Resin Parts

for HMS Victory Heller 1:100

Resin Parts

[Tips & Tricks for Model Makers]

Tools needed:
Electronic side cutters without bevel, sharp scalpels, small files in various shapes, sanding blocks, sandpaper, super glue fast and slow.

Store resin protected from light and free from tension.

Resin becomes brittle under UV light. This makes it easier to break during assembly. Therefore, store the unassembled parts away from light. After assembly the parts are are protected by the paint.

If the storage is not even, the parts may deform, especially if it has become hot. See notes on deformation with heat next page.

Remove sanding dust and grease

The parts still have white sanding dust on them, this is from removing the print supports. Unless otherwise stated, I already removed the supports, as this is easier to do before curing. This also reduces the risk of breaking the parts for the model maker :-)

In the case of cast resin (white), the grease layer must also be removed, as the mould is treated with paraffin.

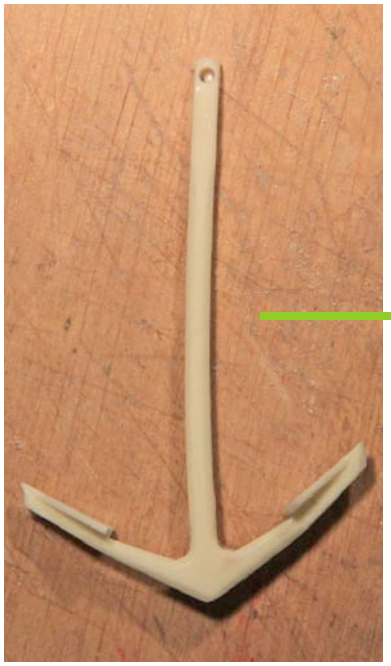
Bringing Resin Parts back into Shape

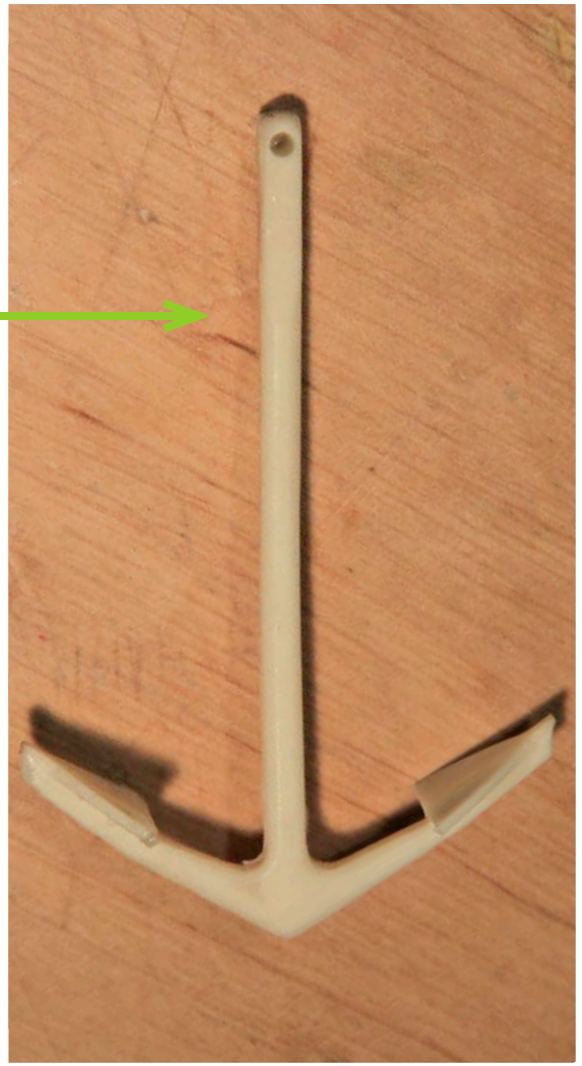
Is there a resin part bent out of shape?
Never try to bend it back by force when it is cold!

Better: Wait and drink tea, preferably Earl Grey, hot (*)....

Put the part into the hot liquid, and when it is warm enough, reshape it as desired and fix it in the new position when it cools down.

This also applies to printed parts, in the picture below one can almost tie a knot in it wihout braking.





PS (*): Normal hot water will also do ...

Resin 1 Balusters Stern and Side Pockets

Stern

The stern of a ship, together with the bow, is usually the jewel of a ship. Further parts are located on window bars plate 1, stern coat of arms + letterings platze 5,
- see separate assembly instructions.

On my models it has proved useful to cut off the lower part of the stern, similar to the side galleries. When joining the hulls halves, this part can already be glued in, filled and sanded. The upper part is installed later and the action of fitting is easier.

To do so, carefully make a light guiding cut underneath the profile with a sharp cutter blade, applying little pressure. Repeatedly follow this notch with little pressure.

As soon as the notch offers good guidance you can slowly increase the pressure until you see a light stress mark on the back.
Then carefully apply less pressure again until the bottom part comes off easily.
Then trim the edges if necessary.

The two stern chasing ports can then also be repositioned in the lower counter.

Removing the Name´s Compartment

In 1771 the order was given to name the ships „in letters a foot high, and inclosed in a compartment“. This is the version shown on the kit.

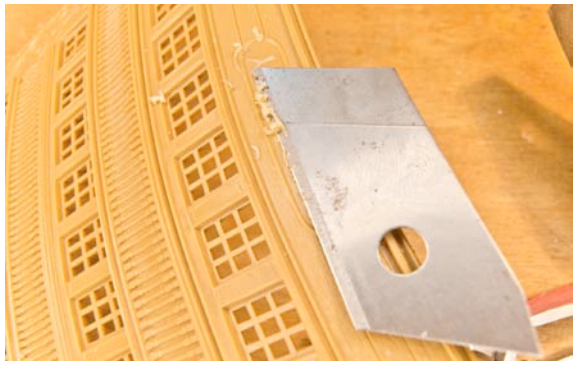
In 1772 the order was changed to „without compartment in letters as large as the counter would admit“. This is the version that is shown in Portsmouth today.

For a short time, at least in Keppel‘s fleet in 1778, the names even disappeared again, to give no intelligence to the ennemy.

It is unclear whether the Victory was given lettering again afterwards, neither Turner‘s sketches nor Livesay‘s drawing show this.

The letters for the lower counter can be found on plate 5.

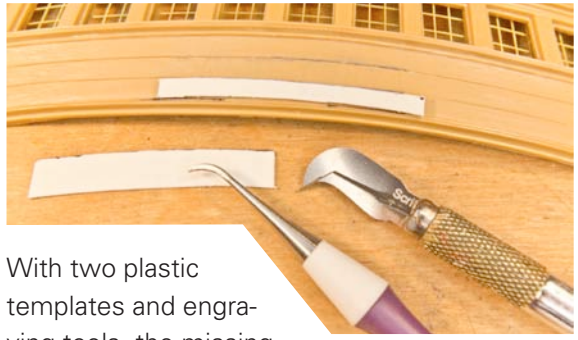
The best way to remove the lettering is, of course, with a fine chisel.



A sharp cutter blade can also be used, but extreme caution is called for here. The lettering can then be straightened with a key file.

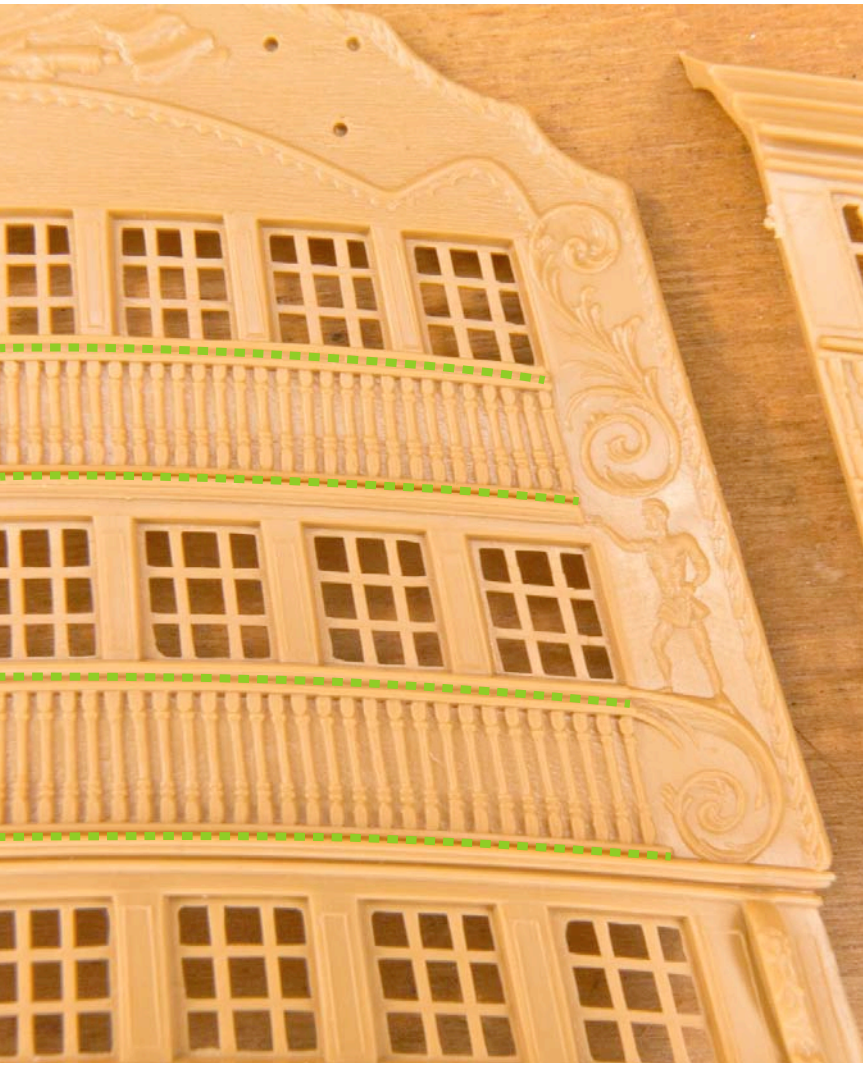
Blocks with applied sandin paper can then make everything smooth.

The surface can also be easily smoothed by pulling a cutter blade.



With two plastic templates and engraving tools, the missing plank joints can also be re-engraved.

Removing the old Balusters



As with all works, I ask for extreme caution to avoid self-injury, but also to avoid breaking parts.

The following procedures have proved successful in my own work.

Alternatives are also given, so the modeller can find out for himself which technique works best for him.

From experience, I personally advise against using power tools such as Dremel or Proxxon, as they can melt the material during drilling and thus ruin the surface. They also allow less sensitivity and control if you don‘t have the best command of the technique.

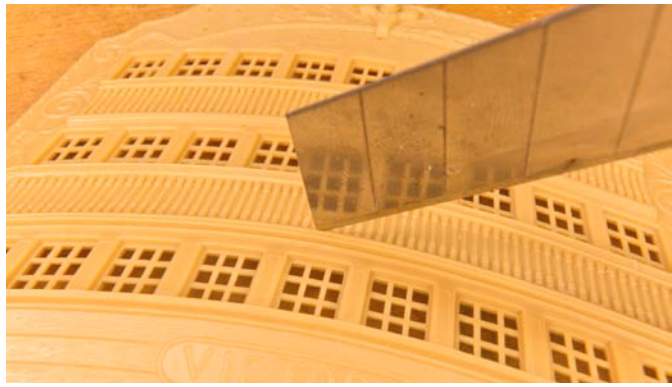
As with all work steps, first lay the new parts in place and check carefully that everything fits and is well understood.

Here the balusters of the two decks are only laid on: How do they lign with the volutes? What has to be taken away? What must remain? How are they correctly centred?

Removing the Balusters: Setting the Borders

Baluster of the middle row of windows:
A light cut along the marked gaps.
Repeat this a good dozen times with light to medium pressure until you have approximately the depth of the background surface of the baluster row.

Baluster of the upper row of windows:
A light cut along the marked gaps.
Repeat this a good dozen times with light to medium pressure until you have approximately the depth of the background surface of the baluster row.



Then I make reliefs cut at the top and bottom of the balusters themselves. This serves as a borderline and makes removal easier, as the chips can break off easily there and the tools cannot reach the final profile of the first blue cuts.

Removing the Balusters: different Techniques

Every modeller will have his own technique to remove the old balusters from the surfaces.

For those who are still unsure, I present here some different approaches how to remove the balusters from the surfaces.

As always, please use good, sharp tools. Do not use too large or blunt blades.

Personally, I advise against using Dremel, Proxxon and other electric hand tools, especially if you don't have much practice with them. The plastic quickly melts or you get too deep or you slip away.

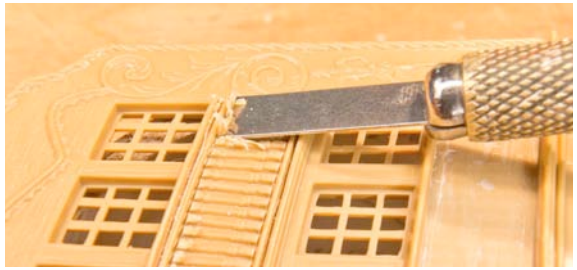
And as with all rebuilding and tinkering a general warning:

Watch your fingers and other body parts!

Use sharp tools, because they make the work easier and minimise the risk of slipping.

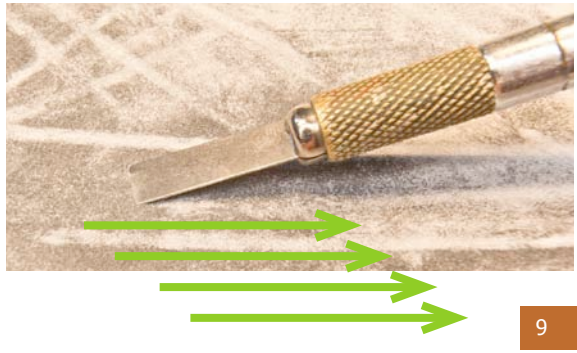
Personally, I find a miniature carving chisel best. With it you can work well from the middle towards the red cut and regulate the depth of cut well. These tools are expensive, but very valuable for various other tasks on the model.

Scalpels with straight cross blades work similarly. But they are not as stable. Make sure that they have sturdy metal handles without plastic parts! Do not choose the blade width too wide, it makes it easier.



Alternatively, a fresh and sharp cutter blade segment can be used. In this case, be especially careful!

Dull scalpel blades can be quickly sharpened with fine sandpaper :-)
Put the sheet of sandpaper on the table and pull it off a few times at the right angle.



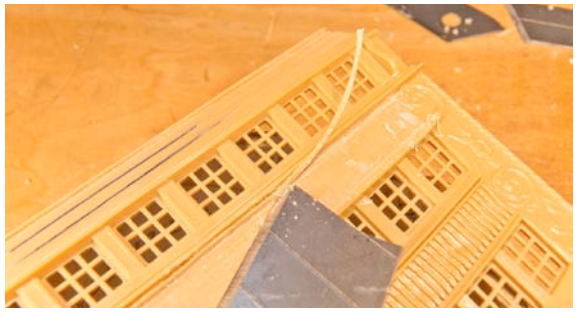
Removing the Balusters: Smoothing the Areas

After removing the balusters, the surface still needs to be levelled. Baluster remnants will still be sticking up, possibly some holes have also been made.

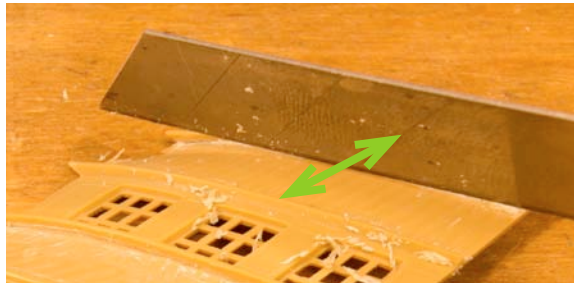
Baluster remains can first be removed with a key file. Here, the previously mentioned border profile serves as a buffer so that the remaining parts are not damaged.

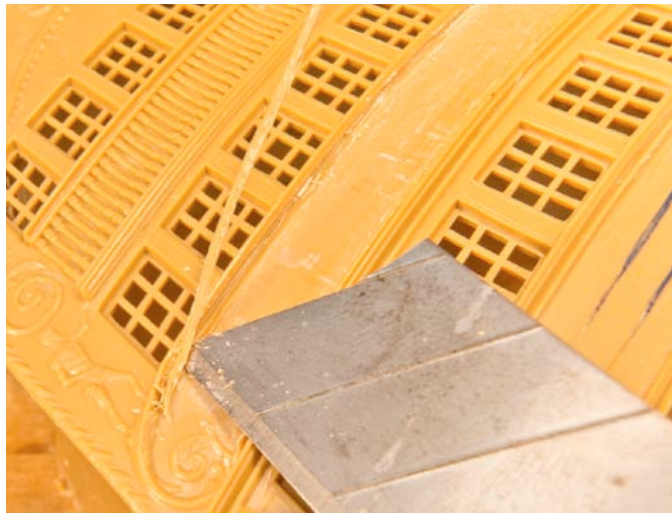
After the key file, a small sanding block of the right size has proved its worth, onto which the right sandpaper is stuck. First roughly 280 grit and then 400 grit.

The last thing to do is to remove the red border profile. To do this, run the vertical blade along the blue cuts from the beginning again and check the depth. Then run repeatedly with a horizontal blade with soft/medium pressure at the base of the border profile in the direction of the first/blue cut until the border profile can be lifted off in one piece. This way you get a clean and straight edge.



The surface can also be easily smoothed with a cutter blade. Place the cutter blade vertically and scrape across the blade to obtain a very clean surface.

