

870/890 CFS Assembly Instructions

Pre Assembled CFS with Auto Reset Chips
Rev 4/23/03

Below are the instructions for installing a **pre-assembled** CFS for an Epson 870 / 890 printer. On the pre-assembled unit, the cartridges come full. You do not have to inject ink or vacuum fill the cartridges. The empty tubes will fill with ink as you begin to use the system. Do not try to force or put any ink in the tubes.

Here is what you will need to do this installation.....

- Alcohol or Alcohol swabs
- Continuous Flow Cartridge set with empty tubes attached
- MIS Short Bracket (1) and MIS Bridge Bracket (1)
- MIS Ink Tray
- Ruler or tape measure
- Black Felt Marker and a pair of scissors.
- Small thin screw driver, not phillips.

Get everything together in one place so you can do this all at the same time. It will take about 15 minutes of your time. It is not difficult if you have the right tools. Of course the second time you do it, it will be a lot easier.

Validate Your Printer Performance and Set Up USB Cable –

1. Before you begin installing the CFS, make sure your printer is working perfectly. If you don't do this and you have problems later on, you will never know if it is the CFS or your printer. So, **DO NOT SKIP THIS STEP.** Use your Epson cartridges, and check your nozzle pattern, if it looks good, then print 5 copies of the PURGE6.TIF image. The prints must not have any banding or skipping on them. Make sure you print using 360 DPI, PLAIN PAPER settings. If either the purge6 prints or your nozzle pattern tests have problems, then run cleaning cycles in groups of 3. Print a copy of purge6 after 3 cleanings. Always check your nozzles before and after each cleaning. If you can not get a perfect print or nozzle pattern, then **DO NOT PROCEED WITH THE INSTALLATION OF YOUR CFS.**

Install Tube Bracket -

2. Lift or remove the printer cover. Clean the housing surface where the bracket will attach with alcohol. Clean both bottom and top of housing. Wipe dry with a paper towel or clean cloth. The tube clip on the bracket should be on the right side. Remove the paper backing from the foam tape and place the bracket 4 3/8" from the inside edge of the printer housing, as shown below.

Attach the small tube bracket later, after the cartridges are installed.



Remove Cartridge Hold Down Clamps –

3. Remove both the black clamp and the color clamp. With the power on and with the printer idle, push the **Orange button** under the printer lid. The cartridges will slide to the left, to the cartridge removal position. Use your screw driver to remove the clamps. Put the screw driver blade in between the blue and black plastic parts where the clamps are hinged, and twist. The clamps will pop right off. With the cartridges in the left position, pull the power cord for the printer out of the wall, disconnecting the printer power.

“At this point, disconnect the printer power by pulling the plug out of the wall”

Install the CFS Cartridges -

4. With the power disconnected, remove the old cartridges, insert the new CFS color cartridges. There should be 4 felt pads on each cartridge. You may have to guide these felt pads into the cartridge holder, it is a tight fit. Push the cartridge all the way down, so it is seated at the bottom of the cartridge holder. If it is not seated all the way down, the chip may make partial contact causing it to become **unusable**. Do the same with the black cartridge. Both should now be firmly in place. You don't want them to be lifted by accident or by the tubes pulling on them.

Next, install the nylon tie wrap, hold down strap, as shown below. It is important to get it in the exact position as shown in the photo, so it will be in the depressed area of the chassis. See photo. This is your insurance that the cartridges will not pop up and cause damage to the electronic chips on the front of the cartridges. If you have “red light” problems after installing your CFS, it is due to the chips on the carts being damaged. Careful here, they are delicate electrically. Do not use pliers or any tools to tighten the tie wrap, just your hand strength. If it is pulled too tight, it will cause the black cartridge to lift up.



Tie Wrap Installation

Install Tubing in Bracket and Adjust the Slack -

5. Put a little alcohol on the tubes at the position that will interface with the bracket. Do not rotate the tubing. Slide the tubing into the tube clip attached to the bottom of the bridge bracket. This is the bracket you installed in step #1. With the cartridges still in the left hand position, make sure there is a little slack in the tubing, not a lot but just enough. If you can't get the tubing into the bracket, use a little more alcohol on the tubing.

Move the cartridges, by hand, from far left to far right. Make sure there is sufficient slack in the tubing so that the cartridges can reach the far right and far left with out putting excess tension in the tubes. If you have too much slack in the tubes, then the tubing will touch the bottom of the printer. Adjust the tube position in the

tube clip so the tubes don't touch the bottom of the printer, and so the carts can reach far left and right with out the tubes stopping the motion. **This is important.**

6. Clean the right section of the printer housing with alcohol, then install the second bracket on the right hand edge of the housing so the tubing is in a straight line. Put the tubing into this small bracket. Now you are ready to insert the tubes into the bottles. The position of the bracket opening can be either up or down. It does not matter.

