to purchase a chip resetter to reset ink levels when refilling carts. Chip resetters are available at www.inkjetmall.com

7600/9600:

1. Turn the printer's power off
2. Hold down the paper source, down arrow and cut/eject buttons while turning the power on
3. VIEW COUNTERS will be displayed. Press the down arrow till SERVICE CONFIG displayed, press the Enter button.
4. Press down arrow until you see ED MODE, press the Enter button
5. Press the down arrow till 0 is displayed, then press Enter to accept. Turn the power off.
6. When you turn the power back on, the print should accept all the cartridges and will not count the ink printed. Keep an eye on the level of ink in your cartridges and refill them when low. You will not need to reset them.

4000:

1. Turn the printer's power off
2. Hold down the paper source, down arrow and up arrow buttons while turning the power on
3. SELF TESTING will be displayed. Press the down arrow till SERVICE CONFIG displayed, press the menu button.
4. Press down arrow until you see ED MODE, press the menu button
5. Press the down arrow till 0 is displayed, then press menu to accept. Turn the power off.
6. When you turn the power back on, the print should accept all the cartridges and will not count the ink printed. Keep an eye on the level of ink in your cartridges and refill them when low. You will not need to reset them.

Problems, Issues and Troubleshooting Guide:

- **Shaking ink bottles and cartridges:** over time pigment particles can separate and settle. In most cases this looks worse than it actually is; however, periodic shaking is a good idea. The best time to shake the bottles and cartridges is when refilling the cartridges. If a printer is not used for a few weeks pigment can settle in the cartridges and ink lines- to fix this agitate the cartridges and perform 2-3 power clean cycles or one initial fill cycle. Once the cartridges contain ink, you must take care to plug the air vent hole when handling them to avoid dripping ink out of the air vent holes. To agitate ink cartridges, remove and gently shake the carts by tilting forward and swishing around, (make sure both fill and air vent holes are plugged to avoid ink spilling) then reinstall into the printer. Be careful to not shake too hard because this will create froth in the ink and introduce air into the ink lines, just a few tilts back and forth is good. Remove air vent plug to open vent hole for proper ink flow before using printer, plug vent holes when printer is not in use to prevent evaporation and dust or bugs from getting inside. Print a nozzle check to confirm all positions are printing then resume printing as normal.
- **Use the printer on a regular basis for best function.** To keep the ink moving thru the cartridges and head moist, print a small image or do a cleaning cycle at least once a week. It is not recommended to leave pigment inks installed in a printer that will be unused for an extended period of time. It is best to remove ink by installing a set of flush cartridges to flush ink from the lines, dampers and print head. This will allow for safe long term storage.
- Monitor and maintain humidity levels between 40-60% in the printing area. Both low and high humidity can cause problems with printer, ink or paper.
- Printer gives a "wrong cartridge" or "cartridge error" message: be sure cartridges are installed in the correct positions and securely locked into position for tight connection between the cartridge chip and printer's chip sensor for good read. Make sure there's nothing on the chip blocking the read and tightly reinstall the cartridge into the printer. Printer gives "set ink cartg" error: this usually means the printer doesn't have tight contact with the cartridge chip or the chip is shorted out and needs to be replaced (instructions below). If you're using a FULL SET of refillable carts, disabling the printer's chip sensor will eliminate most chip related errors (instructions on page 4).
- **Attach new chip to refill cart:** Chips occasionally go bad and need to be replaced. When the printer gives a cartridge error which is not resolved by resetting the chip, this usually means the chip has shorted out and is no longer read correctly by the printer. We recommend everyone have a set of spare chips on hand to be prepared if a chip needs to be replaced, which is very quick and easy to do. The cartridges themselves are very robust and will likely last the life of your printer. New chips already read full, so do not need to be reset. Pry the current chip off the cart using a straight edge screw driver or something similar, then attach the new chip in place of the old one using a chip-sized piece of double sided tape (DON'T glue chips into place). Make sure gold contacts are facing the front of the cartridge (same direction as the one you removed). Chips are sensitive to static, so against what you may think, it is best to handle them with clean, dry hands instead of wearing cotton gloves. With the new chip in place on the cart (with a small piece of double sided tape on the back of the chip), press straight down with your clean + dry finger or thumb to secure the new chip to the cartridge- making sure it sits flat in the chip area of the cart and nothing is on the chip contacts that would interfere with the chip read.
- If you do not have a full set of refillable carts installed and printer's chip sensor is still on, be aware that chips are fragile, sensitive to electrical shock and can short out (with the printer's chip sensor off, a shorted out chip will not cause any problem- but with the sensor on the printer will not function). We recommend resetting and reusing them whenever possible, but suggest having a set of replacement chips on hand if needed. New chips can be attached in place of the old chips by using double sided tape, making sure the chip is secured straight and flush with the cartridge. Replacement chips can be purchased thru www.inkjetmall.com
- Unable to print a perfect nozzle check: each time you remove a cartridge from the printer you can introduce a small bubble of air into the ink tube. This air bubble slowly works its way thru the ink line and may interrupt ink flow when it reaches the damper or print head. If standard cleaning cycles or cleaning the capping station doesn't fix the problem, then run one or two high powered cleaning cycles to push the air bubble out of the print head. Before putting a cartridge into the printer, prime the exit channel with ink. If the cartridge is not primed before installing, air in this channel will enter the printer's ink line before ink starts flowing. You can open the printer's lid and examine the length of ink tubes, make sure they are all filled with ink and there are no sections of air inside.

*** If you continue having problems or have additional questions, please refer to our InkjetMall Support Forum, which contains lots of helpful information in the Articles> Product Manuals and Instructions section, as well as previously asked/ answered threads to read. You can post a new question to contact us for support if you're unable to find the answer you need.*