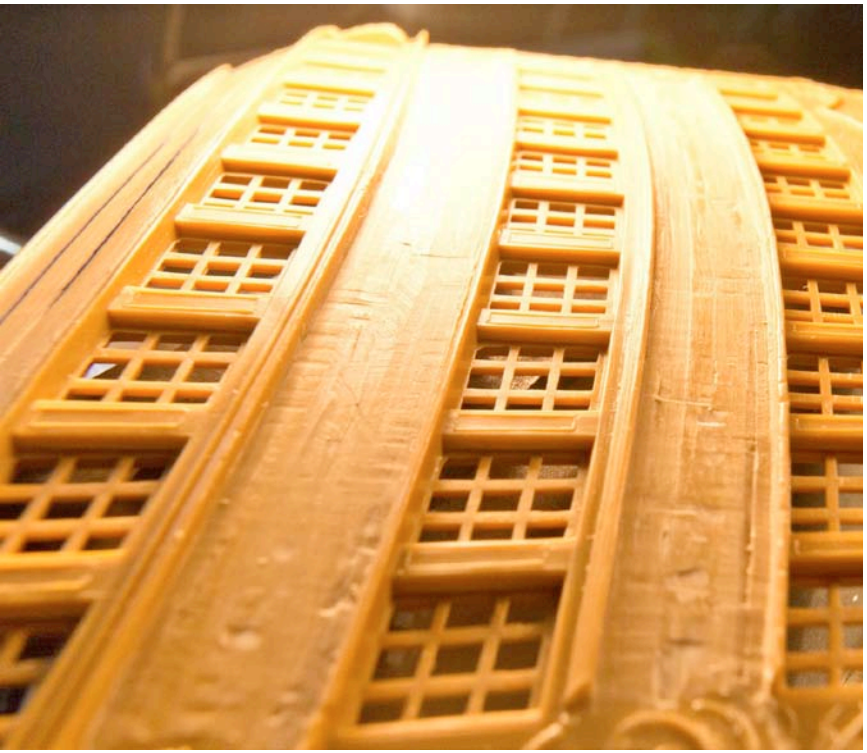




Removing the Balusters: Repairs

You can't make an omelette without breaking eggs, and even I always have to make repairs.

In the backlight you can clearly see where there are still problems.



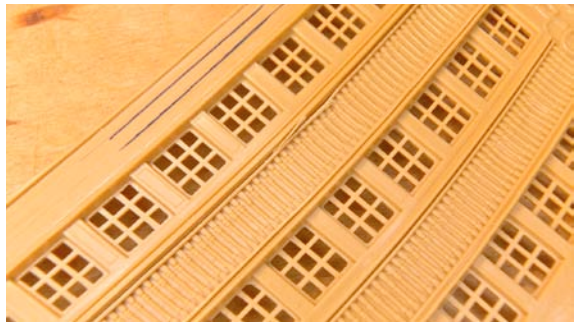
Prepare a spatula of thick cardboard or polystyrol that has the width of the area to be levelled. Use it to draw the preferred filler - I use normal car fine filler - evenly through the fields.

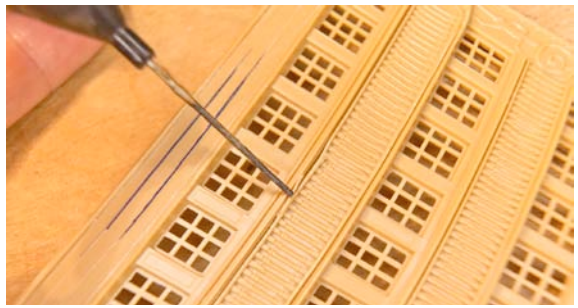
After hardening, level the area again with sanding blocks.
Finally, check against the light again and repeat the procedure if necessary.

If the blade ever slips or the cut is wrong, carefully close the gap by simply pushing the material back in place I with a hard point and apply very little plastic glue, preferably with a needle tip.

Allow to dry thoroughly before continuing.

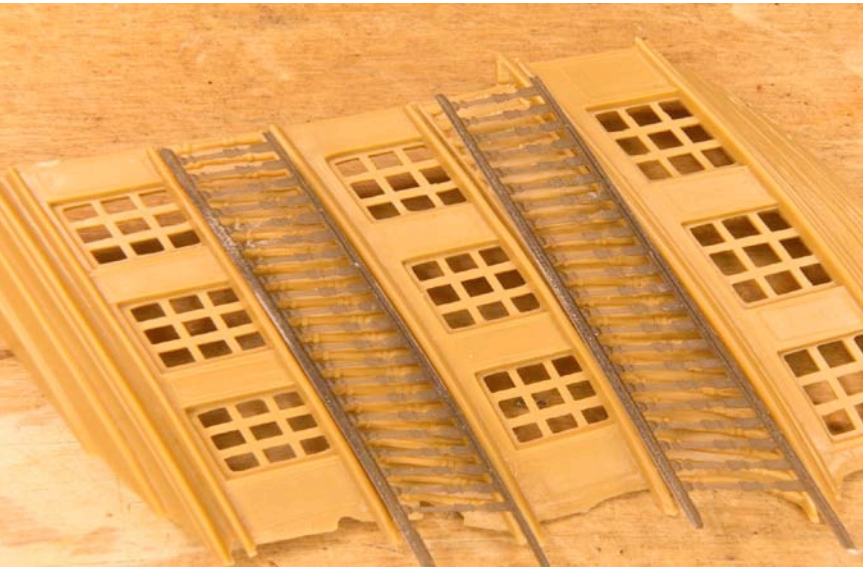
If necessary, straighten the cut with some sandpaper. After that, the cut should no longer be visible. Guess how I know that.



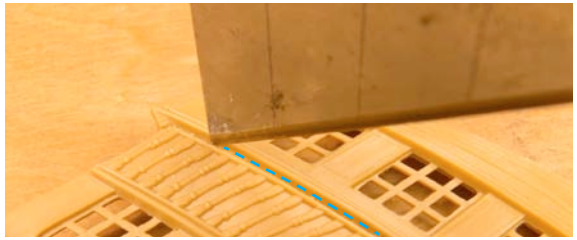


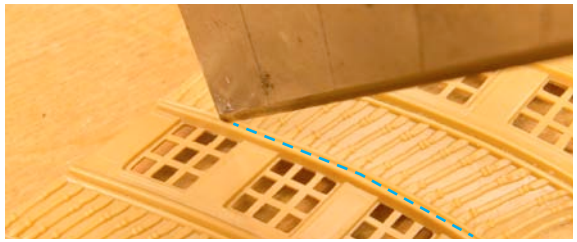
Removing the Balusters: Side Galleries

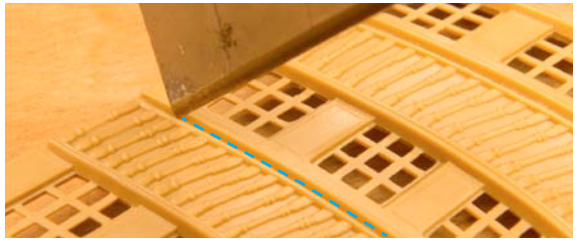
The side galleries work in the same way as the rear balusters. First identify the matching baluster and test fit them.

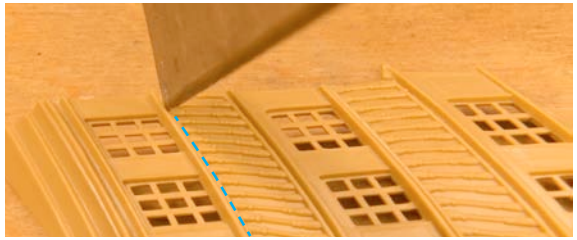


Then the four vertical cuts.

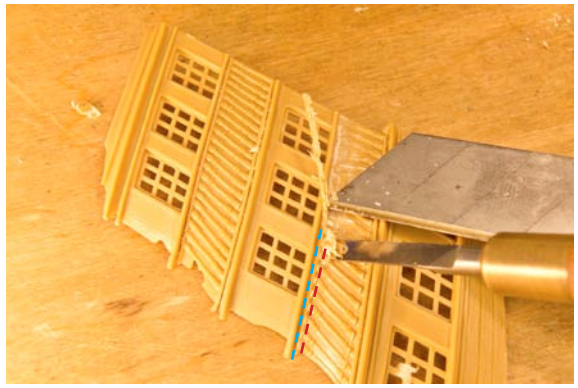




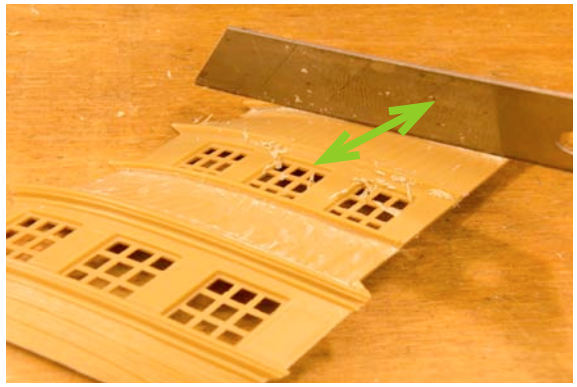




Then remove the balusters and finally the border profile. Summarised here in one picture.



And straighten the surfaces.



That's the stage when I like to remove the window bars for plate 1.

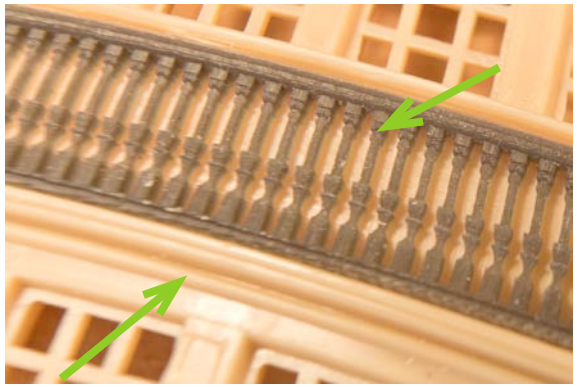
Fitting in the new Balusters

Before painting, the exact fit of the new balusters must be checked. The balusters are produced flat and fit easily to the curvature of the stern and the side galleries.

First check: Do the new parts fit without tension on their bed and do they lie snugly?

If the parts appear too hard and only fit reluctantly because they are either over-aged or have not been stored in a UV-protected place, please soften them in warm water beforehand.

Is the joint consistent at the top and bottom?



What is the correct side alignment? Both sides must be the same distance from the outer edge. It is best to use the outer windows as a guideline.

For the side galleries, the alignment is related to the aft edge.

The short overhang at the front is intentional and will only be adjusted and sanded after gluing in the balusters and before assemling the whole lot to the hull!

The balusters are only glued in after painting!

Painting the Stern: Baluster

I keep getting in many questions about the painting techniques of the stern. Therefore, here are some tips and hints. Since I traditionally work only with brushes, here are only hints on this painting method.

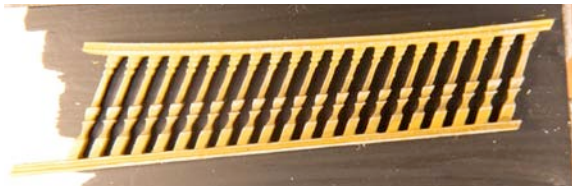
When painting with a brush, it is better to apply several thin layers than one too thick one. As a rule, I thin the paint so that it only covers after two or three times. After all, the parts are so fascinating because they have such fine details and they should not be pasted to death.

First I paint from the front in two to three thin layers. Make sure that no fuzz or air bubbles remain.

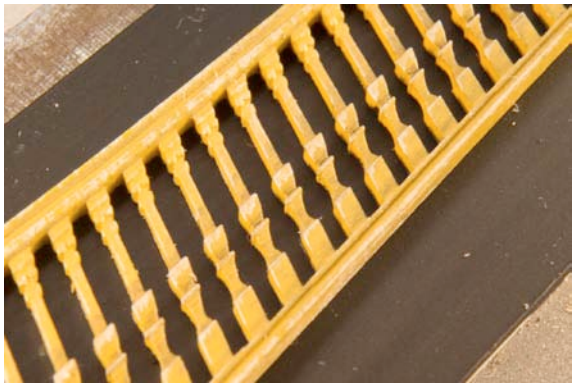
When there are no more black spots on the front, work the spaces in between coming over the back side.

Do not paint the back itself. Sand the paint on the back off by rubbing the balusters flat on sandpaper.

Classically, only the base colour is applied in ship model making. But if you want, you can go a little further.



Dilute some ink and apply it to the inner edges. As the ink dries, the capillary effect pulls the ink particles into the edge, which profiles and gives depth. Then dry paint the edges with white using a suitable brush, this also increases the appearence. It is best to try this effect on an old model or junk box parts. This is not weathering and is only for modulation.

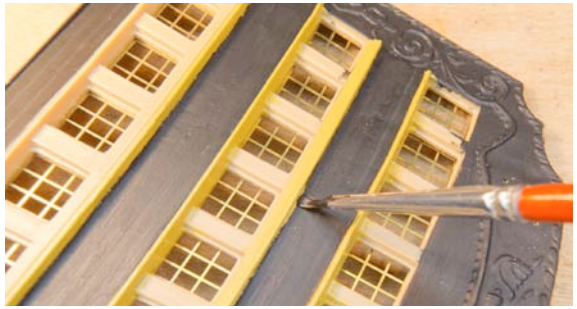


Painting the Stern: Surfaces

Then it's time for the black bases. Here, too, it is better to apply two or three thinner layers than one that is too thick.

For each profile and each edge, an optimal workpiece position and brush position is chosen and then everything that can be done in this orientation is painted. Then, for the new task, part is rotated, brush position adjusted and drawn through. That's why I did the profiles above and below the balusters first.

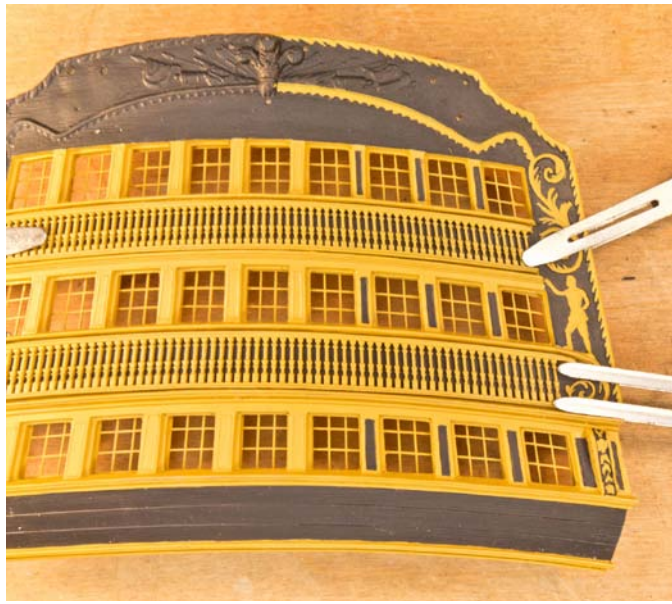
The first pass is always messy with me. After that, I use thinner paint and thus an easier-running brush for the touch-ups. At this point I painted several times with ochre and black until the edge was right.



My recommendation is to first define this inner edge of the balusters really cleanly. Then the brush will run more evenly in the next step.

Apply well-diluted paint with a thin brush so that the ochre protrudes about 1 mm into the black field. This area will be covered by the top and bottom strips of the balusters and so there will be no black flashes after the assembly. Check the width of this ochre line with the help of the resin part, not that it is too wide.

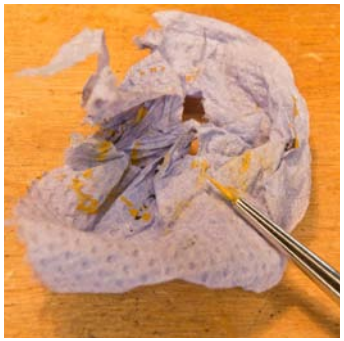
And then straight back to the test fitting.



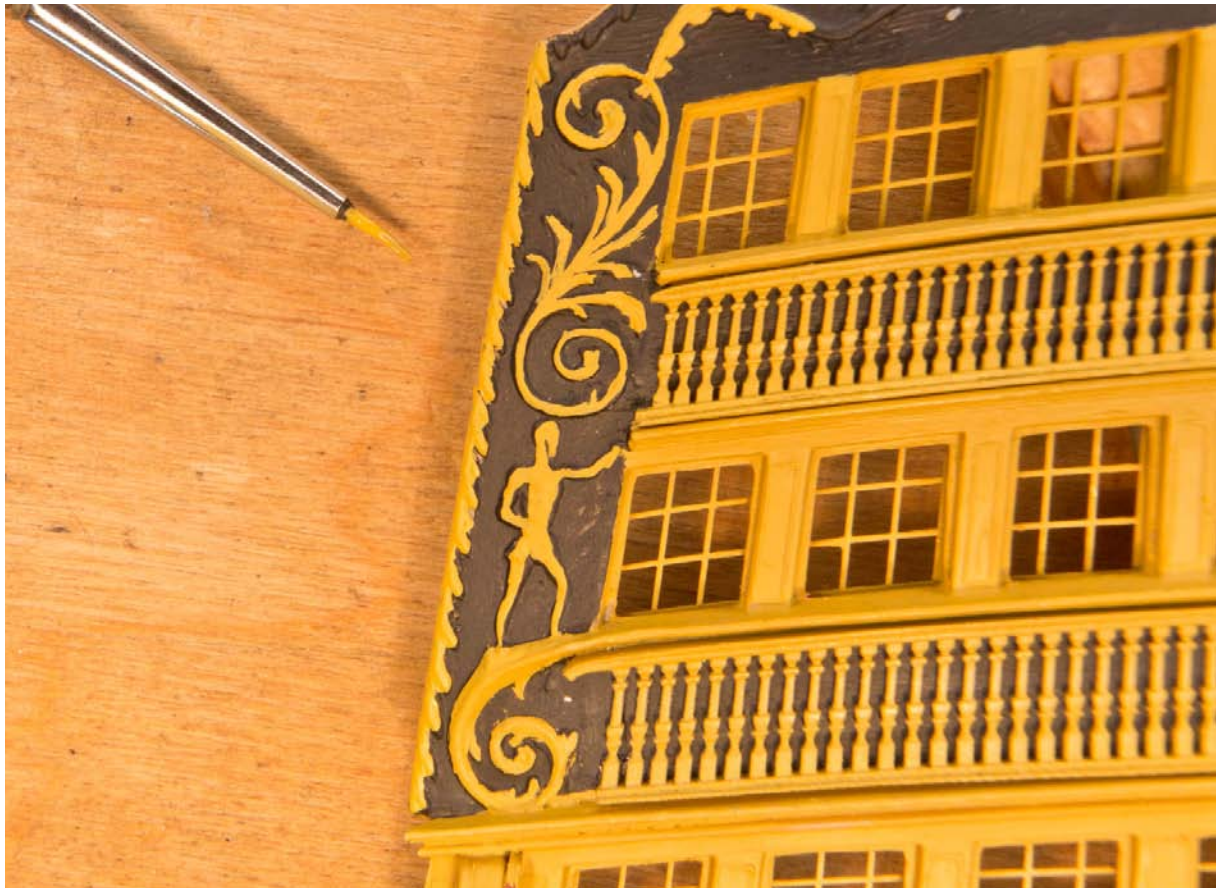
Painting the Stern: Basic Hints

To prevent the paint from drying on the brush, a clothes peg over the water glass has proved useful.

