

## How to Hold Chips in Place with No Carts Installed

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This exercise was to see how easy it would be to make a system that would hold Epson or third party chips in place inside an Epson printer, but with no cartridges installed. I'm happy to say it took less than 2 hours to do it with materials that most have lying around the house.

The basic device is shown below.



This type of device will allow a simple continuous flow system that uses standard tubing and Epson dampers to be used on virtually any Epson desktop unit.

Note that I do not know if Epson has any patents that cover this device, and I do not encourage anyone to violate valid patents. I have never examined any Epson patents relating to this subject matter. The goal here is to find a way to use competitive inks in Epson printers without having to use cartridges that may violate Epson patents. A continuous flow system that does not need carts is one obvious alternative to the potentially infringing carts.

All information used to make this device was obvious or readily available by simply measuring with a ruler and testing. No information or encouragement for this came from any supplier or other person. The motivation was and is simply to find a way to continue to use the superior and competitively priced, non-Epson – particularly B&W – inksets we have available to us. The device shown was the first effort at this, and it works.

The printer I used was an Epson C88, but the carts it uses are also used in the R220, 1800, and 2400. So, all the measurements except the width of the back piece would be the same. Standard foam core was simply cut with a sharp knife to appropriate sizes and glued together. The foam core is about 3/16" or 5 mm thick.

First a strip 11 mm wide was cut, and this strip was cut into 42 mm lengths. These were laid into the slots where the carts go, up against the printer chip reading prongs.

Next a piece of foam core 63 mm x 35 mm was cut. The 63 mm width is enough that the friction with the sides of the C88 cart carrier will hold it in place. If it gets loose, it's easy enough to put supports behind it.

Next, glue was put on the backs of the 11 x 42 mm pieces that were lying in the printer cart chip slots, and the 35 x 63mm piece was put into place behind these strips to glue all the pieces together. I used quick setting epoxy, but others could be used.

When the glue was dry, the chips were positioned on the face of the 11 x 42 mm pieces. The holes in the chips are 4.5 mm from the left side, and the top hole in the chip is 12 mm above the bottom of the 11 x 42 mm strips.

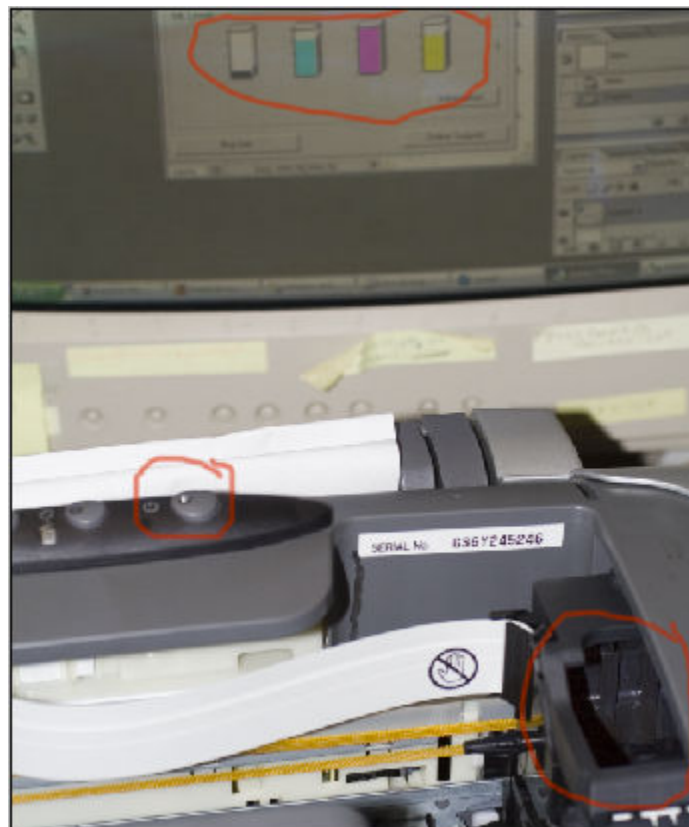
The blue putty type material MIS uses to stick chips onto carts was used to hold the chips in place.

When the foam-core unit with the chips was put into the C88 (with no carts), it took several tries to get all the chips in the right position. However, using the Epson printer ink monitor utility to tell me which chip was not being read, it was rather easy to get them all aligned. The blue putty allows the chips to be moved slightly for positioning. I would use auto-reset chips so that the holder could just be put in once and ignored thereafter.

The photo below shows the device in place.



Note in the photo below, there are no carts in the C88, the Green ready light is on, the ink monitor shows that inks are installed (even though the used black chip needed resetting, which is easy), and the printer “thinks” it is ready to print.



This exercise demonstrates how easy it is to make a device to hold the chips in place. How to do this is simply obvious.

I'm encouraged that we will continue to be able to find ways to use the competitive printing processes we prefer and avoid Epson's attempt to monopolize ink sales into its printer base.

Paul