

## 20' Up! Making and Flying silk war standards



**Baroness Theodora Delamore, OP and Baron Alan Gravesend, OP  
October 6, 2008. University of Atlantia, Session#73**

### Course outline

- The language of vexillology in general, and the anatomy of standards in particular
- Historical examples of war standards (or not many cloth things survive).
- Designing your own war standards (while there are no cut and dry rules, there's a general trend)
- Basic silk painting skills necessary for producing your own war standard
- A flag pole all your own (or 20' up!)

### Vexillology: The study of flags

**Banner:** A flag that generally corresponds exactly to a coat of arms.

**Finial:** (often decorative) top of the flag staff.

**Fly:** Part of a flag opposite the staff (sinister)

**Gonfalon:** Flag hung from a crossbar

**Ground:** the field of the flag.

**Hoist:** part of the flag nearest the staff (dexter)

**Livery colors:** principal tinctures of a coat of arms; typically a color and metal

**Pencil, Pennon:** small flag, such as a lance flag; armirgeous. Often bears a badge against livery colors. (Modern version = **pennant**.)

**Pennoncelle:** long, narrow pennon or streamer. Often single pointed.

**Pinsil:** Scottish pennon, featuring the owner's crest & motto in the hoist and badge in the fly

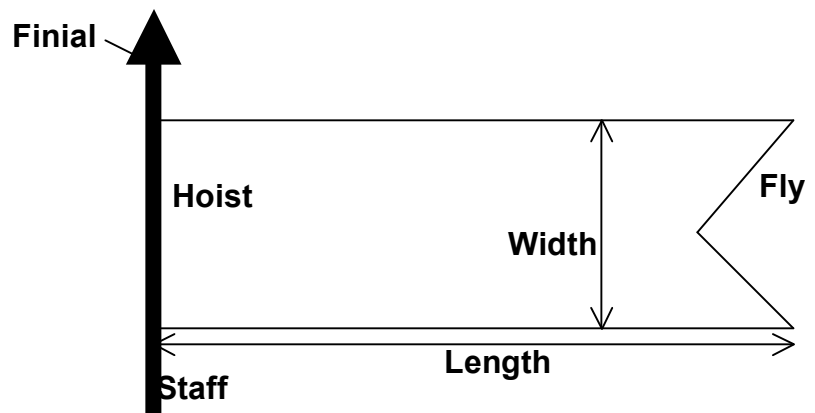
**Schwenkel:** a single long tail extended from the upper fly corner of a flag.

**Standard:** long, tapering flag of heraldic design.

**Swallow tailed** – having a large triangular section cut out of the fly end.

**Tail:** square or pointed piece of material, either long or short, decorating the edges of a flag.

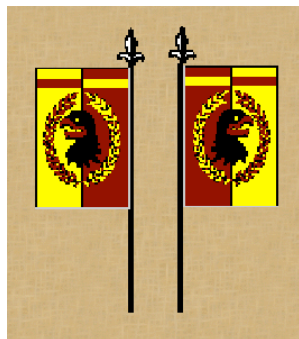
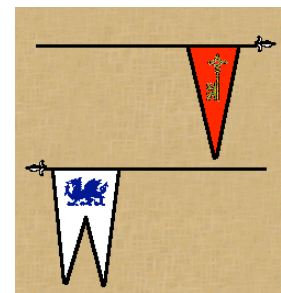
**Tongues:** Multiple tails



**Anatomy of a Flag (W. Morgenstern)**

### Our favorite Medieval Flags:

**Pennon:** from the Latin, *penna*, meaning “wing” or “feather”. Historical examples typically show these small flags on a spear, displayed so that it could be displayed when the lance was couched for the charge. The 11<sup>th</sup> century pennon was generally square, with pointed tongues streaming from the fly. Towards the end of the 12<sup>th</sup> century, it was charged with a badge/arms of the owner. During the reign of Henry III, the distinctive swallow-tailed shape appeared.



