

Printing on tissue

by Paul Bradley

Tissue paper is the preferred covering material for many light weight model airplanes. Prior to the availability of computer driven ink jet printers, modelers using tissue covering had to rely on a variety of methods to add color and markings. This consisted of using different colors of tissue, marking pens, ruling pens, and other techniques for applying color and details to a model's covering.

When ink jet printers started becoming available for prices the modeler could afford, it did not take long for people to realize that ink jet printers and light weight tissue paper were made for each other. Using an ink jet printer it is possible to add just about any color, color combination, and marking detail to a sheet of tissue with no weight gain. My use of the ink jet printer to apply color and markings to plain white tissue paper began around 1992. I have been using the process ever since to add eye appealing color and trim to my models.

This short pictorial article describes the process I use for printing color and markings directly on light weight tissue paper using an ink jet printer. It is surprisingly easy and any ink jet printer can be used. The resulting tissue can be used on light weight indoor models, outdoor models where weight is an issue, and even on heavier radio control models. In the latter case the ink jet tissue is applied over a film underlayment using clear dope. Want to give it a try? ... I hope so.

What do you need? There are two basic requirements for printing on tissue paper. First is an ink jet printer. I am not aware of any on the market today that will not work for this application. Some printers feature a straight through paper path. These work especially well for printing on tissue, but that feature is not required. The second thing you need is some graphics software to develop your artwork. Just about any program that will let you draw will work fine. I prefer software that uses vector graphics so they can be scaled without any loss of resolution. Programs that draw using bit maps can also be used very effectively.

In addition to an inkjet printer and supporting graphics software, you will also need a can of spray adhesive. My recommendation is 3M Spray Mount, or 3M Photo Mount. Along with the spray adhesive, you will need a sheet of printer paper to serve as a backing sheet. This piece of paper will need to be the same size as the piece of tissue you will be using for printing.

The process. The photos that follow will take you through the steps. Basically, the process is create your artwork, prepare the tissue for printing, and then print the tissue sheet. Here are the more detailed steps.

		
Begin by creating your	Begin by preparing a	Apply a light coat of

<p>artwork. The example shown here has been developed using CorelDraw. The printer I am using supports printing on sheets 13 inches by 19 inches. The drawing shown was set up to print on a sheet 12 inches by 18 inches.</p>	<p>backing sheet for the tissue. Use a piece of paper that is the same size as the tissue sheet to be printed. If your printer supports banner printing, or custom sizes that will let you print long sheets you can use that capability to print panels the length of a full tissue sheet.</p>	<p>spray adhesive to the backing sheet. Use an adhesive that will let you reposition a piece after being placed on the adhesive. I have found that 3M Spray Mount works very well for this application. An alternative is 3M Photo Mount, but be careful on the amount used. It is more permanent.</p>
		
<p>After applying the spray adhesive, stick the backing sheet to a piece of cardboard. Peel off the backing sheet. Repeat that process for 3 or 4 times. This will reduce the tack of the adhesive.</p>	<p>Now apply the tissue to the backing sheet. Smooth out any wrinkles that may develop. I typically use the heavier grade of tissue known as art tissue or shoe box tissue. This tissue has a denser white and produces good color. The nice very light grades of tissue also work quite well.</p>	<p>Once the tissue has been applied to the backing sheet, it is ready for printing. Place the tissue/backing sheet in the printer so the tissue will be the printed side. Shown here is an HP Model K850 printer. It supports a straight through paper path, and the tissue/backing sheet has been placed in that feed opening.</p>
		
<p>After the tissue/backing sheet is in the printer you can start printing your graphics. You might want to make some test pieces to see</p>	<p>As the tissue sheet is being printed it may tend to pucker as it becomes wet from the ink. This is not a problem. Be sure to let</p>	<p>Once the ink has dried, the tissue sheet can be removed from the backing sheet. This should not be difficult. Be careful as you</p>

<p>how well your printer handles adjacent colors. It may be necessary to reduce the amount of ink being applied to minimize any color bleeding. I have found that draft, or economy modes work best. Some printers will also do well on the normal mode. This latter mode applies more ink for bolder color.</p>	<p>the ink dry before handling the sheet.</p>	<p>remove the tissue to minimize the chance of tearing the sheet.</p>
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<p>Most ink jet printers do not use water proof ink. This can be a problem if the tissue needs to be water shrunk, or if the model will be exposed to moisture. There are several ways a completed sheet can be treated for water resistance.</p> <p>The first method is to make up a solution of very thin clear dope. A mixture of 1 part dope to 9 parts thinner will work nicely. You can apply this to the tissue before or after covering a model. I like to do it after the model is covered. After the thin dope is applied and dry, the tissue will be sealed. You can then water shrink. Just be careful not to develop puddles of water. Keep the water mist fine. The tissue will shrink normally. Regular finishing coats of clear dope can then be applied to complete the finish.</p> <p>For models that will have the tissue</p>	<p>Here is the completed model sporting the ink jet printed tissue. This model is a No-Cal (reference to no calories due to the profile fuselage) British WWI SE-5a built to the Flying Aces Club (FAC) rules. The plan for this model can be found in the downloadable plans section of the web site.</p> <p>As you can see, even a simple model like this No-Cal SE-5a can be nicely dressed up by using ink jet printed tissue paper.</p>
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applied to a solid surface, such as balsa or a film underlayment, you can seal the tissue after it is applied. Clear dope works well for this as do Krylon clear sprays. Krylon Fixtatif or Krylon Crystal Clear work very nicely for sealing and finishing ink jet printed tissue.	
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In summary, it is possible to develop some very colorful and detailed models by using a computer driven ink jet printer to print color and markings on sheets of light weight tissue paper. With a little imagination, and some white tissue paper sheets you can create some very eye catching models.... with no weight penalty for the color and markings. If you have questions or thoughts on the process please feel free to contact me at bradleyp@ix.netcom.com