MIS 2200 CONTINUOUS FLOW SYSTEM
INSTALLATION INSTRUCTIONS
9/28/04

Installation Instructions

What you will need to Install the MIS 2200 CFS

- Complete 2200 CFS Kit
- Scissors
- Measuring Tape or Ruler
- Marking Pen or Pencil
- Paper Towels
- Alcohol or Cleaning Solution
- Lubricant

What is included in your 2200 Kit

- Cartridge Set with tubes attached
- Set of 7 Inks (C, Lc, M, Lm, Y, K, Lk)
- 7 Drilled Bottle Caps
- Clear Plastic Bridge Plate with Black Velcro
- Clear Plastic Tube Support with White Adhesive Backing
- 2 Tube Clips plus one on the Bridge Plate

- 7 Black Velcro Circles (Hook & Loop)

Step 1 - Check Printer Condition

If you have a brand new printer, follow the Epson instructions for setting up your printer. Use the Epson cartridges that came with the printer. Follow normal installation instructions for the software. Test the printer by printing pictures. Learn how to use the Epson utilities to run a Nozzle pattern check and to run a Cleaning Cycle.

> Make sure that the printer can produce a perfect nozzle pattern before proceeding with installation.

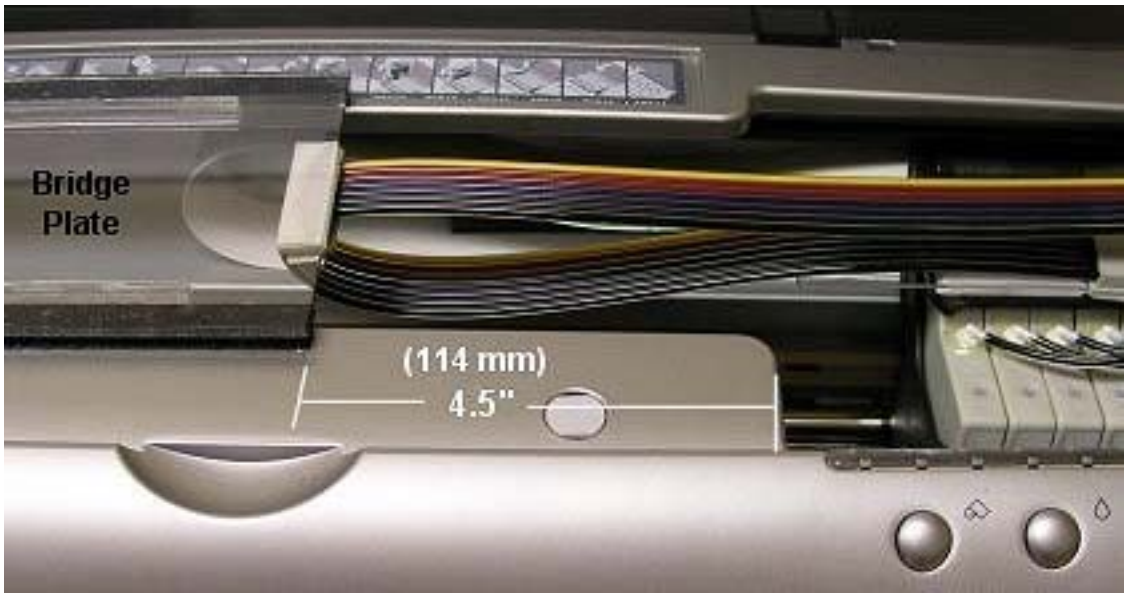
If you have been using the printer in the past, just make sure it produces a perfect nozzle pattern before proceeding with the CFS installation. If the Nozzle pattern has any gaps whatsoever, then run cleaning cycles until it prints perfectly.

Step 2 – Disconnect Power From Printer

Push, but **do not hold** the INK button on the printer. This will move the cartridges to the "replacement" position. After they move to this position, which is just slightly to the left of the parked position, PULL THE POWER PLUG OUT OF THE WALL. Now the cartridges can be moved from side to side by hand. *We will tell you later when to reattach the printer power plug (step 10).*

Step 3 – Install Bridge Plate

Use your alcohol or cleaning solution and clean the top of the printer housing where the clear plastic Bridge Plate is going to attach. Make sure you wipe this area clean and dry before proceeding. See photo below.



Use a pencil or marking pen, and mark a line on the printer housing, at 4.5 inches or 114 mm from the edge of the printer housing as shown in the above photo. *This photo was taken after the tubes were installed.*

Next, you will notice that the Bridge Plate has both the Hook and Loop Velcro on it. The Hook portion of the Velcro is going to end up attached to your printer. The Loop portion will remain on the Bridge Plate.