A piece of paper to wipe off too much paint or to reshape the tip of the brush is also very useful.

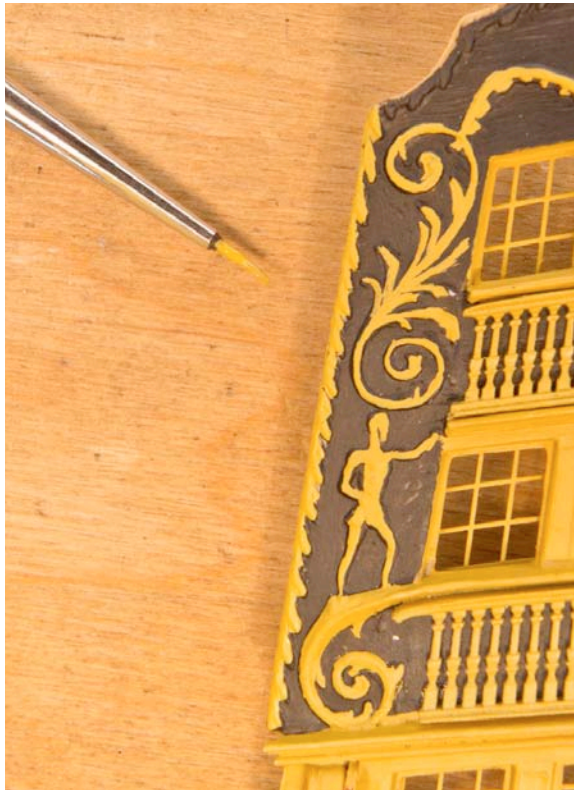


When painting, always support the ball of the hand and the workpiece to allow precise guidance and little wobbling. Never work in the air.



Painting the Stern: Figures and Garlands

In the first pass, only the surfaces of the gingerbread men, the volutes and the garlands are painted up to just before the edge. Here, a slightly wider brush is used and the paint is also slightly thicker than in the next steps.



In the second pass, the contours are worked out with a fine brush, using much thinner paint. The direction of painting is always from the surface outwards to the contour. In this way, you can work your way forward a tenth of a millimetre at a time and give the man some volume.

Then come the touch-ups with black, which further refine the contour. Then the colour is switched as often as necessary and the contour is refined further and further until the result is pleasing. For me, this can take up to a dozen times back and forth. Therefore, always use very thin colour.

Glueing in the new Balusters

Before gluing in the balusters, it is essential to check the fit again.

- Do the balusters fit well everywhere?
- Are there any dents or scratches in the black background?
- Are there flashes of colour?
- Are there lumps of paint or fluff on the balusters´backside?

Here, too, it has proved useful to look at the part in different light sources, a desk lamp is best suited for this.

Finally, check again whether there are any paint residues on the back of the pilsater that could prevent a clean bond.

Take another close look at the position of how much space there should be on the left and right. I also recommend placing the balusters on the bottom profile.

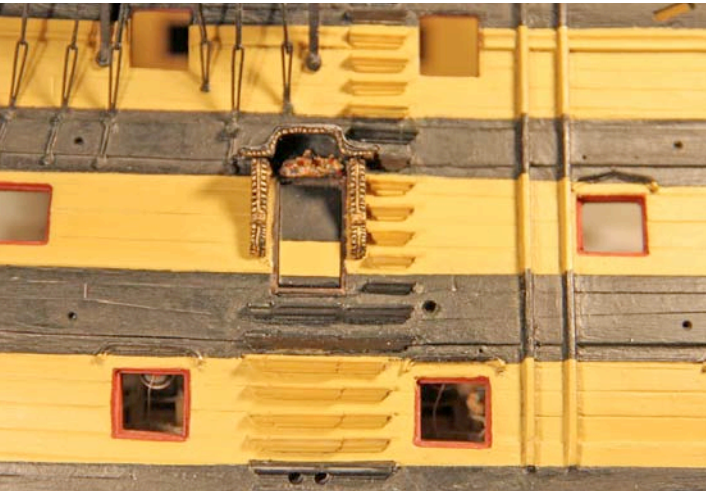
If everything fits, use very little glue, apply well to both side ends and otherwise only selectively in several places, apply as previously tried and fix with clamps and let dry.

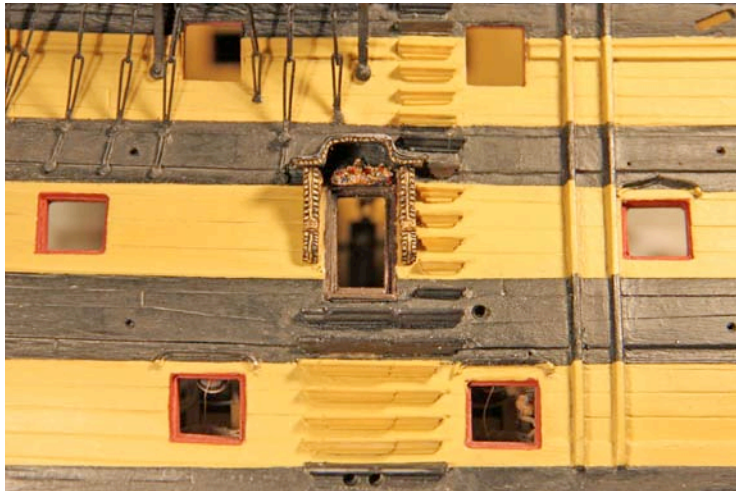
Resin 2 Side Entry Port

Side Entry Port and Steps

Whether or not there was a side entry port at Trafalgar is a matter of debate. More recent research tend towards no port. Nevertheless, it is simply a beautiful modelling challenge, which also corresponds to the present-day appearance of the ship.

How the port was closed is also beyond our knowledge at the moment.
There is no evidence of any fittings or fixed doors, so the assumption is that it was a simple bulkhead made of wood or canvas.



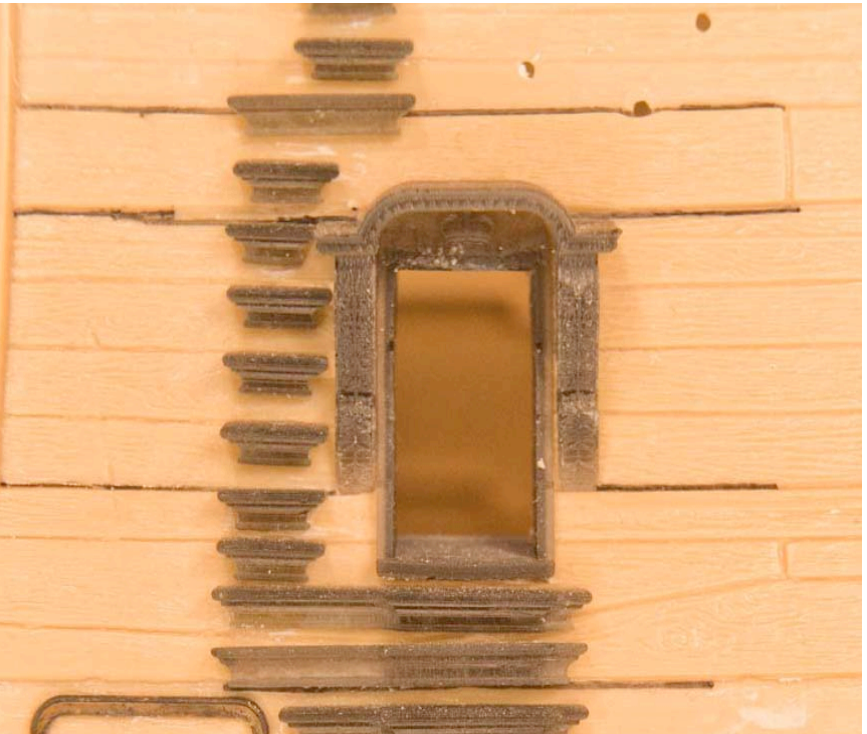


Pictures of the prototype, the new printed parts are even better than what was built conventionally back then :-)

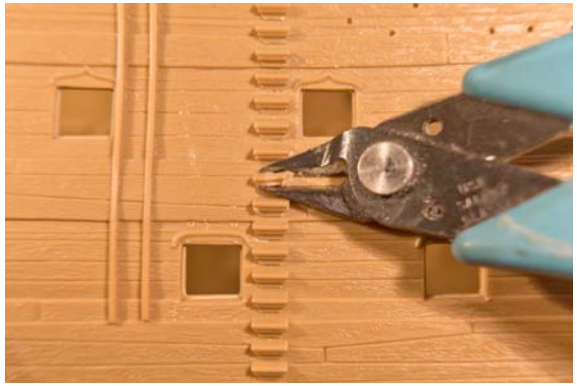
Preparation of the Side Entry Port

The port consist of 3 components each: Passage frame, canopy and steps.

The steps already have the correct back slope for their location and must therefore not be mixed up. It is therefore recommended that they are only removed from the support plate immediately before installation, or parked on a strip of adhesive tape to prevent them from shifting.



The first step is to remove the old staircase. For the first step, my beloved electric side cutter without bead has proved its worth.

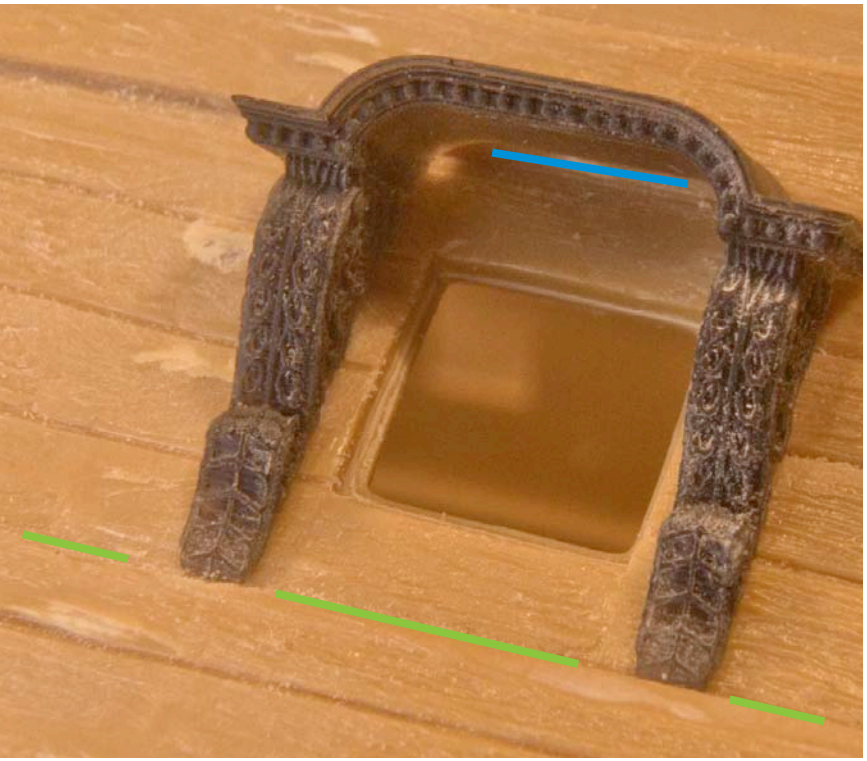


It is then easier to use a scalpel. The best way to do this is with a transverse blade.

This was followed by sanding. A small piece of wood with fine sandpaper stuck to it with double-sided tape proved its worth. The supreme discipline is to trace the planking with a scaler. You can actually manage to make the stairs disappear very inconspicuously.

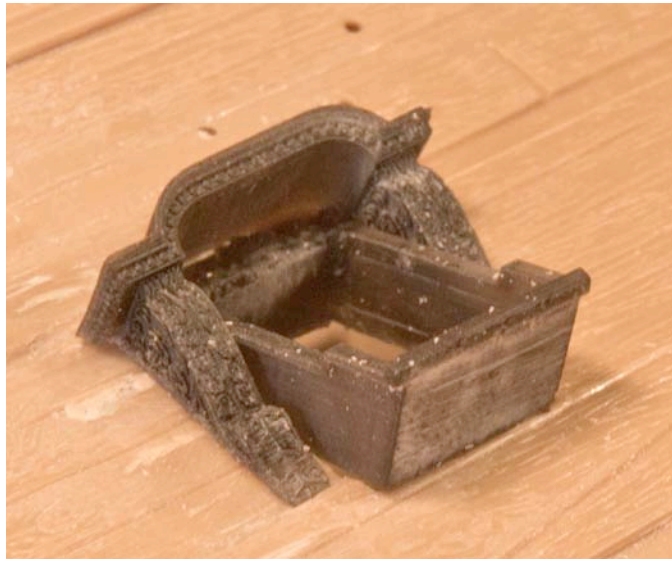
Positioning of the Side Entry Port

The canopy is decisive for the positioning. The lower edge of its supports sits exactly on the middle wale - see the green line. At the side, it is centred on the gun port. The inner top edge - blue line - and the side edges can now be scribed.



To open the port, I first used a coarse file, but you can also use a scalpel to slowly work your way round. First, work out the width in the upper area, always check with the passage frame.

Then work upwards, checking again and again with the canopy and passage frame.



Once the top of the frame has been adapted to the canopy, only then is the length downwards well defined and can be scribed and worked free. The stepping back of the passage frame cheeks should now also match the upper edge of the bar wood.

When fitting, ensure that no pressure is exerted on the through-frame at any time so that it does not break!

Fine Adjustment of the Side Entry Port

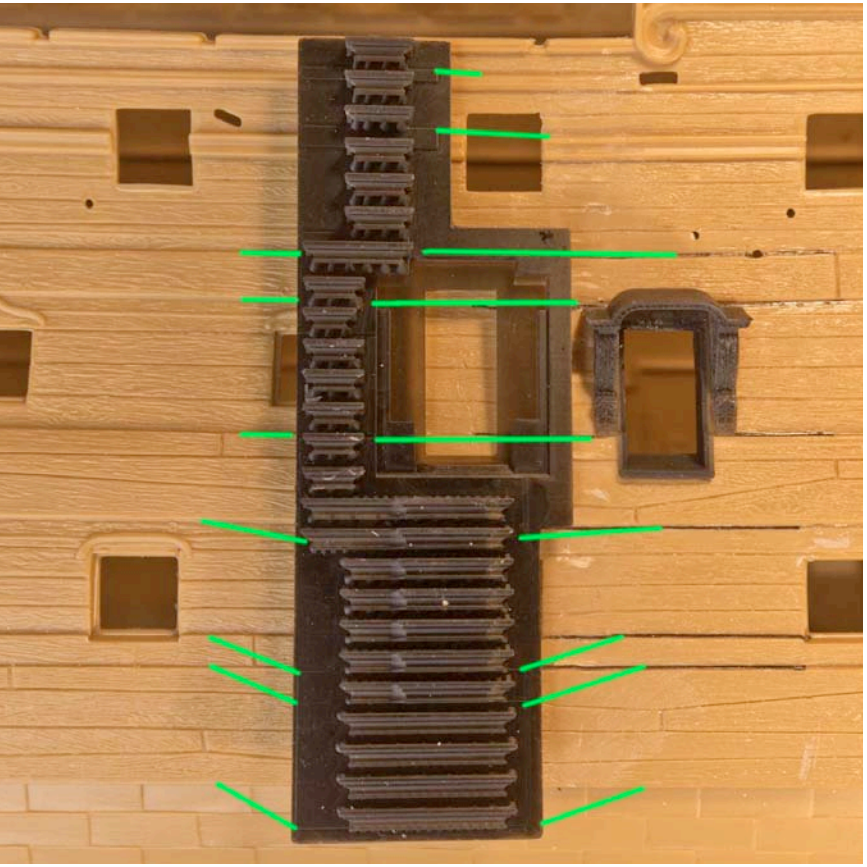
Trim the corners of the opening with a sharp scalpel. Here you can see that the upper edge of the cut-out almost reaches the wale.

The sides can also be easily straightened with a sanding board by sticking fine sandpaper to a narrow strip of wood using double-sided adhesive tape.

The passage frame should then slip in loosely under the canopy and not form a gap at the top.

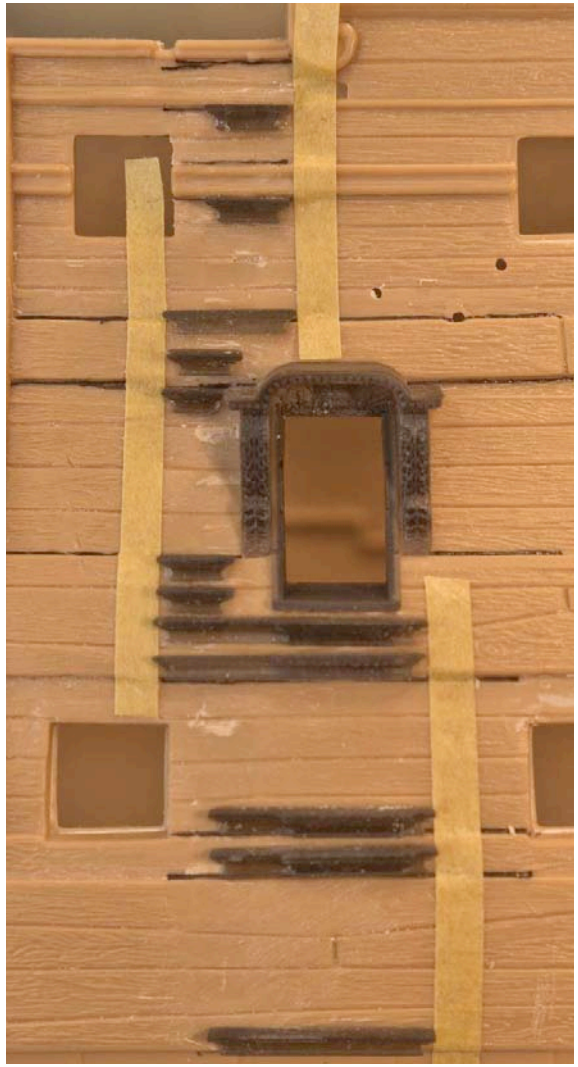
Positioning of the Steps 1

There are slight steps on the support that serve as a guide to the position of the wales. Due to the curvature of the hull, however, this is not entirely uniform, see the sketch.

