

## **INTRODUCTION:**

The design goal of this series is to create models for the wargame table that are aesthetically pleasing, historically convincing (if not perfectly accurate - some compromises have been made to keep the construction simple), easy and satisfying to build using common or readily available tools and materials, sturdy enough to withstand the handling and transportation that wargaming requires, and inexpensive.

If you are a wargamer or model builder, you probably have all or most of the tools and materials that will be needed already.

These models combine the methods of scratchbuilding and paper modeling. Each one uses its own set of tools and techniques, which will be described in the specific steps of the instructions, but first, some general information that will apply to any of the models in this series:

## **TOOLS YOU WILL NEED:**

1. A sharp hobby knife. The kind with breakaway blades is very good for this purpose, since you can snap off the old blade and begin each model with a fresh point.
2. A small sharp scissors. A seam ripper is good for this.
3. A metal ruler or straight edge. To guide knife cuts and scores, and aid in folding long, narrow parts. A 6" ruler will be good enough for most purposes, but a 12" one is nice.
4. Tweezers. Indispensable for handling small parts and pieces of rigging. The kind with an angled tip are especially useful.
5. Toothpicks. For applying glue to otherwise inaccessible spots.
6. Felt-tip markers. A black Sharpie will work if that's what you have handy, but the chisel-tipped calligraphy markers are easiest to use and give the best results. Ideally, you should have a black one, and a brown one.
7. Drill bits. For stepping the masts. The bit should be as close to the size of the mast (either toothpick- or skewer-sized, depending on the model) as possible. Since the hulls are just paper and balsa, a power drill is not necessary. A pin vise is useful for the smaller sizes, and the larger ones (1/8"+) can be twisted by hand to create the hole where the mast will be mounted.
8. Wire cutters. Smaller is better; a rail cutter is perfect, but any small, sharp wire cutter will do.

## **MATERIALS YOU WILL NEED:**

1. 1/8" balsa sheet.
2. Cardstock. 90 to 110 pound works best.
3. Ordinary copier paper.
4. Heavy tagboard, about .5mm thickness. 4-ply Bristol board is perfect.
5. Round Toothpicks, or wooden dowel about 1/16" in diameter.
6. Bamboo skewers or wooden dowel, as close to 1/8" diameter as possible.
7. Wire. Florists wire works well, being soft enough to cut easily, but still stiff enough to hold its shape in short lengths. 18 or 20 gauge is about right for spars, but smaller gauges (22 or 24) will do, especially for standing rigging. Most craft stores will have a variety.
8. Glue. Any PVA based household white glue will work fine. Some of the parts will work better with cyanoacrylate, especially the "gel" type, but it's not strictly necessary.
9. Black cotton thread. For the rigging.
10. Paint. Hobby or craft paint, for coloring the wire parts. Tan and black are really all that's needed.

### **SOME GENERAL PAPER MODELLING TIPS:**

1. After printing out the parts sheets, spray them with a clear, matte sealant or fixative. This will prevent the printed images from being damaged by moisture or oil from your fingers, or by glue that gets where it doesn't belong.
2. Only cut out as many parts as you need at one time. It is easy to lose or damage small parts once they are separated from the sheet.
3. Rough-cut each part from the sheet first, and score any lines which are to be folded before trimming it carefully to its finished shape. Lines which need to be scored are marked by small arrows, where possible. Where space is too restricted for arrows, the written instructions will describe where to score the part, and the accompanying photo will give further guidance by showing how the part is to be folded.
4. Scoring is easiest with an old, dull knife blade, to avoid cutting into the cardstock. I frequently use the *back* of an old Xacto knife for this purpose. The purpose is to just make enough of an indentation, without actually cutting the cardstock, that it will fold crisply. Light pressure is sufficient, in order to avoid scratching the printed surface any more than is necessary to get a sharp fold.
5. Tint the edges of the finished part that will be exposed after it is in place on the model, by running a marker lightly along the edge. Don't linger in one spot with the point of the marker, as the cardstock will absorb ink quickly, and the surface will discolor. After folding, a crease will sometime show exposed white fibers; these can also be tinted with a marker to improve the look of the finished model.
6. Dry fit every part, holding it in its intended destination without using any glue, to make sure of the fit. Any parts that do not fit neatly into place can be refolded or trimmed before any glue is applied. If a part simply will not fit, or gets lost or mangled, don't panic; just print out a new one.
7. Use a sharp knife. Starting each model with a fresh blade is a good practice.
8. Use as little glue as possible, consistent with getting a good bond. Excess glue squeezes out of seams, creating ugly beads on the finished model, and warps the materials.
9. Be patient! Allow parts to dry completely before further trimming, or moving on to the next step. Move on to preparing the parts for the next step while waiting for the glue from the current step to dry. Or, pour yourself a (modest) drink, and sit back and admire your craftsmanship.

If you are an experienced paper modeler, you probably have your own tricks and techniques that have proven successful; by all means, use them! There is no one "right" way to build these models. And if you are not very experienced, feel free to try anything that you think might work better for you (and let me know about it if it does!). You stand to lose nothing but the time it takes to print out a new set of parts and try again.

Additional hints and techniques are available at Steve Brown's excellent Card Modeling FAQ:

<http://www.cardfaq.org/faq/>