**Armoial Banner:** The name comes from the *bandum*, Latin for ‘standard’. The field of the banner corresponds to the owner’s coat of arms, displayed so that the dexter side is always next to the staff. Banners were sometimes tongued. They were generally made on a stiff foundation and displayed with a rigid support to prevent flapping and more effectively display the owner’s arms.

**Gonfalon (Gonfannon):** from the Italian *gonfalone*, this is a long banner, suspended from a cross bar. The lower edge was often decorated with tongues or fringe. It was a means of displaying badge or arms, sometimes a full achievement, and is still used today for ecclesiastical processions.

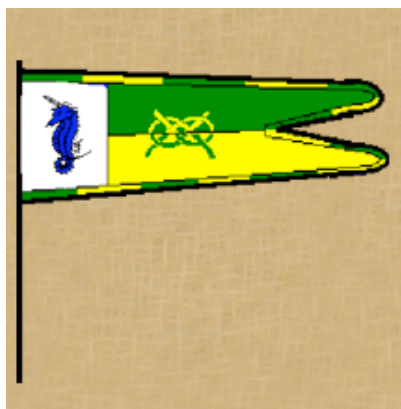


**Standard:** comes from the Norman French *estendard*, meaning ‘that which stands.’ These are long flags, where the length is typically two or three times the height and it is generally wider at the hoist than the fly. Historically, these have appeared in a variety of shapes: tapering to a point, swallow-tailed, round-end (shown below).

During King Henry VIII’s reign, some documents specified 7 yards for a Duke, 6 yards for an earl, 5 yards for a Baron, 4 yards for a Knight. While this is a very specific example of English 15<sup>th</sup> century heraldry rules, there is general historical evidence that the higher an owner’s rank, the longer the standard.

A medieval standard *never* featured the entire arms or achievement of its owner; it typically displayed badges or other motifs and frequently mottos spelled out in bands across the design. In the high middle ages (14<sup>th</sup>-15<sup>th</sup> century) the typical formula was:

- The badge of your Kingdom in the hoist.
- The remaining field was divided in some fashion (typically *per fess* or *per bend*) between the owner’s livery colors, though there are examples of single color fields.
- The field was charged with the owner’s badge, sometimes with the motto included displayed on bends.
- The edges of the standard were sometimes surrounded by a fringe or edged with the tinctures *in company* (alternating squares of the livery colors).



**Construction techniques in period contrasted with modern reproduction techniques.**

This class will use silk resist painting to make long heraldic banners that float beautifully on the breeze. While this produces a standard that wafts beautifully in the breeze, reproducing the look of a war standard from medieval art, I do not believe this is a period technique. There are few extant examples of heraldic banners or standards from the medieval period, but references exist for unpainted silk banners, painted linen banners, and appliquéd or embroidered banners on everything from linen to velvet.

The Craftsman's Handbook "Il Libro dell' Arte" describes a process of painting with paint rather than dye and on much heavier silk than we employ here. This approach would produce a stiff and heavy banner, and would not waft gently on the breeze as desired.

- (1) The author, Cennini, begins as we will, but instructing his students to stretch the silk (*If you have to do palls or other jobs on silk, first spread them out on a stretcher as I taught you for the cloth.*)
- (2) The design is sketched (*And, according to what the ground is, take chaboni (vine charcoal), either black or white. Do your drawing, and fix it either with ink or with tempered color*) using the sun or lamp to backlight the cartoon behind the cloth so the artist may trace the design (*put the stretcher in the sun with the drawing turned toward the sun, so that it shines through it. Stand on the reverse side. With your tempered color, with your fine minever brush, go over the shadow which you see made by the drawing.*) In contrast, the modern silk recommended here is transparent enough it would hardly need such strong backlighting.
- (3) The ground is prepared with "size" (*Then size with the usual size wherever you have to paint or gild; and mix a little white of egg with this size, say one white of egg to four goblets of or glasses of size*) which, on silk, I presume would function like gesso on canvas or 'stop-flow' products on modern silks. My experience is the stop flow impedes the absorption of the silk paints/dyes and produces dimmer colors. Instead, we will use a resist to create a 'dam' and prevent the dye from flowing outside the lines of our design.
- (4) The silk is painted quite thickly with egg tempura (*Furthermore, you may paint any subject in the usual way, tempering the colors with yolk of egg, laying the colors in six or eight times, or ten, out of regard for the varnishing*) rather than silk paints/dyes we will employ here, which would make a very stiff product which would work well for a banner, but hardly create a standard that would fly well in the breeze.
- (5) Finally, Cennini advises fixing the design with mordants and varnishing overall. (*Then you may gild the diadems or grounds with oil mordants; and the embellishments with garlic mordents, varnishing afterward, but preferable with oil mordants. And let this serve for ensigns, banners and all*). I can only speculate the varnishing would weatherproof the egg tempura. With the modern paints here, we will use heat, steam or chemical set to fix the paints and dyes and finish with a light-weight, weather proof product.