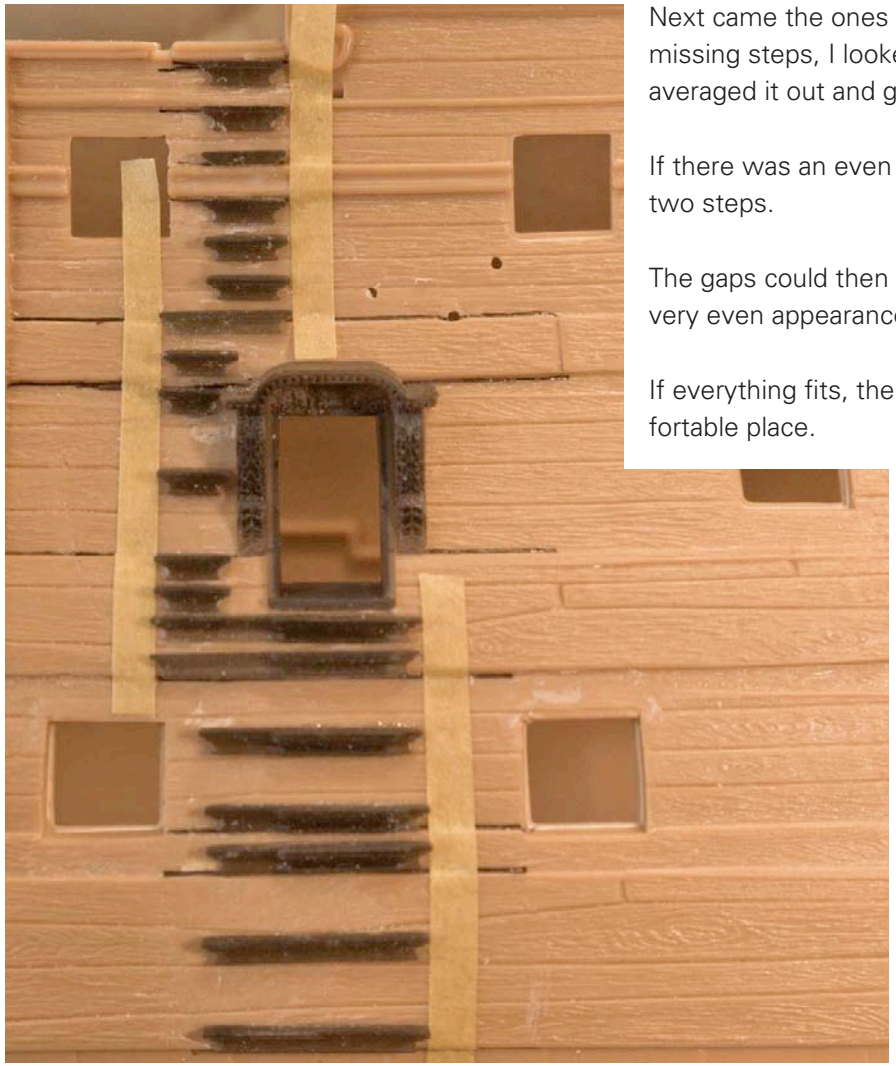


The following procedure has proved successful. Firstly, the two steps under the gate are positioned. Here, the lateral alignment must be observed so that the small steps still fit in on the fore side!

I then gradually defined the side edges with tape. The positioning of the steps was always based on those whose position in relation to a wale is clearly defined:
- the two small steps on the centre wale
- 3 steps on the lower wale
- 3 steps on the upper wale and thus defining the rear (here right) line
- and finally 2 steps in the upper area



Positioning of the Steps 2

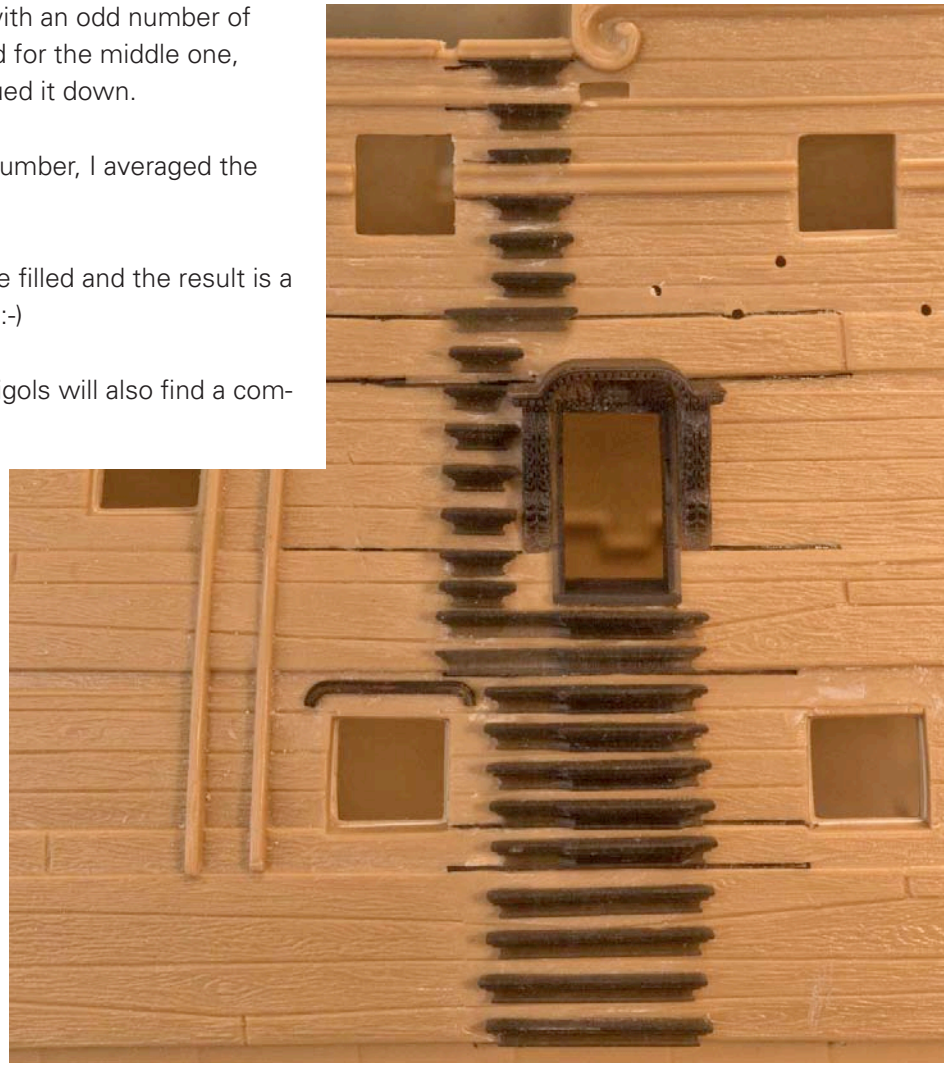


Next came the ones with an odd number of missing steps, I looked for the middle one, averaged it out and glued it down.

If there was an even number, I averaged the two steps.

The gaps could then be filled and the result is a very even appearance :-)

If everything fits, the rigols will also find a comfortable place.

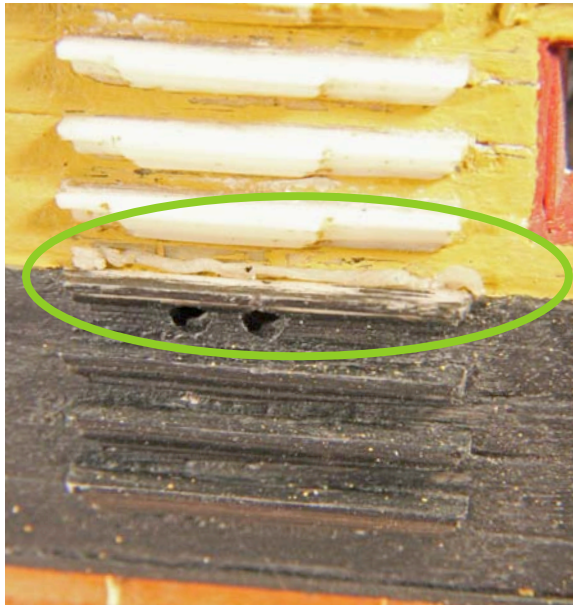


Fairing of the Steps

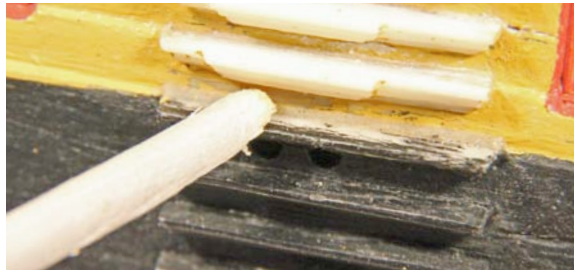
The angles of the steps have been pre-adjusted, but if there are still gaps, I recommend the following procedure.

Instead of the usual car levelling compounds/fillers, I have recently started using 2K modelling compounds for repair work. Longer open time and, above all, much easier to place and mould.

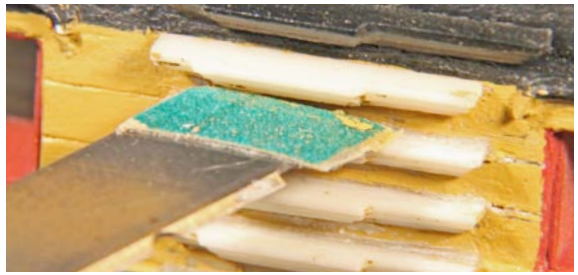
My favourite here is Apoxie Sculpt, formed into a thin sausage, 0.3 mm thick and placed specifically on the gap ...



... and pressed into the gap with a pointet and slightly damp stick, modelled and excess material scraped off immediately.



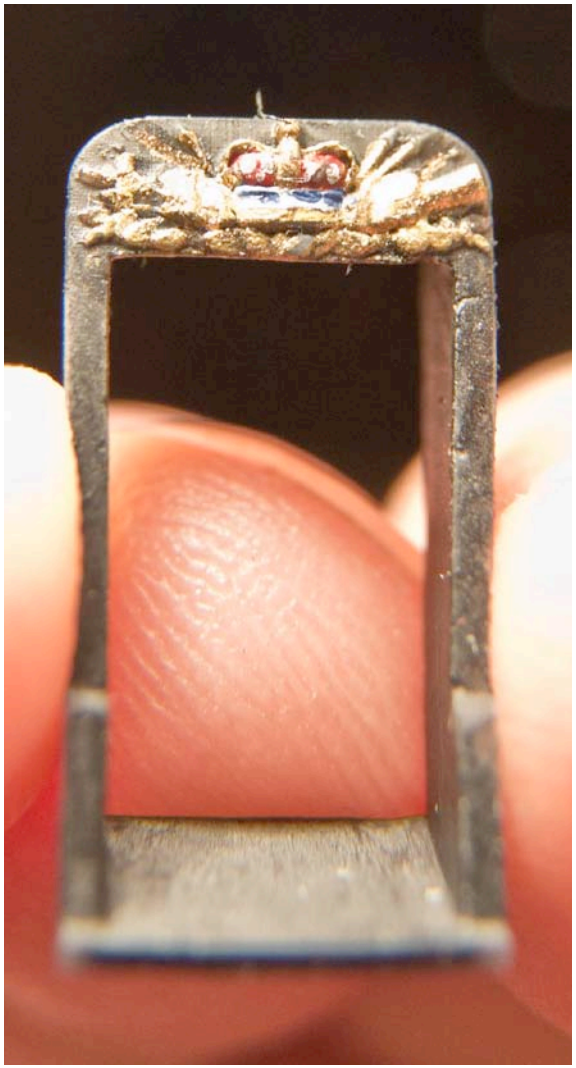
After drying, it is smoothed with a damp stick and after hardening ...



... finely sanded. I glued some sandpaper onto an old blade to go in between :-)

Painting the Side Entry Port

The moulding of the decorations is designed so that the raised surface can be easily painted with a flat brush that is not too wet.



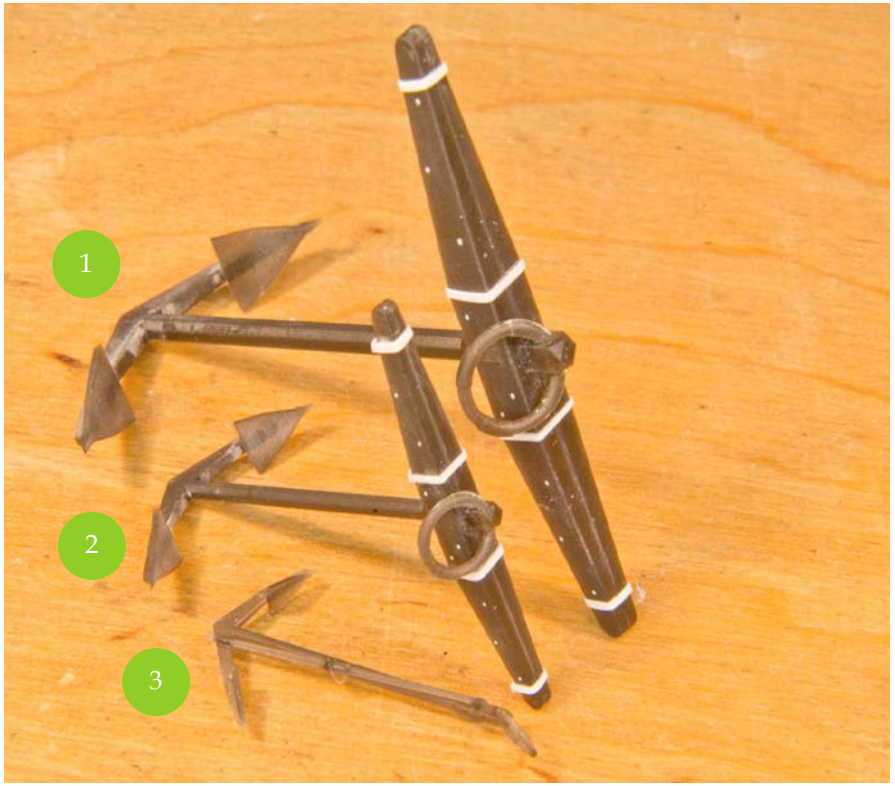
Resin 3 Anchors

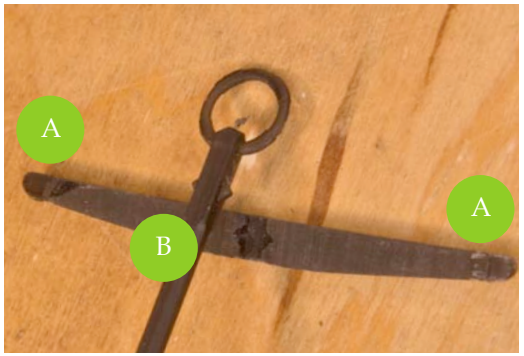
Anchors

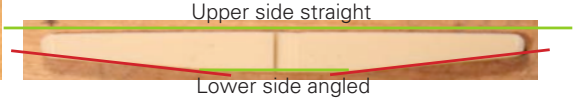
Bowers, Stream- and Warpanchor

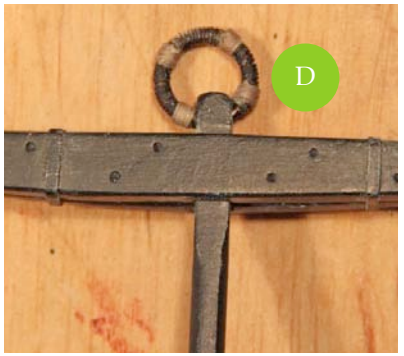
1. 4 bowers: 2 on each side of the ship on the foremast channel boards.
2. 1 stream anchor: on the aft port bower
3. 1 warp anchor: on the aft starboard bower
   (alternatively starboard mizzen chanel board)

- Only glue the anchor stocks together at the tips, A
  a small gap remains where the stock meets the shaft!
- The nut of the anchor shaft engages in the recess of the two halves of the stock. B
- Take cardboard or thicker paper and attach 4 anchor bands of approx. 1 mm width for each stock. The recesses in the stock are not for sinking in the bands but only for positioning C
- Use printed anchor rings (spare rings are enclosed) or bend rings of the appropriate size from wire and dress and smart properly. D