Do not separate the Hook and Loop, Keep them together just like they were when delivered. Remove the adhesive backing from the Hook portion of the Velcro. Keep it attached to the Loop portion. Carefully install the Bridge plate in its proper location (4.5”) from the right edge of the housing, as shown above. **The tube clip will be on the underneath side of the plate, not on top**. Keep it straight and press down firmly all along the edges. The square plastic rods will keep it straight. When you lift up the Bridge Plate, after pressing it down, the Hook Velcro will remain in place on the printer.

Open the tube clip on the Bridge plate by pressing on the end of the clip. Press firmly, it takes a fair amount of pressure to open the clip.

Put the Bridge Plate back into its position, 4.5 inches from the right edge of printer housing. Line up with the mark you made earlier.

Step 4 - Install Tube Clip and Tube Support on Cartridge Cover Plate

In the kit there are 2 tube clips. They are beige in color 1/2" wide by 2” long. Put one on the cartridge cover plate right over the Light Cyan cartridge. Clean the surface first with alcohol or cleaning solution. Make sure the **release catch** is in the back (away from you) and that the front edge is lined up with the edge of the black cartridge cover plate as shown below.

Photo taken after tubes installed

The **Tube Support** (clear plastic piece with white adhesive) goes just to the left of the tube clip you just installed. Clean the surface of the cartridge cover plate before installing, then peal off the paper covering the adhesive. The clear portion of the Tube Support should extend out to the left of the cartridge cover plate by about 1 3/8 inches. Leave a gap of about 1/8 inch between the right end of the Tube Support and the Tube Clip installed previously. Keep the front edge of the Tube Support lined up with the edge of the cartridge cover plate. See photo above. The Tube Support has extra layers of foam adhesive under it to raise it up so it does not interfere with the printer housing on the far left end of carriage travel.

<u>Step 5</u> – Install Final Tube Clip

The last tube clip goes on the right edge of the printer housing. Clean this area with alcohol and wipe dry with paper towel.

Use your pencil and make a mark 2 5/8 inch (67 mm) from the center of the hole in the housing as shown in the photo below. Then remove the paper backing from the adhesive and place the clip as shown. Left to right position is not critical.

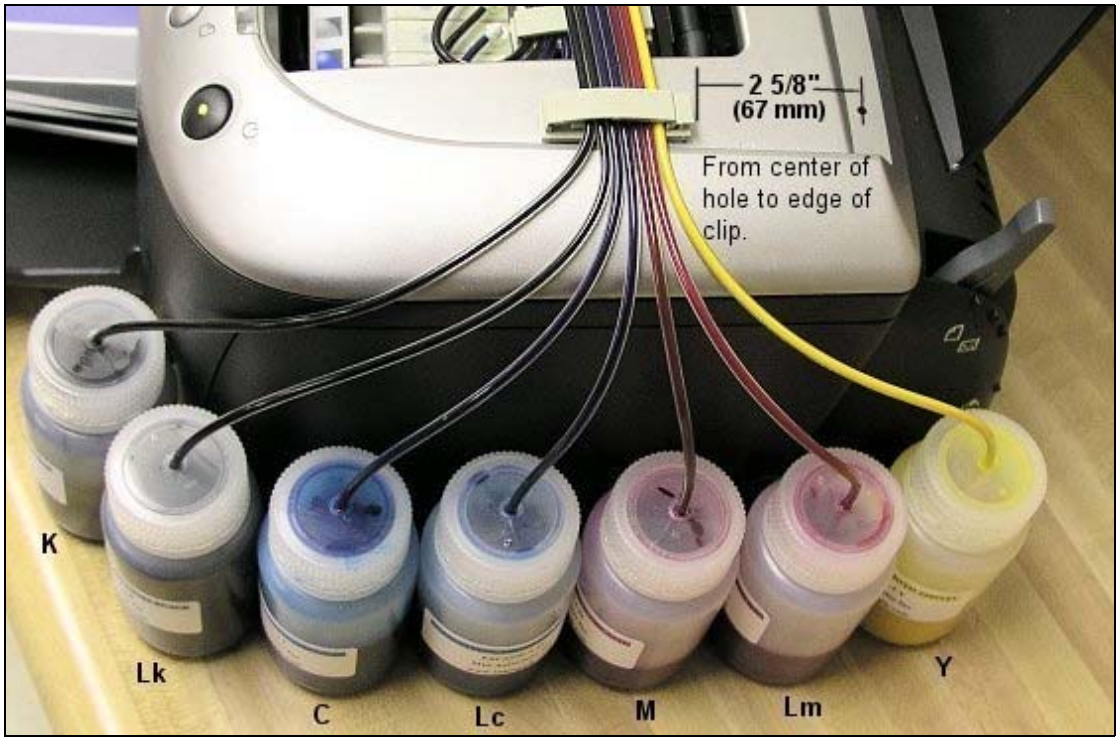


Photo taken after tubes installed

<u>Step 6</u> – Install Cartridges

Remove the original Epson cartridges from the printer (power is disconnected). Set them aside on some paper towel. Do not throw away, you may need them someday. Wrap in a zip-lock plastic bag for safe keeping.