### **What are your ambitions?**

Many people have excitedly finished stunning standards only to arrive at field or hall and struggle to figure out how to hang them. From the rafters? Lashed to a pavilion pole where it drags the ground? Equally important as making the cloth component is figuring out some way to fly it. Decide how you will hang your flag before starting your project. If you're not willing to build and haul a 20'-30' flagpole, perhaps a 3'x12' war standard is not for you, but maybe a 1'x3' pennon would fit your life and your vehicle.

Once you have determined the desired size of your finished flag, decide how to hang it. Options range from sewing a sleeve in the hoist suitable for sliding a pole into to sewing ties on the hoist which allow you to lash the flag to pole or rope. (Grommets on the hoist edge will allow you to clip/tie your flag to a rope, but it is a more modern version of flag raising technology.) I recommend sewing ties on the hoist as the most versatile option.

These decisions will set the size of your project and let you determine how much material is needed.

### **Materials and Tools for the war standard**

We used a fairly heavy silk. Crepe de Chine is a type of silk with a pebbly texture. Experimentation with samples led us to prefer the results with crepe de chine over the more polished surface of habotai or pongee type silk. The weight used was 16 mm, which refers to the number of threads per millimeter. The higher thread count generally means brighter colors. To put this into prospective, a gauze silk is 6mm or less, while satin can be as dense as 30 mm.

The cloth was painted with Dye-na-flo, a paint that behaves much like a dye but is set with heat after painting (or chemically with an additive before painting) rather than using steam and mordants required with traditional dyes.

Most of the items below can be purchased at Dharma Trading. To complete the standard, you will need –  
For layout –

- ☐ Graph paper, pencils, rulers, etc, suitable for sketching the design
- ☐ Computer projector or Xerox machine for enlarging images of charges
- ☐ Sharpie markies, painters tape and white (newsprinter) paper for tracing onto

For stretching the cloth –

- ☐ A wood, PVC, metal, or silk painters frame
  - *Tip:* Dharma sells an excellent Easy Fix Fabric stretcher frame and hook system. While suitable for a pennon length, it will not be large enough for making a 3'x12' war standard. You'll have to build a frame.
- ☐ Technology suitable for stretching the silk onto the frame of your choice (needle and thread to sew the silk to the frame OR tacks through the wood frame OR rubber bands and binder clips)

For painting -

- ☐ Dye-na-flo silk paint in as many colors as needed.
  - Our tests showed approximately 8 fl oz for a 3'x12' standard
- ☐ *Optional/Recommended:* Versatex fixative.
  - Dye-na-flo paints can be heat set with ironing. However, you can purchase the Versatex fixative. When this is added to the dye-na-flo before painting, no heat setting is required.

- ☐ Resist : I used Gutta waterproof resist.
  - Water soluble resist should also work fine.
  - Acrylic craft paint can be used as resist, but is more likely to allow the paint to wick than regular resist
- ☐ Small squeeze bottles (Gutta applicator bottles) with metal tips for applying the resist
- ☐ Small plastic cups
- ☐ Silk, Crepe de Chine, 16 mm was used here.
  - **Tip:** Buy this in 3' width and avoid hemming the long edges of the standard.
- ☐ *Optional:* Synthrapol, a special detergent for prewashing the silk.
- ☐ Brushes (**Tip:** Loew Cornell brand, though pricey, was voted the group favorite.)