Set up the Bottles and Insert Tubes -

7. Set up the bottle tray next to the right hand side of the printer. The cartridges come with extra tube length. Some of the tubing must be cut off of each tube. Un-web the tubes all the way back to the small tubing bracket on the right hand edge of the printer. Trim each tube length so that the tube will make a turn into the bottle with out rising up. There must be 3 ¾ inch of tubing inside the bottle. The bottles should be arranged in order.... Y-PM, M-PC, K-C from front to back. You just want to have a neat orderly tube arrangement. Cut the ends of the tubes on a 45 degree angle so they have a point on them. After you cut the tubes to length, use a black marker and make a mark on each tube 3 ¾ inch from the end of the tube. Insert the tubes through the larger hole in the center of the cap until the black mark is just inside the cap. Don't cut the tubes too short.



Ready to Turn Power On -

8. Move the cartridges, by hand to the far right side of the printer until they stop. Plug the printer power plug back into the wall. If the power light on the front panel is not on, press it in to turn on the power. The printer should make some quiet noises and the cartridges may move left to right. There should NOT be a red light on the front panel. **THIS IS IMPORTANT.** If there is a red light, this means the chips on the front of the cartridges are not making contact with the printer. *See the troubleshooting section of our website if this happens.*

Now the tubes are all attached and inserted into the bottles. Make sure the tubes are not restricting the motion of the cartridges. Add more slack if they are. When the printer stops making noise, you are ready to start printing.

Let Ink Begin to Fill Tubes -

9. Run 3 cleaning cycles. Print a couple of copies of purger6.tif, found on the diskette. The inks should begin to climb up the tubes. They will not all rise at the same rate. If you have banding or incomplete printing, run 3 more cleaning cycles and nozzle checks. As soon as you have a good nozzle check, you are ready to start using the system. As you print, the inks will continue their climb until they reach the cartridge. Don't worry if the inks seem to be moving slowly, they will all get to the cartridge eventually. It is not necessary to wait until the inks have filled the tubes. You can begin printing as soon as you have a good nozzle check.

Understanding the Auto Reset Chips -

10. Your CFS cartridges have Auto Reset chips on them. Each time the printer power is turned on the chips will reset themselves to full. If need to reset the ink levels, simply turn off the printer power, wait 10 seconds, and turn the power back on. This resets the chips. The actual ink level inside the cartridges is kept full by the CFS unit. The ink level displayed on your screen by the Epson monitoring system is not the true ink level inside the cartridges. It is what the monitoring system and chips are indicating.

Enjoy your new system. If you are a frequent printer, get ready to save a lot of money.

Troubleshooting –

Our website, www.inksupply.com, has an excellent section on CFS troubleshooting. If you are having problems with your CFS, then this is the place to go for assistance. Carefully read the symptoms of the various problems and determine which solution you need. You can email or call us for tech support if needed.

Don't let your CFS go for several days without printing. They tend to develop problems if left idle. Try to make a print each day, or at least once per week. This is especially true if you live in a hot dry climate. If you are not there to make a print, use our **Autoprint** program contained on the MIS diskette. See the Readme file for installation instructions.

If you have missing nozzles, they must be recovered within 24 hours. If you wait to take corrective action you are putting your printer at risk. Use Epson cartridges to recover nozzles if our troubleshooting tips do not solve the problem.

Most Common Problem -

The chips on the cartridge must remain in contact with the 7 small fingers in the printer that touch the chip. If just one of them loses contact, a red light will come on preventing further printing. When you are pushing the cartridge down into the cartridge holder, it must go down ALL THE WAY. Contact with the chip is only made in the last 1/32 of an inch. If the cartridge moves up just slightly, contact with the chip is lost and a red light comes on. Or if the tubes have too much tension when the cartridges move to the far left, it will pull the cartridge (black) up, causing a red light. If you do not think the cartridges are secure, then add shims, tape or what ever you can devise to keep them in place. Release some of the tension on the tubes by moving the tube in the bracket to the left. Don't put too much slack in the tubing or it will interfere with the cartridges moving back and forth. This adjustment is critical and best done by disengaging the white lever under the cartridge holder with the power off. Then slide the cartridges back and forth by hand while adjusting tubing tension. Be sure to put the carts all the way to the right before turning the power back on.

If you have a premature red light on, when it is not supposed to be on this is a serious problem. Try turning the printer power off for 10 seconds, then turn it back on again. If this does not work, new chips may be needed for the CFS carts. Call us for technical support.

Ink Foam Accumulation –

Some where between 6 months and 18 months of operation, you will have to do some preventive maintenance on your CFS. Ink foam gets trapped in the sponge inside the cartridge. This ink foam will accumulate and reach an intolerable level after many, many prints. We don't know the exact number, but it usually occurs somewhere between 6 months and 18 months. It depends how heavily you use your printer. The symptoms of "Ink Foam Build Up" are missing nozzles or the disappearance of an entire color. Normally a few cleaning cycles will bring your printer back to normal, but when excessive ink foam has accumulated, cleaning cycles will not bring it back. Correcting the problem is not difficult. It amounts to flushing out the foam by drawing fresh ink out of the bottom of the cartridge. The details of the procedure are described on

the CFS troubleshooting page on the website. Keep your original Epson cartridges, they are needed for this procedure. They can be used several times for revalidation of printer performance.