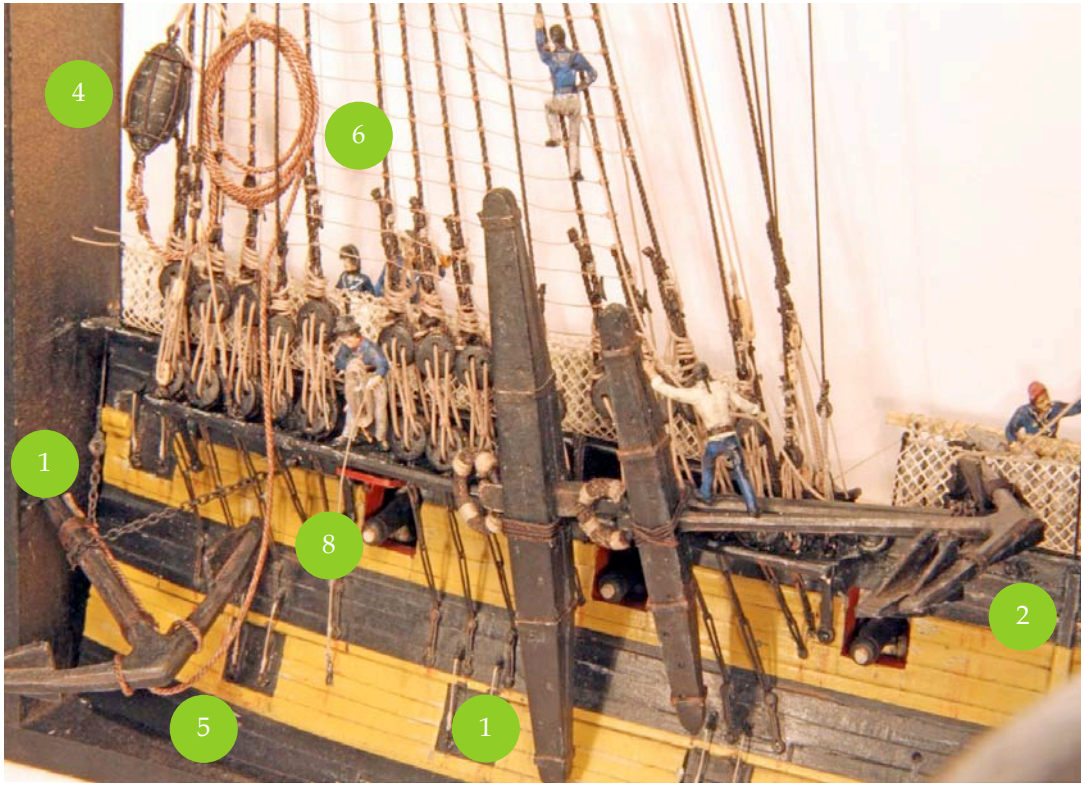


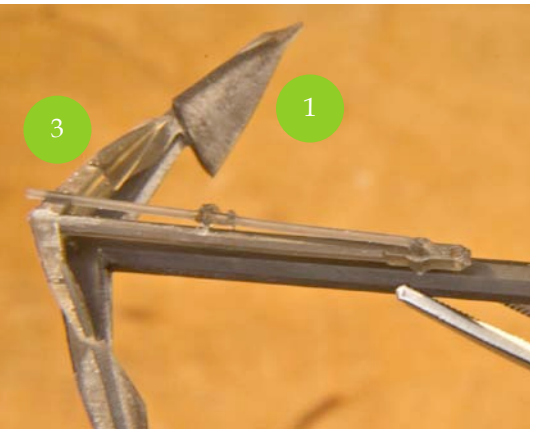


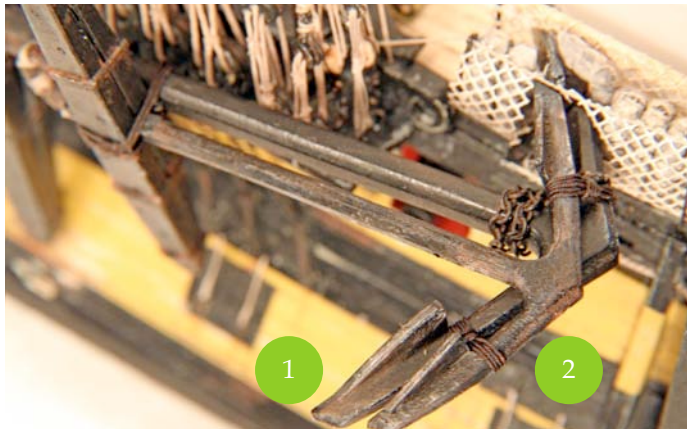
Anchors

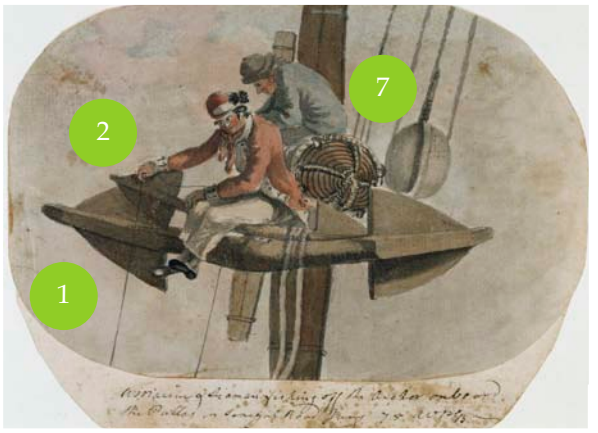
Anchor positioning, buoys and anchor shoes

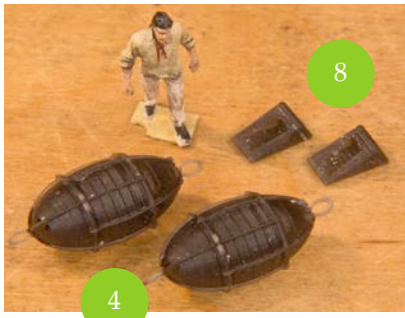
1. bowers: 2 on each side of the ship on the foremast channel boards.
2. stream anchor: on the aft port bower
3. warp anchor: on the aft starboard bower
   (alternatively starboard mizzen chanel board)
4. Buoys: One buoy each side hanging from the front foremast shroud.
5. Buoy rope goes to the shank.
6. Overlength hangs coiled in the foremast shrouds.
7. The second pair of buoys can be stowed on the aft anchors if desired. (See sketch by Gabriel Bray 1775, NMM PAJ2013).
   The buoys are supplied with the printed rope eyes (incl. replacements). If desired, a real rope eye can also be glued instead.
8. Move the anchor shoe one iron aft.









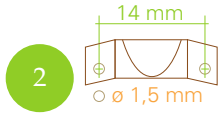


Resin 4 Timber Heads

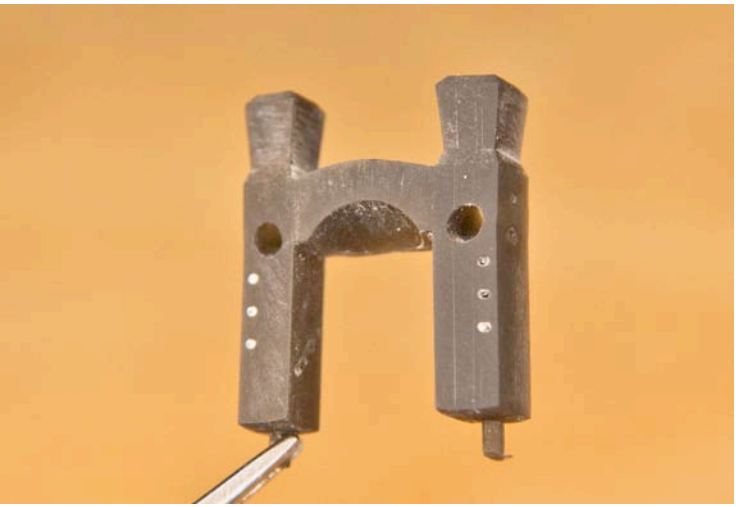
Timberheads

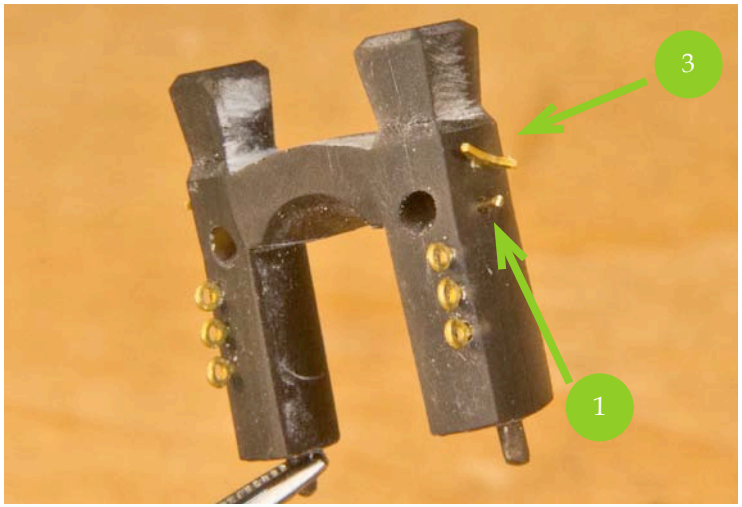
- Check parts for print steppings and sand if necessary.
- Check the width between the timbers and the width of the bowsprit.
- Adjust the curvature of the heads´ transom well to the bowsprit.
- Apply 3 ring bolts with outside approx. 1.3 mm, inside 0.5 mm on the front side of each timber
- one cleat 3 mm on each side atop 3.
- 1 a 0.5 mm wire on each side as a fastening for the bulins. Also drill the foot of the bulins accordingly to fit.

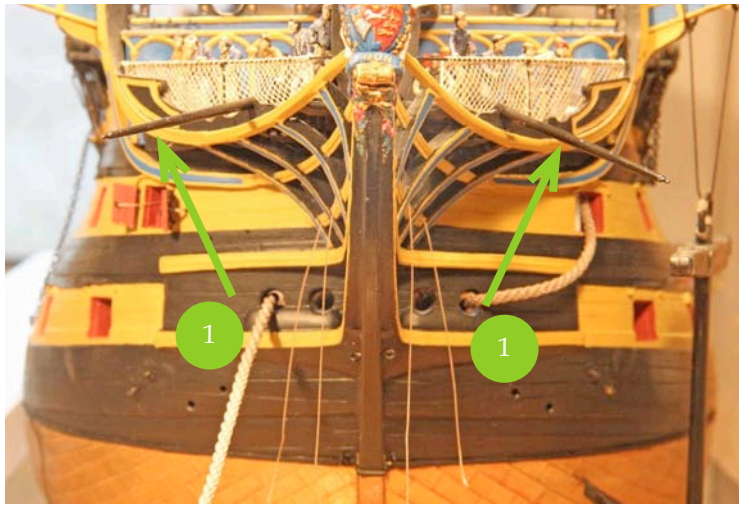
- Determine the position of the timberheads. Drill two holes of 1.5 mm ø and a distance of 14 mm. It is best to use the paper template for this. Print out in 100%. 2 Measure the distance and pierce the centre of the hole with a needle. Check and then drill.



A revised version has longer tenons that fit into the slots of the deck.

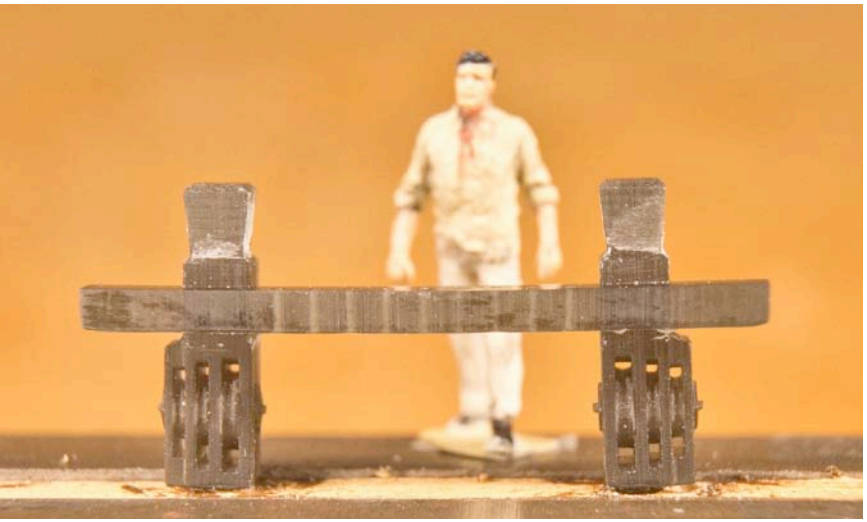




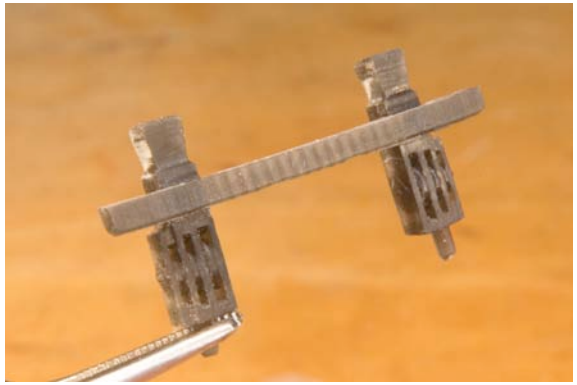


Resin 5 Bitts

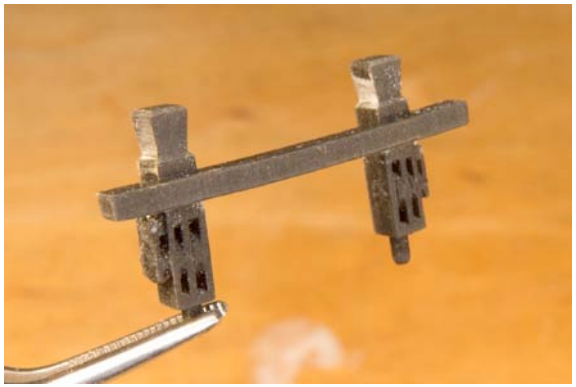
Bitts



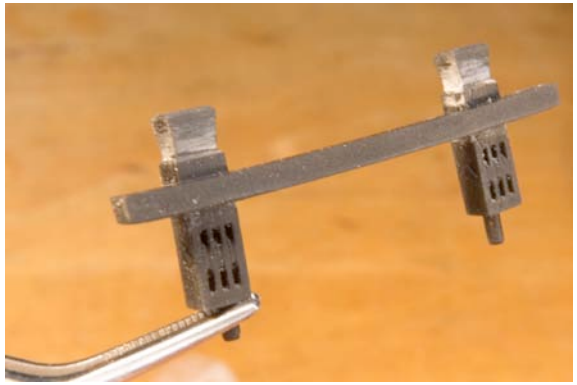
The number of belaying pins in the bitts is based on McKay's rigging plans, although in my opinion there are still many open questions, especially the tight occupation of the front foremast bitt.



Front foremast bitt with 17 pins and additional rollers attached to the sides.



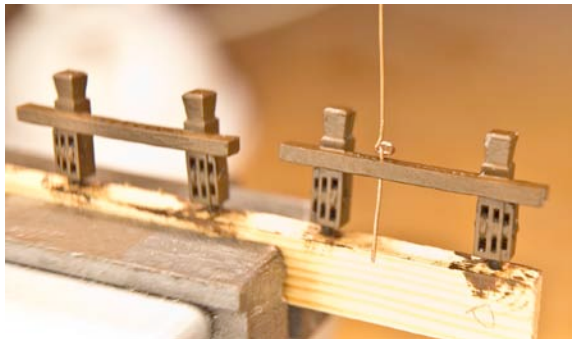
Aft foremast bitt with 9 pins and additional open rollers attached to the sides.



Mainmast bitt with 12 pins

Mizzenmast bitt with 9 pins

Assembling the bitts



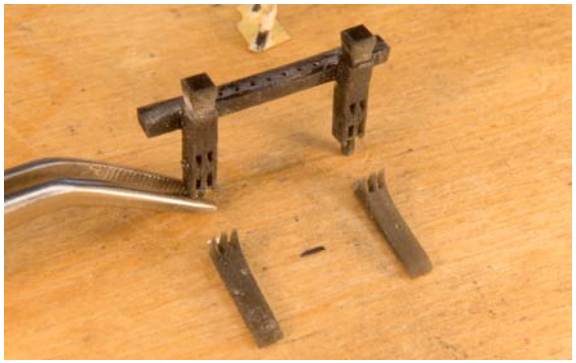
When painting the bitts, always immediately use a wire to clear the holes from the wet paint. Do not work with pressure if the paint is already too dry, so that the crossbar does not break. It is better to drill it out with 0.5 mm.

If you want to give the parts a little more life, you can try the following:

First, let very diluted ink flow into the corners with a thin brush, this gives depth.

Then dry paint the edges with white paint to emphasise the contours.

If the whole model shows signs of use, you can use light beige to show all the scrubbing traces of the ropes on the wooden edges.



The two knees must be glued to the mizzen bitt.

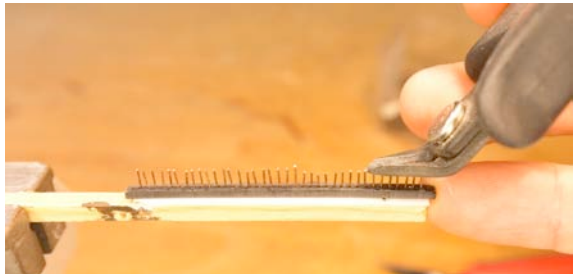
Caution: The vertival supports are not at right angles to the lower edge of the knees!

Make sure that the two rope passages remain open and that no glue flows into them.

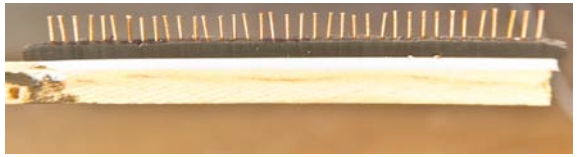
Preparation:
I made a template for cutting the nails to length, with a wire feed from the left and a catch basket underneath, it works fast, all cut to 7 mm quickly and well.
Then I glued the assembly bar with through holes to a wooden stick or similar with double sided mirror tape and filled it with the wire pieces.

Belaying Pins

The double sided tape secures the wire pieces against falling out.



Then the lengths are straightened a little ...

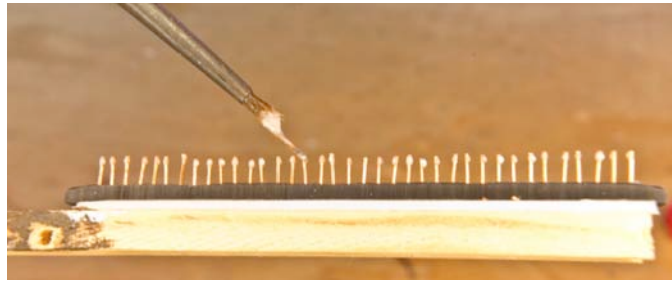


... and it looks like this:

Then prepare the nails´ heads. White glue in a small bowl 2, water in the next bowl 1 and the mixture in a third bowl 3. And for that the brush does not dry out when the pin´s head is left to dry, it is brought to the right height with a clothes peg so that its tip is in the water. 4

Then spread the glue on both sides of the head in several layers. The thinner the glue and the more layers, the more even the result. So do not make the first layers with too thick a mixture of glue and water! And always let it dry. That's why I use the white glue express version, so that also works quickly.

By the way, it took me 6 to 8 layers. When the head is the right size, let it dry briefly and paint it :-)



Why are the pins not printed? The resin is too brittle for rigging, with wire there is no danger of breaking away during rigging.