### **Designing your war standard**

Once you've determine the size of your finished standard, get out your graph paper and start sketching a design. Decide whether a Kingdom/Barony/Household badge will be featured in the hoist. Play with your livery colors and badge. Decide whether you want to incorporate motto bands. We used graph paper to allow us to sketch a proportional layout. Then, by scaling up, we could estimate the size of all the charges and create cartoons of the appropriate size ready for tracing on the standard.

### **Now, create cartoons of your charges/motto bands**

We taped paper to the wall and adjusted the size of the projected image until the charge was approximately the height calculated from the scale drawing.

#### **Tips:**

- White 'newsprint' is the ideal type of paper as the sketch will be visible from both sides. This helps during the layout.
- Sharpie markers are perfect for tracing the charge; they give a bold line, easily visible through the silk for tracing. BUT, don't forget that the markers can bleed through the paper and mar your paint. Put posterboard, brown paper, etc... between the white tracing paper and your wall.
- Blue painters tape will hold the paper to the walls without leaving a mark.
- Don't let people (or pets) walk near the projector; it will shake and knock the design out of alignment while you are tracing.
- Turn off your screen saver. Otherwise, when the computer goes to sleep it may refresh the screen and change the size of your half traced image.
- If you plan to have a repeated motif, it is worth making multiple copies of that charge to ease layout.



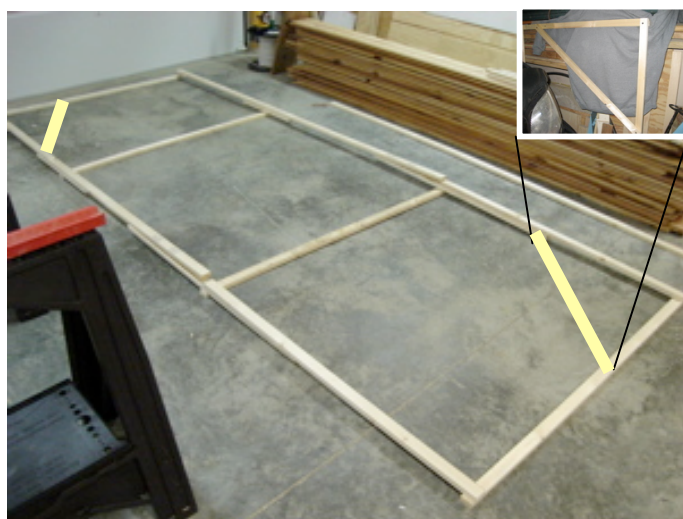
If projection technology is not readily available, simply use a copy machine to enlarge your images to the desired size of the charge.



**Recommended: Preparing the silk:** **Approximate time ~ 4 hours** Pre-wash your silk on gentle cycle with warm water and a suitable detergent, such as Synthrapol. This will remove everything from the silk and ensure it takes the color as brightly as possible. Rinse, dry and when still slightly damp, press with an iron set to the silk setting. (The author admits to skipping this step rather than face ironing 13' of fabric twice.)

**Constructing the frame:** **Approximate time ~ 1 hour+**

You will need to construct a frame at least 6" bigger than the silk you will be painting. With a 3' finished width, no seam allowance was required on the long edge. For a 12' finished length, we allowed an extra foot for seam allowance at the short ends. Allow ~ 6"-8" at the hoist which will later be rolled under and sewn down to create a reinforced edge suitable for ties. The balance of the extra foot (4"-6") is used at the fly to hem the points/rounded edges as dictated by your design.



So, our finished size of 3'x12' translated into an unfinished 3'x13' piece of silk. We constructed ~4'x14' wood frames out of firring strips and drywall screws.

It is important to include cross members to support such a large wood square. We added cross bars (vertical support) and corner braces (inset). Without them, your frame will twist or sag as you stretch the silk.

*Options:* I have also seen frames constructed from PVC pipe or perforated angle iron assembled with wing nuts.