Put the CFS cartridges into the printer. Carefully align them, black is on left and yellow on right. Do not scramble or let the tubes get all mixed up. Push down on the cartridges until they click into position. **This is very important.** When all in, they should look like the photo below.

All the tubes must lay flat so they do not interfere with print head motion. Open the tube clip on the top of the cartridge cover. Insert the tubes so they are at the inside end of the clip (nearest to you), then close the clip. Make sure you are not pinching any of the tubes. Pull the tubes slightly to the left so that all possible slack is taken up and they look like the photo above. Try moving the print head to the right to see if they interfere with the housing. If they do, pull them a little more to the left. Open clip if necessary and reposition. The print head with tubes attached and clip down should move all the way to the right, by hand, and not create any interference with the print head motion. Make sure non of the tubes are kinked.

Step 7 – Finish Tubing Installation

Find the black mark on the tubes about 6 inches from the print head. Move the ends of the tubes to the right side of the printer so there is a loop under the Bridge Plate. The black line on the tubes should be very near to the tube clip on the Bridge Plate. The tube clip on the Bridge Plate should be open, if not open it. Be careful not to break the tube clip.

> **Caution:** Do not break or damage the tube clip on the underside of the Bridge Plate during tubing installation.

Move the print head and cartridges to the far right side of the printer. Insert the tubing into the tube clip on the underside of the Bridge Plate. Adjust the tube so that the **black line** on the tubes is at the **right hand edge** of the tube clip, then close the clip. The tubes should be at the back of the clip, don't pinch any of the tubes.

Test the cartridge travel to make sure it can move all the way to the far right and to the far left of the printer without having the tubes causing interference. Move the print head and cartridges by hand to do this. If necessary, adjust the tube position in the tube clip under the Bridge Plate. Make sure the Bridge Plate is securely held down by the Velcro.

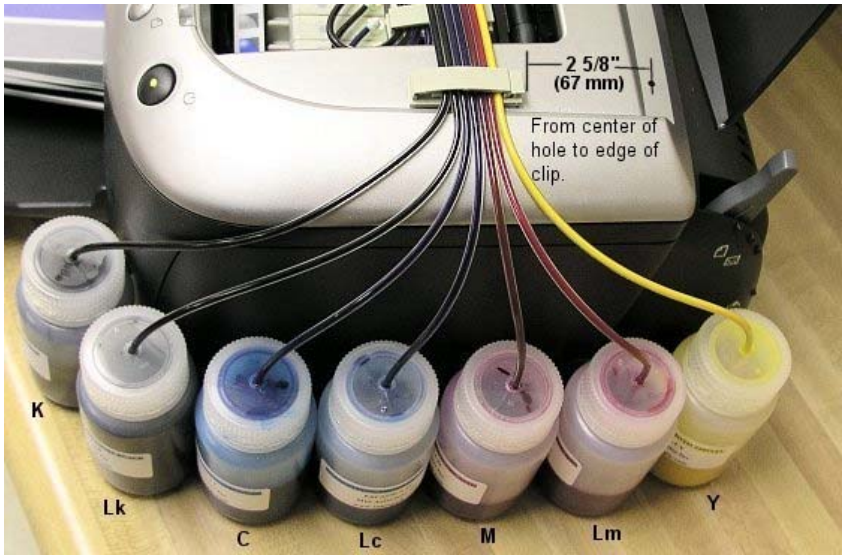
The tubes should curl under the Bridge Plate and remain straight while the print head moves back and forth. Make sure the tubes don't get pointed at an angle coming out of the tube clips.

Next, lay the tubes into the tube clip on right edge of the printer and gently pull the tubes taunt so all sag is eliminated. Then close the tube clip. The yellow tube should be in the back (away from you) and the black tube in front.

<u>Step 8</u> – Set up the Ink Bottles

Find the ink bottles and the black Velcro Circles. Clean the back of each bottle with alcohol and wipe dry. Attach a Velcro Loop circle to the back of each bottle. Attach the mating Velcro circle to the piece on the bottle. Peal off the backing on the mating Velcro so the adhesive is exposed.