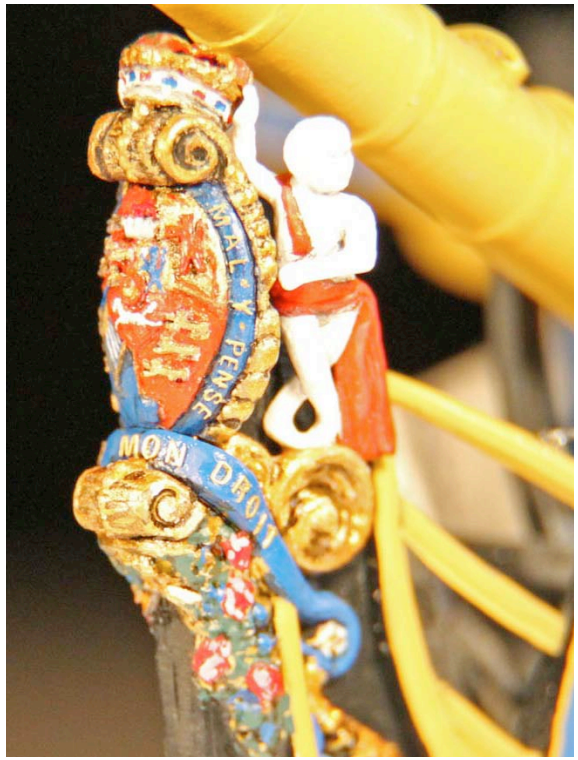
Resin 6 Coat of Arms

Figurehead Heraldry

The coat of arms is quartered and represents the parts of the country, here the simplified description: In the 1st and 4th square, i.e. top left (heraldic right) and bottom right (heraldic left), the coat of arms of England: three golden lions on a red background.
In the 2nd square (top right) the coat of arms of Scotland: Gold with a red Scottish lion rampant within a double tressure flory counter-flory gules.

In the 3rd square (bottom left) the coat of arms of Ireland: a golden harp with silver strings on an azur background, symbolising Ireland (since 1927 only Northern Ireland).

The inescutcheon in the centre is crowned with an elector's hat (or bonnet), in the centre a reproduction



of the the Crown of Charlemagne.
Field 1: in red two golden, facing, striding lions one above the other (Principality of Brunswick),
Field 2: in a golden field strewn with red hearts a blue lion (Luneburg),
Field 3: in red a silver, leaping horse (Hanover).

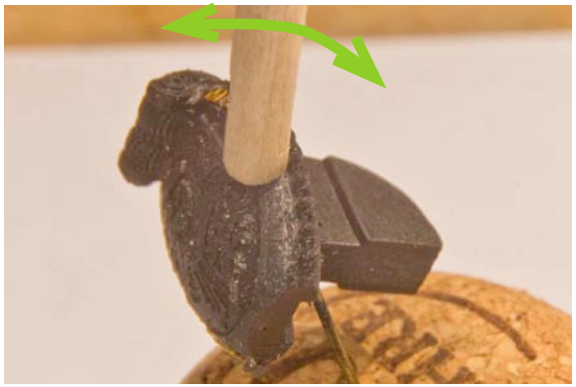
Figure Head Lettering

There is a groove on the back of the shield into which the extension of the stem is glued. The groove in the groove serves as a guide that the short side is used.

The motto „Honi soit ...“ is already printed and can simply be painted. However, you can emphasise the lettering by carefully scraping off the printed letters and replacing them with the etched letters from plate 5, so they also match the „Dieu et mon Droit“ on the banner on the stem.

To do this, use a toothpick to place a medium-fast superglue at the target point and position and press on the letter.

Allow the glue to set briefly and press the letter onto the curve of the sign by rocking it with a wooden stick.



And that‘s it.

Painting the Figure Head

For easier handling, the adapter of the stem has a hole at its bottom for gluing in a piece of wire. This wire is then inserted into a champagne cork or similar.

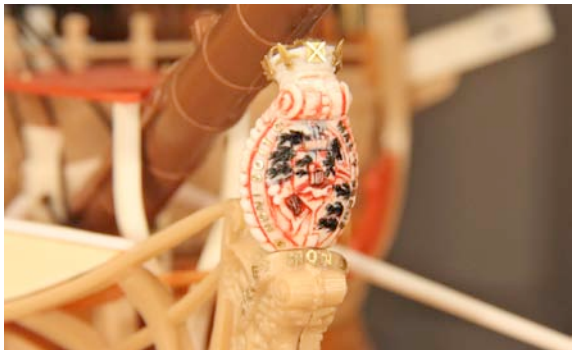
This makes it easy and comfortable to hold the figurehead without having to touch it.

The coloured backgrounds are painted first. The reliefs of the figures are designed in such a way that they can be easily brushed with a very flat brush and a small amount of colour.

Even I do plan several correction steps for my work

A very fine brush should then be used for these.

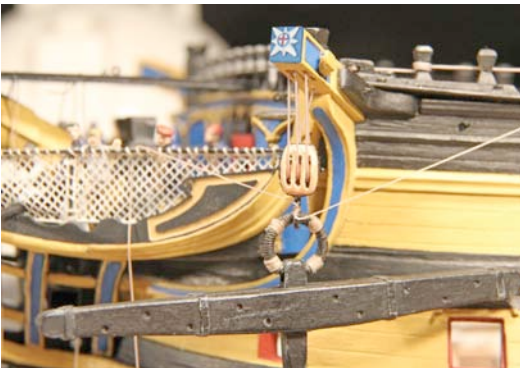
Finally, emphasise the depths and inner edges of the coat of arms and lettering with thinned ink to add depth. It is where the red color sits in this prototype. Then brush the tips that surround the crest with a lighter gold colour or white.



The angels and the cropwn come from the kit or from olate 5.
Here is a comparison with the original part of the kit.

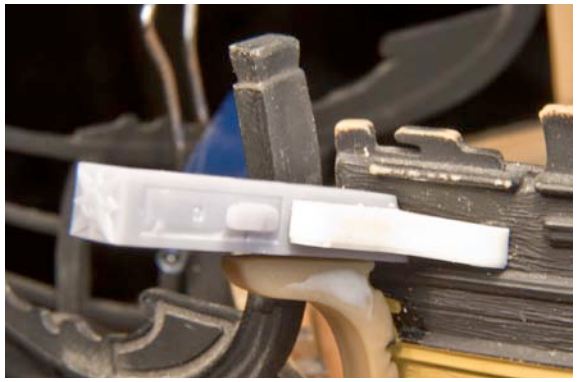
Resin 7 Cat Head and Cat Block

Cat Head and Cat Block

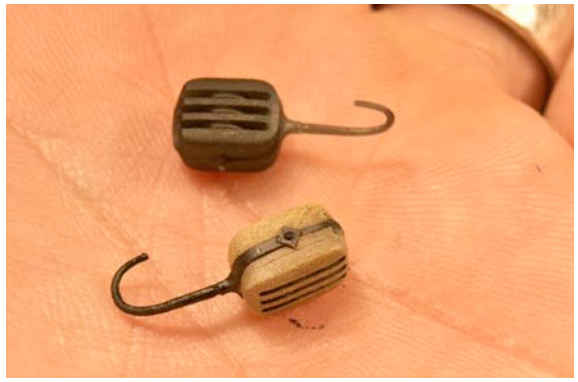


The cat head davits have a triple pulley and the star of the Order of the Garter, which can be found on all contemporary depictions of the Victory.

There is also a matching triple pulley cat block.



Installation is carried out using the parts in the kit. As usual, I recommend adding a little ink to the inner edges of the faceting and brushing the outer edges white.



The cat blocks come with a printed hook and a spare hook. As these are very fragile, I recommend replacing them with brass wire.

The tip should be tapered with a file before bending. The surplus resin hooks can serve as a bending pattern.

The base colour is a medium wood/earth tone, with a very light brown brushed over it, then a little ink, and finally the edges and fittings are brushed with white to emphasise them.

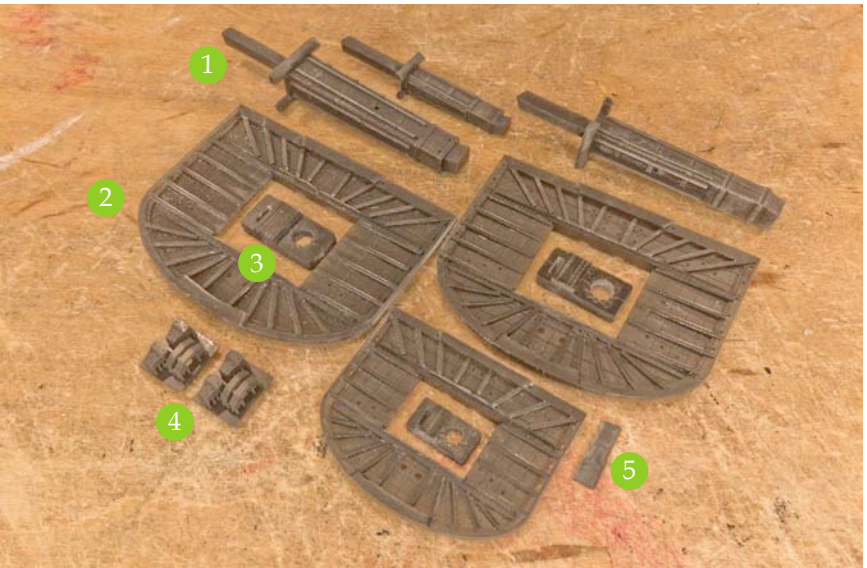
The shape of the block and hook is based on the cat block of the St. George, which ran aground off Thorsminde in 1811 and is now on display in the museum there.

If you prefere the crown as seen today, simply file off the star and use the part of the kit. The main reason for these new parts are the pulleys.

Resin 15 Mastheads and Fighting Tops

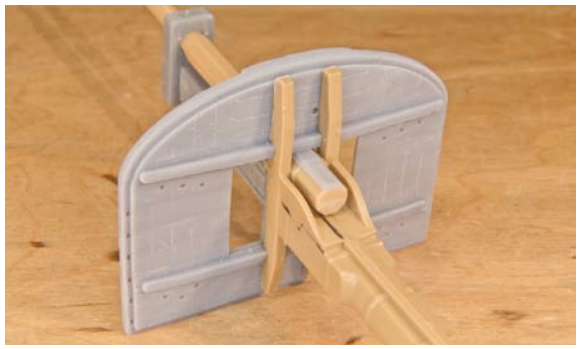
Mastheads and Fighting Tops

According to an order from the Admiralty dated 20 November 1802, the large fighting tops had to be built in two parts. This made assembly much easier.
The major difference to the older designs was that two stringers on the upper side had to hold together the two halves with the help of the cross trees, which made it necessary to realign the previously radial connecting battens.



The set consists of mastheads 1, the fighting tops 2, the mast caps 3, the brackets/shoulders 4 and the mast foot of the fore top mast 5.

The addition to the mast base is attached to the fore top mast.



The brackets/shoulders are an addition to the mast tops as a support for the jeer block hanger. Today the Victory has the clamps, in contemporary literature the shoulders are used. The integration is identical.

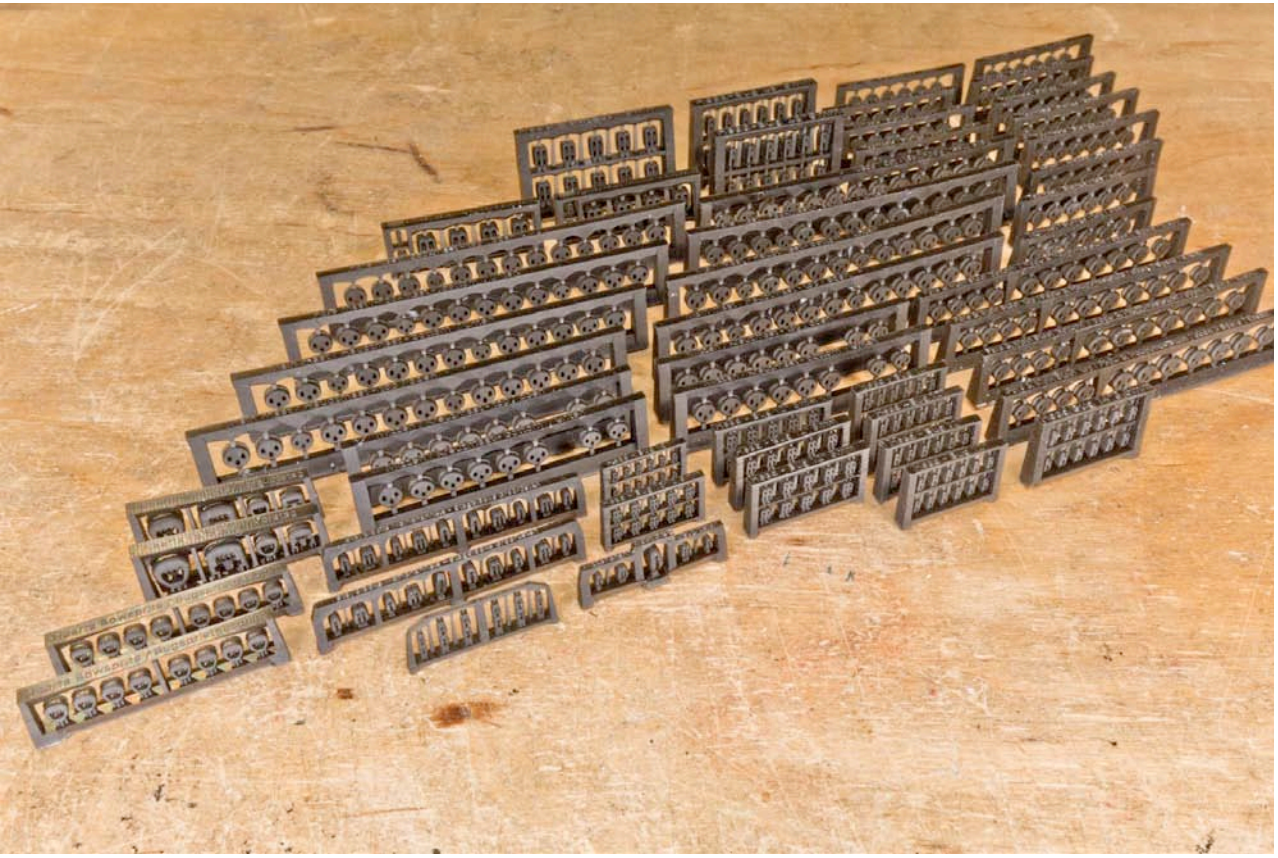
Attention: The distance between the masthead and the topmast must always be chosen so that there is enough space for the shrouds. For foremast and mainmast this should be approx. 1.5 mm, for mizzenmast 1 mm.
If necessary, correct with a file.
Please check the available space with a sample shroud. Do not glue the mast cap before attaching the shrouds!

The Stanchions for the rear railing come from the etched parts set plate 4, the handrail from Evergreen or from the cannibalised handrail of the waist. The net is either included with board 4 or is supplied with the topps. The eyebolts for the mast caps are from board 7 or have to be made from wire yourself.

Resin 10-12 Deadeyes, Hearts and Blocks

Blocks and Tackles

There is a three-part set of blocks and other rigging parts for the HMS Victory.
The first is the deadeyes, which are precisely matched to the chains of plate 3. Building on this, there are the standing rigging and the running rigging.
The blocks are grouped according to location. There is also a table for use based on Anatomy of the Ship AOTS by McKay.



Note: The sprues/supports are designed to be as thin as possible. Accordingly, individual blocks may come loose during printing, washing or packing, especially smaller ones. This is not a problem, as all blocks and especially the small ones have more than enough replacement on the frame.

The Spreadsheet

Your Excel spreadsheet is supplied for the use of dead eyes, hearts and blocks. The numbering of the individual positions is based on AOTS Anatomy of the Ship by McKay. This data has been checked and corrected in some places. The AOTS also contains the belaying plans.

The table contains four sheets:
- Sheet 1 is the standing rigging
- Sheet 2 is the running rigging
- Sheet 3 is other ropes and rigging
- Sheet 4 is for rope makers.

Number AOTS 1 refers to the designation there. The English and German *names* 2 are given for each position.

Next comes the *original* ***circumference*** 3 of the corresponding rope. The *conversion to* ***diameter*** *in 1:100* 4 is located behind this.

The column *Blocks* 5 refers to the type of blocks. An assignment of the abbreviations 6 can be found at the bottom of the respective chart.

The rows *Sets* and *Number* 7 give the required *Total* 8 of corresponding blocks. *Size in inches* is the original size 9, *mm in 1:100* 10 *i*s the converted value and the *rounded* column 11 contains the blocks supplied in 0.5 mm increments.

The *Notes* 12 column is followed by the *original length in fathoms* 13 and the *conversion of the lengths in mm 1:100* 14 .

Attention! The rope lengths are only a guide and must be checked by each model builder himself! It should also be taken into account that half of the ropes have the total rope length measured, i.e. that which hangs on the bitts and belaying points. These lengths are traditionally faked by the model builder and hung over the nails afterwards.

Note: All values are based on my current research. I would be grateful for any additions, comments and corrections.

	Number/ Nummer McKay	Name en	Name De	Circumfer. in Inch, Umfang inZoll	Conversion Umrechnung ø mm 1:100	Blocks	Sets	Quantity per Anzahl pro Set	Total Blocks	Size in Inch Größe in Zoll	mm in 1:100	Round ed/ Ge- rundet	Notes/Hinweise	Length in fathoms/ Länge in Faden	Conversion Umrechnung mm 1:100
Bowsprite Bugspriet	1	2	2	3	4	5	7	7	8	9	10	11	12	13	14
	1	Gammoning	Wuhling	8	0,64		2						9 Turns per Set, 9 Schlingungen	187	337
		Seizing	Bindsel												
	2	Shrouds	Backstag	8	0,64	H1	2	4	8	14	3,6	4	Iron Hooks	39	70
		Collar	Kragen	6,5	0,52									12	22
		Seizing	Bindsel	1	0,08									18	32
		Lashing	Lasching/Zurrung	2	0,16									13	23
		Lanyard	Taljereep	3,5	0,28									22	40
	3	Bobstay	Wasserstag	8	0,64	H1	3	2	6	14	3,6	4	Iron Hooks	36	
		Collar	Kragen	8,5	0,68									9	
		Seizing	Bindsel	1,5	0,12									35	
		Lashing	Lasching/Zurrung	2	0,16									10	
		Lanyard	Taljereep	4	0,32									20	

Preparing the Ropes

A beautiful rigging also requires a fine differentiation of the ropes used.

Of course, it is best to use self-made ropes. I use 8/0 and 6/0 fly fishing line and a home-made rope walk made from Fischertechnik. You can find lots of instructions online, from Lego models to professional machines.