**Stretching the silk:** **Approximate time ~ 4 hours**

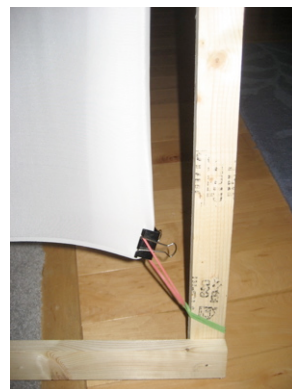
There are at least two options for stretching the silk to the frame. You can either loop rubberbands at ~2" intervals all around the frame and attach them to the silk with pins, tacks or binder clips OR you can sew the silk to the frame with needle and thread.

We had the best success using rubber bands and binder clips to the four corners roughly stretched in the frame, then sewing the silk to the frame. (*Tip:* If you want to paint to the edge, binder clips are not the best plan as they create an obstacle to paint around. Small bits of thread can be easily painted over then removed later after you cut the silk from the frame.)



The stretching works best with a partner. Starting on one short end, sew the silk to the frame, with one person sewing, and the other pulling tension on the fabric. Leave a gap of at least 1" between silk and frame. Then, move to the other short end and have one partner pull the silk as tight as possible, tugging along the

Hoist seam allowance rolled under because I was leaving it white



length of the standard, while the other sews it tight. Then, take positions opposite each other on the long edges of the frame, and sew the silk, pulling tension against your partner. When properly stretched, the silk should rebound like a drum.

*Tip:* If the silk touches the cross members, the wood will provide a capillary path and the paint will wick despite resist. Do not let the silk touch the cross members. If the fabric is resting on the cross members despite all your best tensioning efforts, use a push pin to lift the silk off the cross member before painting. Otherwise, you'll get the wicking you see in this picture.



### **Layout your charges: Approximate time ~ 2 hours**

Now that the silk is stretched, support the frame on sawhorses. Place the charges in the positions planned in your sketch.

#### **Tips:**

- Ultimately, you want to pin the templates to the back of the standard so you can trace resist on the front. We found our most efficient layout approach was to work with a partner. First use pins and string to layout your field divisions and the shape of your fly (swallow tail, etc). This will give you visual boundaries before placing your charges.
- Now, flip the frame so the back (cross member side) faces up. Lay the charges in their approximate position. This is where using the white paper pays off as the outline is visible from both sides of the template.
- After you place your charges, fine adjustment is a visual exercise. Step back, look at the affect and adjust rather than cling to your exactly scaled measurements. We did this by having a spotter lay on the floor under the frame, while their partner followed directions to adjust the charges placement.
- Once you are sure of your placement, pin the charges down so they will not slip when you trace them. Do not pin too close to the outline as it may cause problems during resist application.



### **Applying the resist ~ Approximate time 1-2 hours**

(Time varies wildly with complexity of design, number of people helping and length of your motto.)

With the silk stretched and templates placed, you are ready to start applying your resist. Fill the applicator bottles about three quarters full. Test the pressure needed to draw a smooth resist line by practicing on a

small sample or paper towel. The resist must not have any gaps or the paint will flow outside its design area.

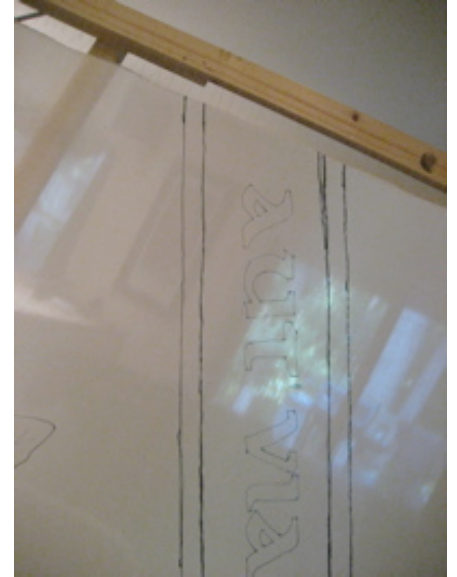
**Tips:**

- Make sure that your resist lines meet to create a separate area for each new color as mistakes will spread quickly.
- To prevent smearing wet resist, start from the center and work outwards.
- You will need to draw straight lines for the field division, border division, motto bands. You can support a straight piece of wood on the frame edges and use it as a guide for the applicator bottle or you can freehand it. There was no agreement on the surest method for success, so experiment with what works best for you.
- Embrace the motto: "Twenty feet up!" If you fail to draw a perfectly straight line or if you smudge the resist, just let it be. Elaborate attempts to fix wet resist will only create a larger mess.



