Trolley Tip - Do-It-Yourself Decals - by Bob Dietrich   **February 1997**

The purpose of this article is to share my experiences with the copier-ready decal paper now available from Micro·Mark (340-2186 Snyder Ave., Berkeley Heights, NJ 07922). The decal paper is much thinner than most decal paper and therefore can be fed through a color copier where it must bend and flex to follow the paper path. It curls somewhat from the heat of the copier but will flatten as it cools. The xerographic process works well with the decal paper, leaving a clean sharp image that can be floated off like any other decal. The properties of the decal film is probably closest to Micro-Scale decal paper.

Most of the work involves the creation of the image (artwork) to be reproduced. After scanning the original picture into the computer, I use a paint/graphics program (e.g. Paint Shop Pro) to clean it up and/or modify it. Once satisfied with the graphic, I copy it into Microsoft's PowerPoint so I can use its "scaling" feature to size the image to twice O scale when printed. I also have a PowerPoint file that contains some lines with gradients every three scale inches that I use it to size the images as they are reduced.

I try to stay with primary colors as much as possible because most color printers use a dithering effect to create other colors and these do not print as cleanly. A solid color on the original artwork can be changed to any other color during the copy process. For example, if I need a decal which has gold or silver, I make the artwork appear yellow where the gold or silver will be. At the copy center, they can change any color, in this case the yellow, to gold or silver or cream as required. Darker colors are handled the same way: any shade of green can be changed to match a particular Floquil green on the copier. The trick is to take a sample of the color required to the copy center and have them match it. One word of caution, the color that you get on regular copy paper may be different than what appears on the decal paper. Trial and error being the key here for good results.

Once the graphic is the correct size and the colors worked out, I copy and paste as many as I can fit onto a page, and then print it on a color inkjet printer. I then print as many copies as will fill up an 11" x 17" sheet (the maximum size of the copier bed) and paste them up (manually with scissors & glue!). Next stop is the copy center.

I make the color-change copies first without reducing. Then I reduce the copies directly to the decal sheets, 50% for O Scale decals. For HO decals two reductions are necessary, the first one at 45% and the second at 50%. The end result is usually dozens of individual decals on each sheet.

Things I discovered:

The copier works when a positive charge on a drum transfers an image to a negative charge on the paper. That's as much as I know about it, so don't ask. What I do know is that the decal paper does not hold as much charge as regular copy paper. Therefore it is recommended to run a piece of plain paper through the copier between runs of the decal sheets to "clean" the drum of excess toner.

There is no white! Computer printers and copiers (color & B&W) do not have a white ink. They achieve white areas by <u>not</u> putting down toner in those areas. If you have decals with white in them you must produce them on the white decal paper. All-white decals, like white lettering, cannot be created achieve white areas by <u>not</u> putting down toner in those areas. If you have decals with white

in them you must produce them on the white decal paper. All-white decals, like white lettering, cannot be created using this process because they would have to be individually cut out from the white sheet (A tedious task in O scale let alone impossible in HO!)

Light colors tend to disappear on clear decal film when placed on a dark background. A copier that can adjust the density, or opaqueness, may overcome this problem. Since I haven't found such a copier, I use two decals for one image. The background and border are copied to a white decal sheet which is then trimmed as close as possible and applied to the model. The foreground, including borders, is copied on the clear sheet, trimmed in the normal way, and applied over the background decal.

Be careful when trimming the decals, the color is applied only to the top and can chip when being cut. Spraying the decal with a clear coat will reduce the chipping.

This decal paper makes it easy to create decals that are not readily available. With a computer and color printer you can make your own, or, if you don't have access to a computer, I can do it for you. Give me a call (Bob Dietrich, 610-458-0834) to discuss any projects you have.

Below are some examples of the artwork Bob has been working with.