I also like to mix different shades of color when laying, as ropes on real ships can also be found in very different colors. This also allows the ropes to be produced to the tenth of a millimeter according to specifications.

If purchased ropes are used, the supplier should be able to provide as many different sizes as possible. The required diameters can be found in column 4. Please find a good balance in between needed sizes and available ones.

Classic dressings are possible on a scale of 1:100, but they are very difficult and usually not true to size. That's why I use White Glue, which is applied in approx. 3 layers and then painted black. In my opinion, the visual appearance and the differentiation from normal ropes is good enough for thin ropes and slings.

For exposed ropes such as stays, you can use fly fishing thread 3/0 to dress the rope on the dress machine.

Picture 1 on the right dressed with fly fishing thread and coated with White Glue and picture 2 with color.

For eyes like on mice, I pinch off the rope at an acute angle with a side pincher, bend it, glue it in place with superglue and cover the cut with fly fishing yarn. Due to its fibrous nature, it does not build up like normal thread.

Forestay and preventer forestay, one on the left and one on the right.

Coloring of Blocks

Depending on taste and desired style, the blocks still need to be painted. Black resin was chosen as the base color to avoid bright flashes.

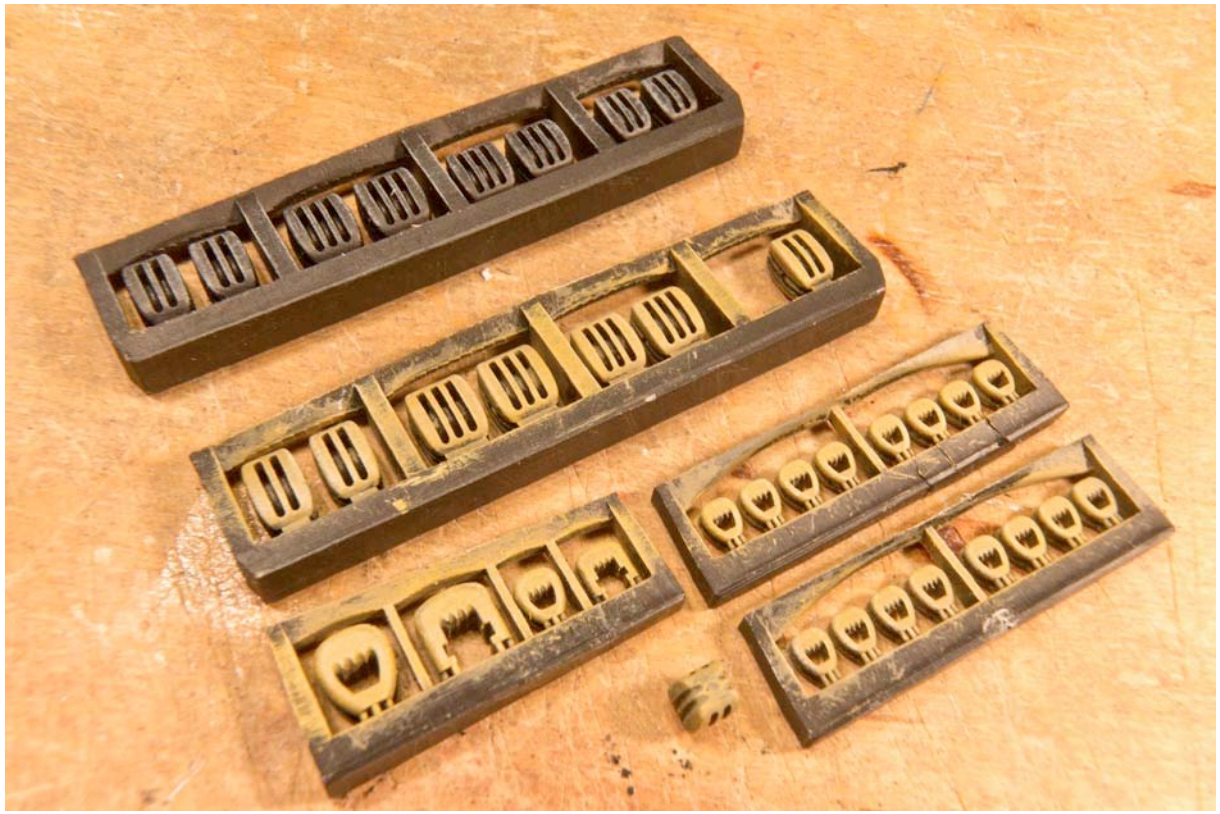
Traditionally, the dead eyes are painted black, the other hearts and blocks are painted a wood tone.

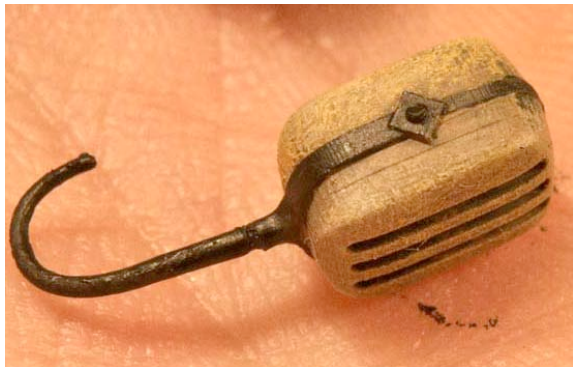
I recommend always painting the blocks on the frame.

I choose a medium-dark wood tone as the base color, which I apply several times in a very thin layer, always blowing out the holes. The thin paint prevents the holes from closing up and the paint can also get into the grooves on the side.

If the base tone is as desired, then a lighter wood tone is applied as a spot color using dry brushing. This makes the color a little more uneven, a lively wood asppearence is achieved and the recesses also remain free and darker, simulating depth.

If necessary, you can dab out a little more befo-re the stropping.



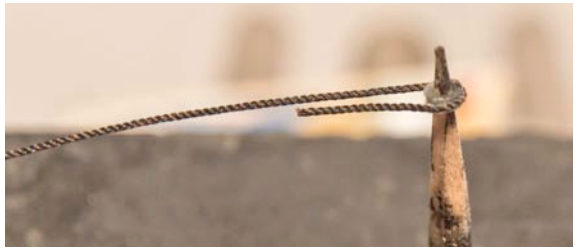


Images from pre-production. The color nuances can be seen beautifully in the close-ups.

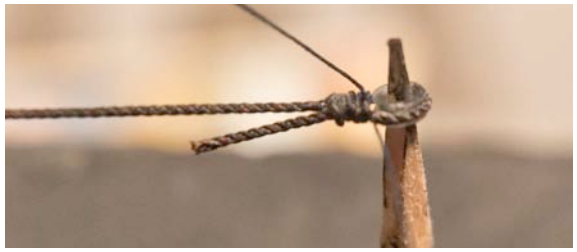
Stroping in Thimbles

The thimbles are available in 3 sizes: 1.5 mm, 1.75 mm and 2 mm. The middle size is most commonly used.

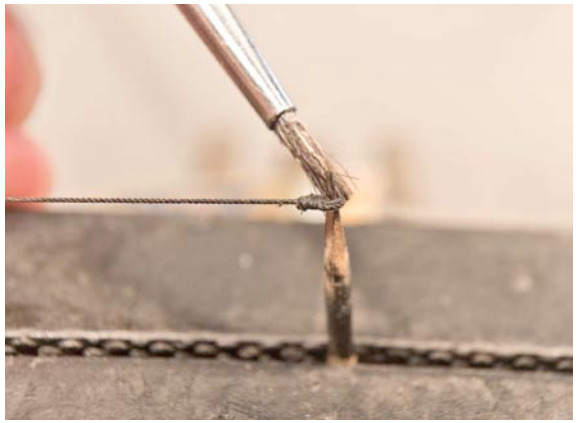
As usual, thread the thimble onto a toothpick, apply some glue to the back - or the thread - and hang the thread around the back of the thimble and pull the ends to the front, tie them together with fly fishing yarn and knot them alternately at the top and bottom.



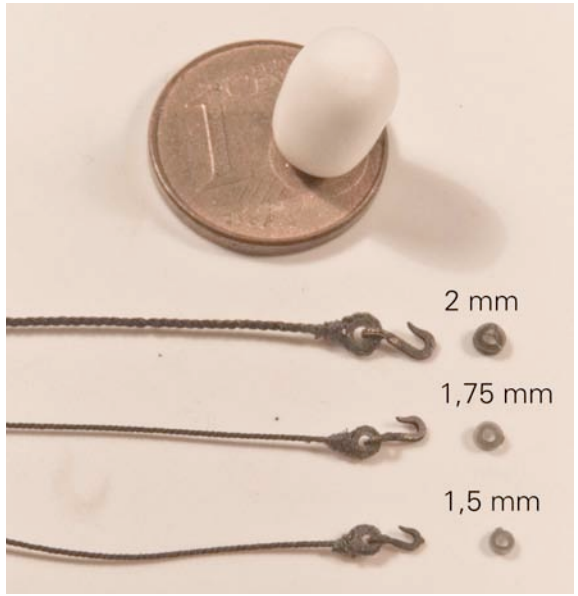
Shorten the free end ...



... and dab over any glue residue with a little black paint.

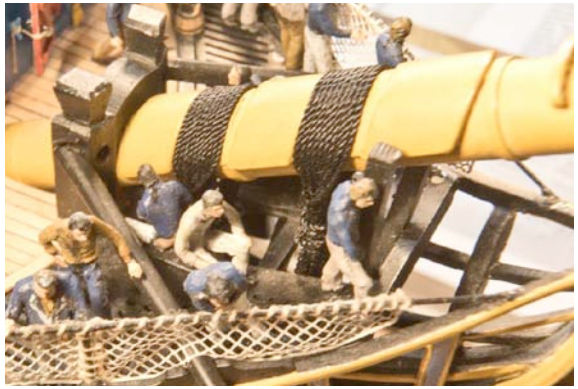


Then cut open a suitable hook and press it back together in the thimble.



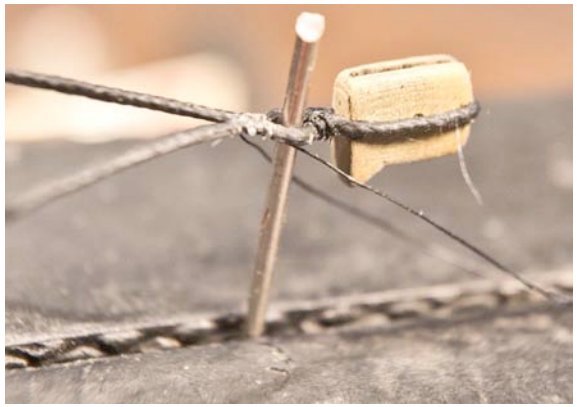
Butluv Stays

Please insert the gammoning in early as preparation, it will be much more difficult later - guess how I know that. Ideally 9-11 turns, the area between the supports should be filled in.



Several sets are included for the stays: for the main stay, the forestay and the bowsprit stays and shrouds. The first two are not identical, so please note the labeling!

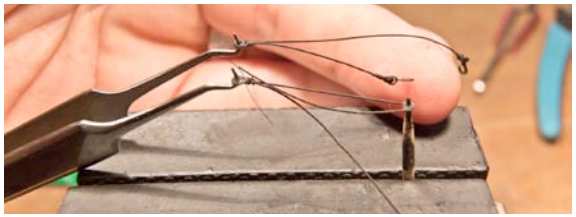
First, the shoulder block of the tack is tied in. This strop was dressed, for which I would again recommend the white glue option. This is bound as already described: On a toothpick, glue the strop from the back, pull it to the front and knot it there.



Then it is repositioned onto a piece of wire with the diameter of the tip of the boomkin antenna that is used as a rigging aid. This eyelet is later slipped over the tip of the antenna. A thimble is then placed in front of it.

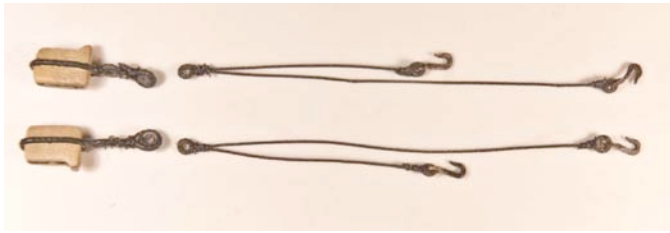
Place the required eyebolts on the hull, slip the shoulder block over the tip, bend the thimble on the underside to the required angle and determine the lengths to the eyebolts. Note the length of the seizing between the thimble on the block and the thimble of the boomkin stay, this also serves to compensate for the length.

I made a small jig to work accurately.



First I tie the thimble in the middle, then I put the thimble on the hull side on a toothpick and can easily adjust the length. The first finished side is pinned in place and serves as a guide for the other side.

Then the hooks have to be attached to the thimbles on the hull side and the binding pulled in between the shroud and shoulder block. Finished.



Preparation of the Stays

The kit comes with 4 sets of hearts: for the main and main preventer stay, for the fore and fore preventer stay, and 2 sets for the hearts of the bowsprit shrouds and stays.

The first two differ in shape, so please do not mix them up! Please note the labeling.

The collar of the stay was always dressed, again white glue and black paint.

The mainstay and forestay were wormed along their entire length, i.e. a thin rope in each of the three grooves. Ideally, there should be a small color difference between stay and yarn so that they are visible.

The best way to do this is on a dressing machine; there are also lots of DIY constructions on the internet.

It is important that the stay is firmly beaten so that the yarn does not push it open. Occasionally secure it with a drop of glue.

The two preventer stays were not wormed along their length.

However, all these stays were fully dressed in the area of the masthead, the mice and the hearts. For this I used 3/0 fly fishing yarn, which doesn't build up, followed by some white glue and paint.

For the eyes of the mice, I pinch off the rope at an acute angle with a side pincher, bend it, glue it in place with superglue and dress the cut. The mouse is simply wrapped with yarn until the shape fits.

Forestay and preventer fore stay, one on the left and one on the right. They lie over the shrouds.

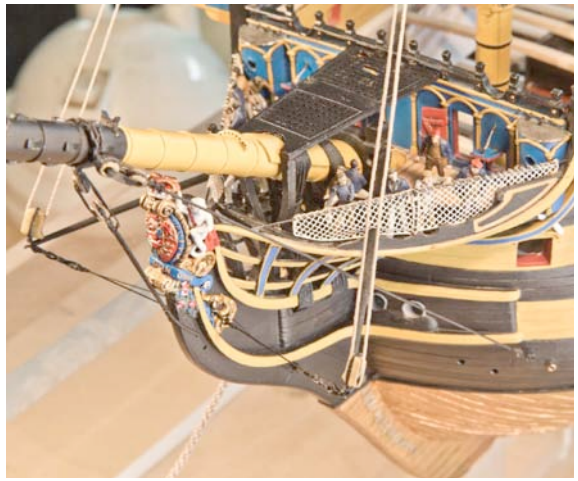
Open Heart Surgery

The hearts for the bowsprit shrouds and stays are basically all the same, only the length of the legs needs to be taken into account, depending on which side they point to.

I also use an jig for this. These are the 3 shapes.

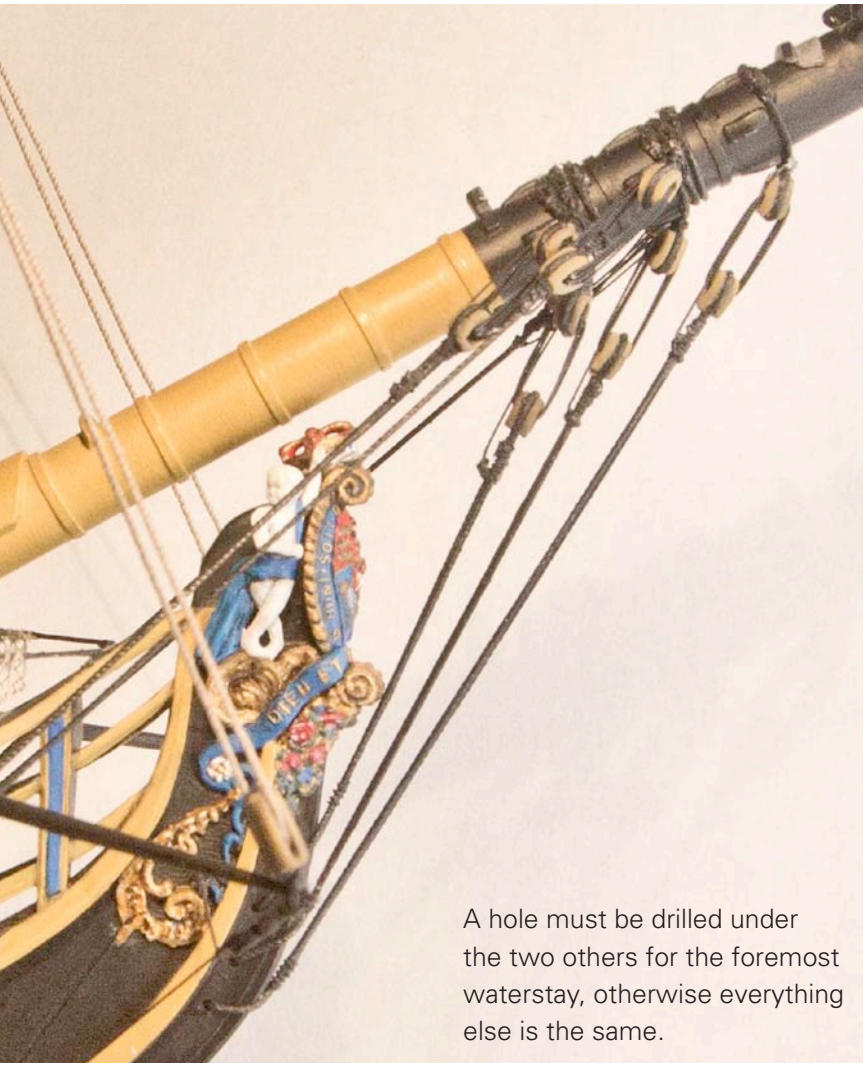
The collars are seized together at the top. This is best done with a needle.

The shrouds and stays are also lined with white glue.