No one will notice from the ground. Trust me.

- Use black resist whenever possible. It is much easier to check after application to ensure that all lines meet to create a dam for the color.
- The clear resist is mostly useful if you plan on a design with interior detail on a white background. Using an up-light from below will help with checking the clear resist application.
- We found the resist dried within 30 minutes and we could start painting nearly immediately.



**Painting: ~ Approximate time: 4-8 hours**

(Time varies wildly depending on how much you are filling in and how many people are helping.)

- Set up the paints well away from nice carpets, furniture, and inquisitive little pets who want to bat at the brushes.
- Shake up the Dye-na-flow jars before mixing any colors.
- *Optional/Highly Recommended! Measure the dye-na-flow and add Versatex.*
  - 1 tsp versatex per pint (16 oz) of paint => 1/16 tsp versatex per 1 oz of paint.
  - **NOTE:** You only have 6 hours to use the paint and you cannot put it back in the bottle once you have mixed in the additive or you will ruin the remainder of your paint.
- Pour a small amount in a cup that you can hold close to the work to decrease the chances of dripping dye as you move your brush from paint to fabric. Wrap the cup in a paper towel to help contain any drips.
- Practice silk painting on a test piece to get the feel of it before beginning on your finished project.
- Silk wicks the paint quickly. Place the brush at least 1" away from the resist line and let the wicking action fill to the line. This is like magic, possibly dangerous magic if you start exactly on the resist line.



### Setting and Rinsing

- Setting the paint: Option A: Versatex. **Approximate time ~ 3-5 days air dry**
  - If you used the versatex additive before painting, allow the standard to air dry for several days.
- Setting the paint: Option B: Heat set. **Approximate time 24 air dry + 4-5 hours ironing**
  - When the painting is complete, allow the silk to dry completely. This takes at least 24 hours; once it is dry to the touch, you can remove it from the frame and stretch it out elsewhere.
  - Set the iron to silk. Work in small areas, moving in a small circular motion so as not to burn the silk while ensuring each section maintains the heat for a long enough duration to actually set the paint.
  - **Tip:** This will take longer than you think. Use a watch/timer to ensure a minimum of 3-5 minutes of ironing time in each section. Heat setting a 3'x12' standard takes at least four hours of ironing. Using a second iron, perhaps borrowed from a friend, can speed the heat setting.
- Rinsing: At this point, the Dye-na-flo is set, either by heat or chemical method. If you intend to fly this outside, where it just might encounter rain or morning dew, I highly recommend you rinse it anyway. If it isn't set, you want find out before it drips on your garb or tent.

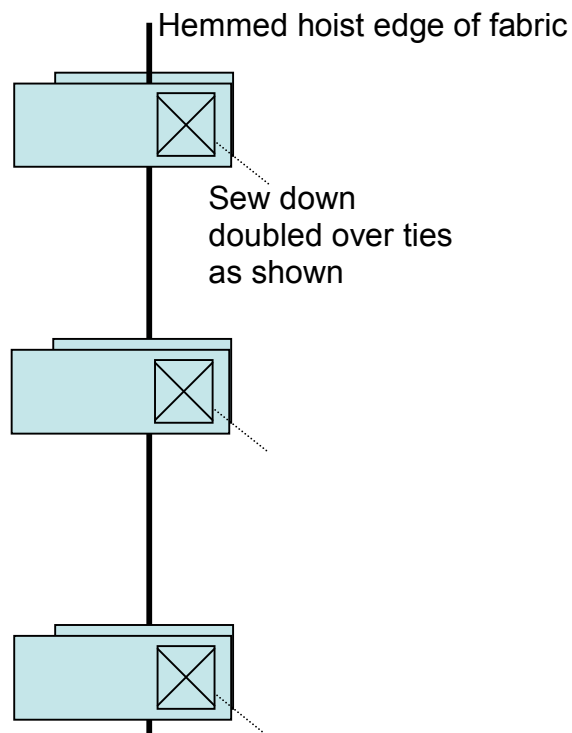
### Hemming and ties

- Cut out the swallowtail. Hem hoist and fly edges. Attach ties as below.