Take off the shipping caps and install the drilled caps. Each cap should have a hole in the center and a small vent hole in the Nalgene logo. Make sure the **vent hole** is there and that it is not blocked or obstructed.



From **front to back** they should be in this order, just like the picture above shows.

Black – Light Black – Cyan – Light Cyan – Magenta – Light Magenta - Yellow

When you press the exposed Velcro adhesive against the printer, the hook portion will stick to the printer and this becomes the permanent position for the bottle, so choose your bottle positions carefully.

Velcro attaches bottles to printer

The tube lengths have been pre-cut so the will reach the bottom of the ink bottles placed in the positions shown above after the blue clip is cut off.

Set up the bottles as shown, and work with one tube at a time, starting with the yellow tube (Yellow is in the back, away from you, and black is in the front). Test the length of this tube by placing it near the bottle, on the outside, and see if it is going to reach the bottom of the bottle. It should not be too short. If it looks like it is going to be too long, then mark the tube with a ball point pen at the spot you think it should be cut.

Remove the blue clamp from the end of the tube and cut the tube with scissors just above the location of the blue clip, on a an angle. The blue clamps cause the tube to collapse and the collapsed portion of the tube must be removed. After cutting the tube just above the blue clip it is ready to insert into the bottle.

The tube for each bottle should just touch the bottom of the bottle

Insert the tubes into the bottles. Make sure that you insert 3 ½ to 4 inches (89 to 102 mm) of tube length into the center hole in the bottle cap. This will put the end of the tube on the bottom of the bottle.

Make sure the correct color tube goes into the correct color ink bottle. A mistake here will ruin the whole system.

The tubes should make a nice smooth curve into the bottles. It should look like the photo above. Don't let your tubes make any vertical loops. The transition into the bottles should be smooth. The fully installed system should now look like the photo below. The first few systems we made had filled carts but the tubes were empty. Now our systems come pre-filled with ink, so your tubes will be full.

If you have some silicone spray, WD-40 or similar light lubricant, it is a good idea to apply some to a **paper towel** and wipe the bottom of both tubes with a small amount of lubricant on the underside of the tubes between the cartridges and the Bridge Plate. Referring to the photo above, lubricate both the upper and lower tubes on the underside only. This prevents the tubes from sticking to each other in the event they should touch. It is just a precaution.

Step 9 – Testing the System

Push the cartridges to the far right and reattach the printer power. **Turn on the power** on the front of the printer if needed. Have you computer and graphics program up an ready to go.

The printer should come on and move back an forth a few times and do a cleaning cycle. When it stops moving, only the green light should be on.

A red light at this point is not a good thing. It indicates the one of the cartridges is not seated all the way down. Go back to Step 6 and make sure that all the cartridges have clicked into position. Lift the ones with red light just slightly, if needed and reseat them until they click.

After the cleaning cycle is over, bring up an image on your favorite graphics program and get set to make a print. Be sure to put paper in the printer. Before printing, use the printer properties and Epson utilities to check the nozzles. The nozzle pattern may not be perfect at this point.

Run 3 or 4 cleaning cycles if necessary to achieve a perfect nozzle pattern. When all the nozzles are present, make a print. As long as the print is satisfactory and all the nozzles are present, there is no need to do any further cleaning cycles.

The tubes are normally full, but if your tubes are partially empty, don't worry about the inks, it will take several (20 or more) prints for the inks to reach the cartridge and fill any gaps you may have in the tubes. In some of our early 2200 system, we filled the carts but not the tubes. In this case you will see the inks climb up the tubes as you print. There is no particular order in which they will get there. Light black is always last and may not get there for a long time, depending on what you are printing. Light black is very seldom used.

Maintenance Suggestions

- Try to make a print every day to keep the system fresh. These systems do not like to be left for days at time without printing.
- Don't let your ink levels get below 1/4 empty. Add additional ink when this happens. The tube can be lifted out of the ink to add more. Don't leave the tube out of the ink for a long period of time. The cartridge can drip ink into the printer when the tube is out, but it happens slowly. There is no vacuum to lose or
- Once you have installed the cartridges, **do not lift them up**. Lifting up the cartridges lets air into the ink inside the cartridge and it can become foamy. Foamy ink will not print.
- After you do cleaning cycles or after the printer has been off and then turned back on, the Auto Reset chips on the cartridges will reset themselves to full. When this happens, you have to acknowledge a message from Epson indicating that the chips are not authentic Epson chips. Just click the YES button to continue.
- If you get a red light when printing. Shut the printer off, cancel your print job and wait 10 seconds. Then turn the printer power back on, the Auto Reset chips will reset themselves back to full and you can continue printing.

For additional technical assistance, visit the MIS troubleshooting guide at www.inksupply.com.