Ties should be at least 20" doubled over so each half is 10" and allows for an easy bow.

Sew at least three ties spaced along the hoist; use something with a 'grip' (grograin ribbon) not slick (satin)



## A flagpole all your own



The standard poles were constructed in three sections to allow for breakdown. Two sets of ropes provide the guy lines/structural support for the pole. Everything is designed around thirds: the lower guy lines connect at one-third of the overall height of the pole, the upper guy lines at two-thirds of the way up. The 'footprint' of the guy lines is an equilateral triangle 9 feet on a side, and the pole itself comes in three sections.

An 8' tall closet rod forms the top mast. It sits on a spike protruding from the square section below.

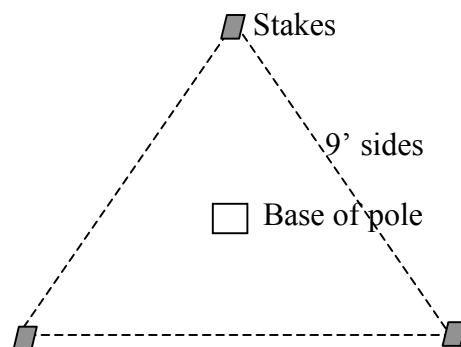
The upper set of ropes are lashed about 8-12" above the base of the closet pole with a clove hitch (or similar knot) and run down to the stakes which form the points of the 9 foot triangle.

The two lower sections are created as "box beams". They are 10' tall and made by laying up two 3" wide outer plates and two narrower inner plates to create the beam. This method of construction makes a much stiffer mast than simple solid stock makes – really, trust us, we've tried both...

The lower set of ropes are attached above the base section joint with a figure of eight knot looped through rings screwed into the pole. Again, these run down to the same stakes that form the points of the 9 foot triangle.

The two sections of the lower mast meet at a lap joint, which is held together with two sections of angle iron, 'clamping' the joint with carriage bolts.

The base of the standard pole sits at the center of the 9' per side equilateral triangle formed by the stakes.



### **Materials and Tools for the flagpole**

Each pole will require -

- ☐ Six 10', 2"x6"x1" boards (pine will do... the box-beam construction adds strength)
- ☐ Two 18" sections of angle iron
- ☐ One 8' closet pole (pine); 1 1/2" diameter
- ☐ Six sets of carriage bolts, washers and nuts (we used 1/4" bolts)
- ☐ Three sets of metal loops and attachment hardware (check out the picture hanging hardware section at your local hardware store)
- ☐ Pulley and eye bolt for the top of the pole (pass the loop of the pulley through the eye bolt, screw the eye bolt into the top of the pole)
- ☐ Cleat for tying off the halyard and screws to affix it
- ☐ Drill and bits suitable for drilling wood and metal
- ☐ Three 18" stakes
- ☐ Rope (recommend manila for a period look and usability) for the guy lines.
  - o Three 25' sections form the upper ropes
  - o Three 18' sections form the lower ropes
- ☐ Light line (we used a 1/4" braided nylon line – not very period looking, but unlikely to snag) for the halyard. You'll need a loop twice the length of your pole.
- ☐ *Optional.* Light string (we used a nylon string) for the jackline.\*
- ☐ *Optional:* Eyebolt for attaching the jackline to the upper mast (closet rod)

\* The jackline serves to hold the bottom corner of your banner in to the pole. This is achieved by running another, lighter line up the pole in a loop through an eyebolt screwed into the top mast just under where the bottom edge of your banner will be. The jack line is a loop that is raised in parallel with the halyard, and is tied off on the same cleat.

### **Assembly**

1. The lower masts are glued up out of two outer plates outside of two smaller inner plates, forming a box beam. We ripped down 1" stock to create two 2 1/2" outer plates and two smaller strips.
2. We glued the four pieces together to form a box beam as you see at right. You will want to tack the pieces together as you glue and clamp in order to keep the pieces in alignment.



3. The joint between the upper and lower sections is a simple 'lap joint' as seen to the left here. The joint is reinforced and held by two sections of angle iron clamped in place with carriage bolts.





4. Predrill the angle iron (outer holes roughly 1" from the top and bottom, center the middle hole) then lay the two sections together, place the angle iron and shown and match drill the wood for the 1/4" carriage bolts.

Attach a pulley to the top of the mast and feed the hoist line through.



Predrill the base of each closet rod/upper mast. Insert a matching pin in the square base section. Feed the closet pole onto the square section. We used an 8" section of 3/8" round stock to create our pins. It was set 4" into the topmast and lower mast.





20' Feet Up! Making and Flying Silk War Standards.  
Baroness Theodora Delamore and Baron Alan Gravesend, UofA#73, Oct 2008.

Attach the upper and lower sets of ropes, and lay everything out lengthwise on the ground – remove any tangles now, as it will be much easier to do now than as you are raising the pole.



Drive your three stakes into the ground in a 9 foot equilateral triangle, in the location of your choice. Assemble the three sections of the pole on the ground, and lay out the guy lines, halyard and jack line, securing them to the pole, tying the guy lines and threading the halyard through the pulley at the top of the mast, and the jack line through it's eyelet. Bracing the base of the assembled pole on the ground in the center of the equilateral triangle (we had one person brace the base with a foot), carefully raise the pole to vertical. Attache the guy lines to the three 18" stakes; adjust the guy lines until the pole is as nearly vertical as possible.



Tie the hoist of your banner to the halyard, and the jack line to the halyard below the hoist, and raise your standards!



## **Credits**

Thanks must be given to the other members of the Vair and Ermine camp and autonomous collective who went over the cliff with me on this project.

Master Alan Gravesend and Mistress Thjora Arnketilsdóttir who mentioned they were busily making standard poles in the garage and made me realize I should, perhaps, work out how to paint the silk standards to fly on them.

Mistress Thjora Arnketilsdóttir and Duchess Kyneburh Boithule who were part of the group think on how to paint silk and what shiny new art supplies to buy.

The brave and hearty project team: Mistress Thjora Arnketilsdóttir, Sir Corby de la Flamme, Syr Roland de Mounteney, Master Alan Gravesend, Mistress Genevieve d'Aquitane, Lord Brian de Morray, Lady Ella de Lille, Master Aedan Alywyn, Duchess Kyneburh Boithule, Lord Helmut Kruger, Mistress Elspet Byndelase, Lord Lewis and Lady Eleanor Abbott, Lord Philip ap Griffith, Lord Kathall Ragison, Lady Arianna of Storvik and all the other Vair & Ermine campers for putting up with everything.

Thanks to Sir Vladimir Ivanovich Aleksandrov, for his habit of randomly stopping by our encampment and working very hard on things like assembling and raising seven standard poles.

Thanks to Baron Reynard de la Rochefoucauld, OL, for his years of friendship and his invaluable advice on all things involving pole and rope technology.

## **Photo/Image credits**

Project photos used in this course were taken by the author Baroness Theodora Delamore (W.Morgenstern) or used by the gracious permission of Baroness Genevieve d'Aquitane, (J. Thies) and Sir Corby de la Flamme (M. Dawson)

Medieval flag sketches used with permission of the owner, Master Eldred Ælfwald (© 1998. J.T. Thorpe),

## **Resources**

All cloth and paint materials were purchased from Dharma Trading (<http://www.dharmatrading.com>). They are extremely knowledgeable about their products. If you have a question, just call them and ask! The flagpole materials are available in your local hardware store.

## **References/Related articles**

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