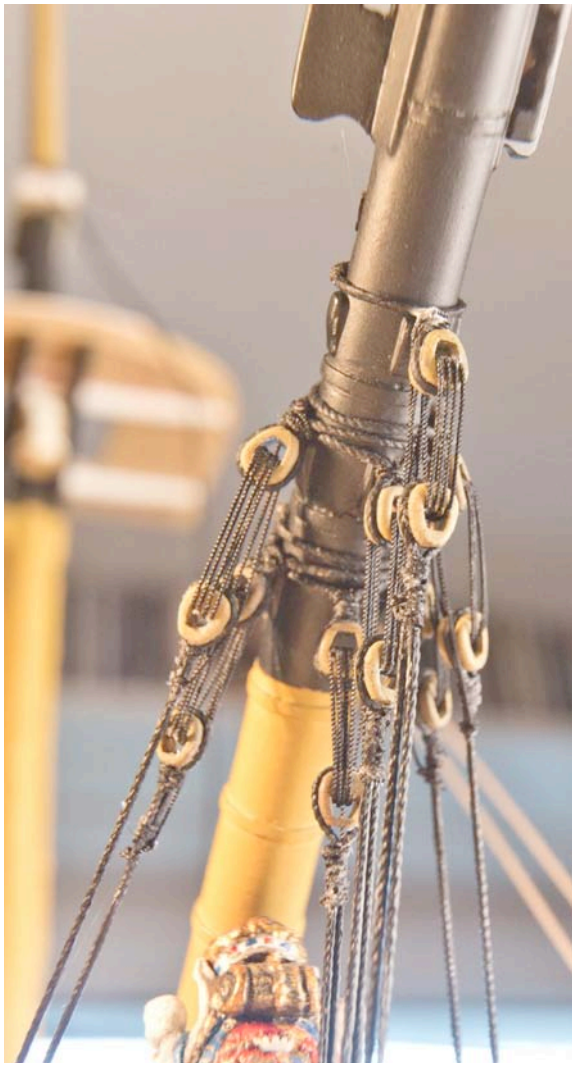


Here is the first layer of the hearts, the same goes for the other two layers.

The Bowsprit Stays and Shrouds



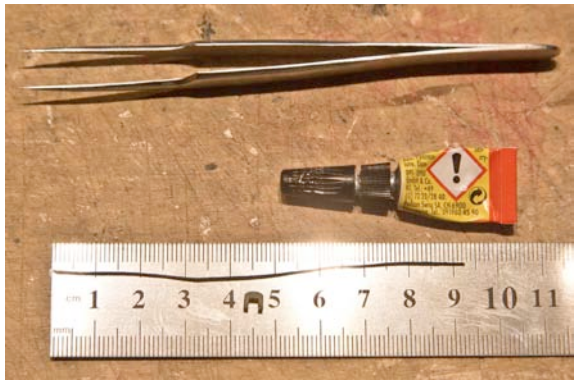
A hole must be drilled under the two others for the foremost waterstay, otherwise everything else is the same.



Hearts Fore- and Preventer Forestay

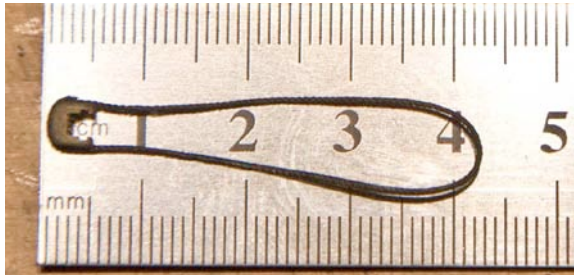
You can recognize the hearts for the fore and preventer fore stay by the fact that on the bowsprit side it has a double groove.

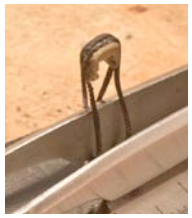
First you have to determine the length of the collar, in my case it was about 9,5 cm with both hearts. This must be checked on your own model.



Please note that the jib boom still needs the space to slip underneath! 1

Then glue the collar in the middle of the heart in a keep and close the circle to create a long loop.





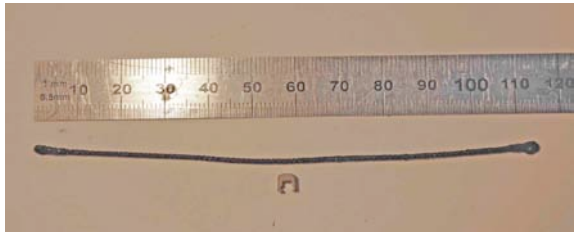
This loop is then folded in half and glued in the other groove so that the collar has a loop of the same length on the left and right.

The collars are tied to the underside of the bowsprit. The heart of the stay can then be tied in and the lanyard fitted.

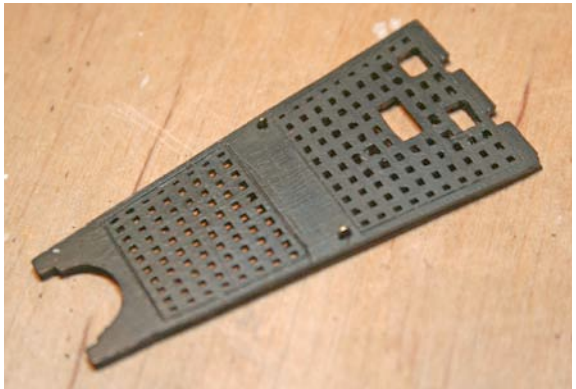
Hearts Main- and Preventer Mainstay

You can identify the hearts for the main and main bowsprit by the fact that the bowsprit side has a single groove.

First of all, the length of the collar must be determined by pulling a dummy thread through it and measuring it. Both collars also have different lengths!



As both stays are led asymmetrically past the starboard side of the foremast, the hole pattern of the mariner walk must also be adapted. To do this, cut out carefully the unnecessary crosses with a sharp scalpel and used them to patch the other holes.



The collar of the mainstay has to pass through the Mariners Walk, then through the timber heads, then down to the hole in the knee of the stem and back up again. This guide has several sharp corners and dressed ropes are stiff and there is not much air in the through holes! Please work without force, pull the respective stay with an auxiliary line and use tweezers at the back to ensure that it does not get caught on any edges. If necessary, carefully widen the holes.
Only now can the stay´s second eye be tied, on the side just behind the heart.

The collar of the main preventer stay is a little easier: you can prepare both eyes, making sure that the second one still fits through the passage of the mariner walk.

Then it only has to be passed through the mariner's walk, over the timber heads and then tied together under the bowsprit aft of the aft gammoning.

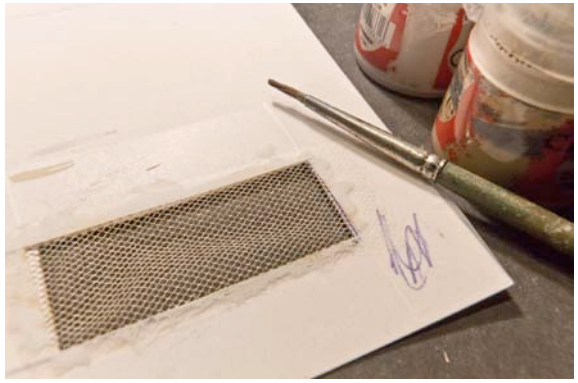
For this reason, the seizings should be of sufficient length so that the eyes can be easily tied in and pulled under the bowsprit.

For the lanyards, it is advisable to always secure it briefly with glue after 1 to 2 turns.

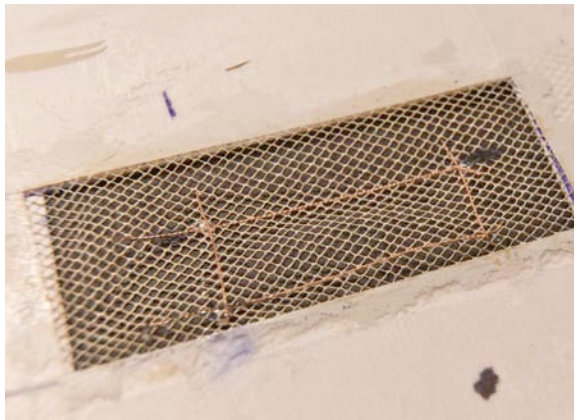
Staysail Netting and Man Ropes

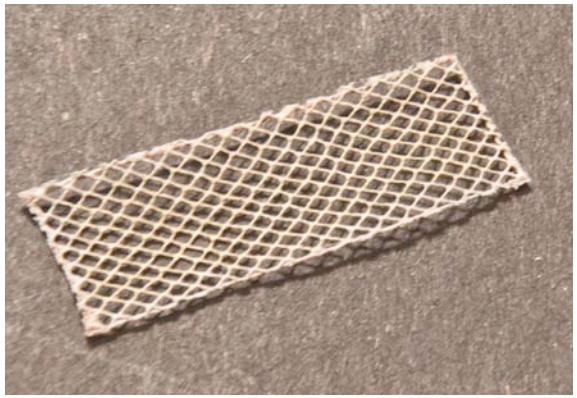
A small net was used so that the forestay sail could be recovered safely and not come to rest directly on the bees.

To do this, the net material of the hammock holder is glued into a cardboard template and painted with a mixture of dirty white paints. This gives a slightly better texture and color.

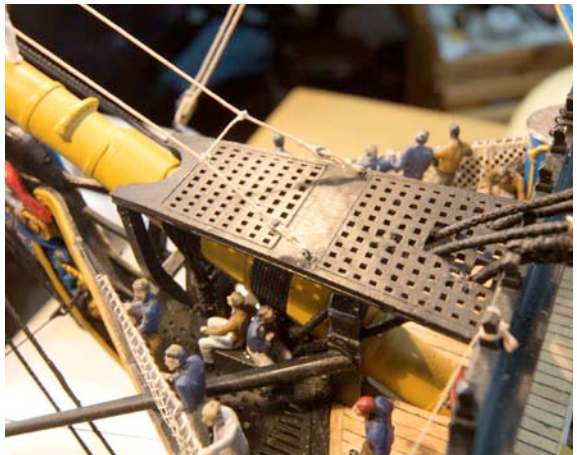


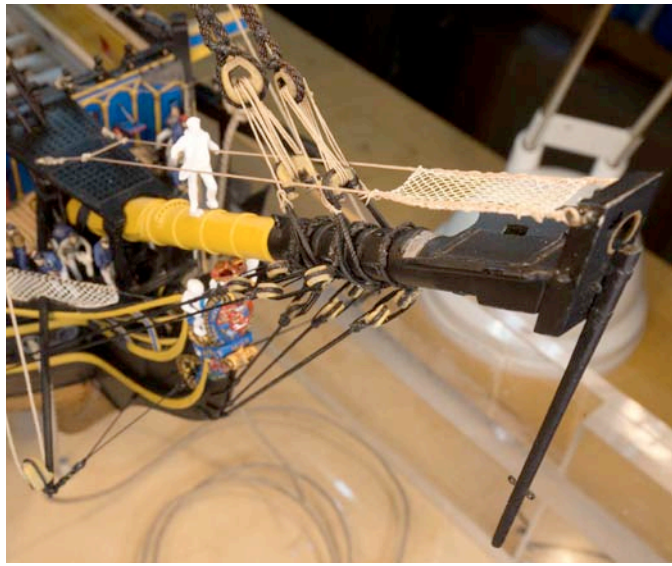
Then glue on a thin wire in the correct dimensions, paint it and cut it out.



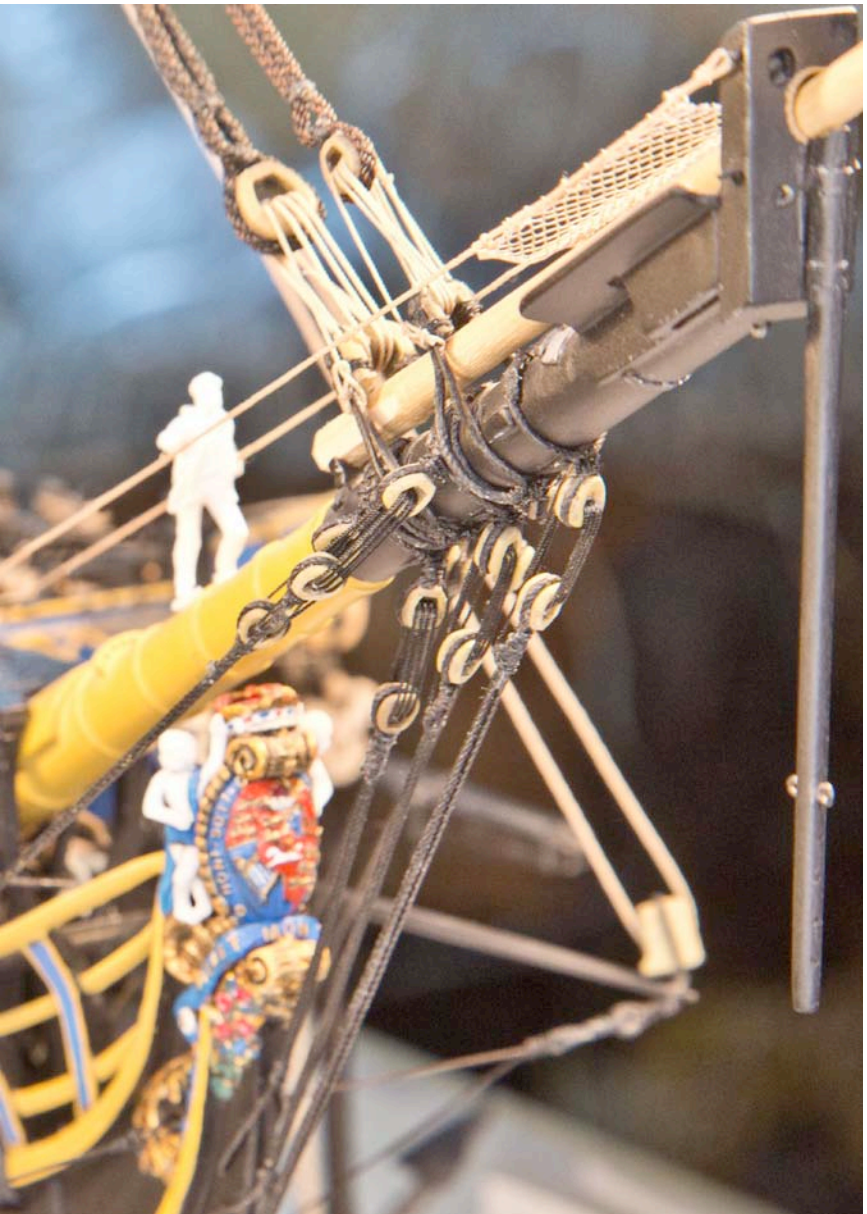


Then fasten the two man ropes between the bow head and the mariner's walk. Contrary to the literature, the eyes for the man ropes on the bowspriet cap are better placed on the back side and not on the lateral side, then they do not collide with the stays of the violin.
Finally, sew the net to the man ropes. Contrary to much of the new literature, these had no knots like the foot ropes of the jib.



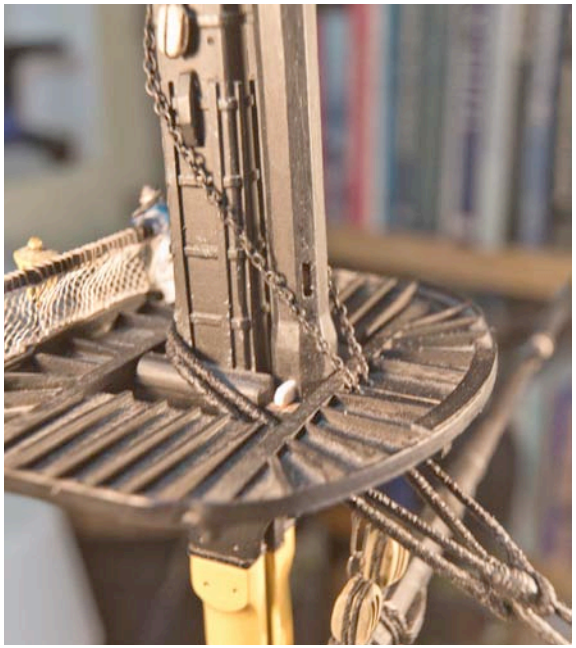


Gallery Head Gear

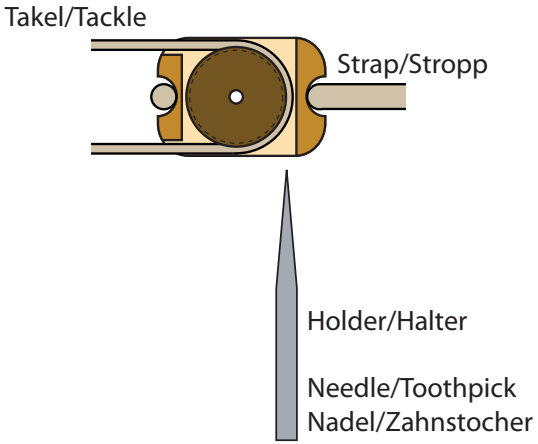


On the left you can see how the jib boom passes under the forestays hearts.

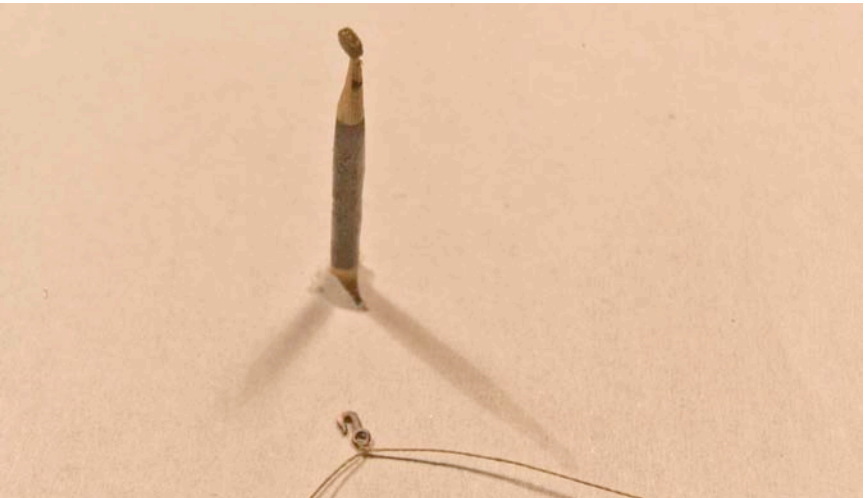
In the picture below, the shrouds that usually lie under the stays are still missing. You can also see the chain hangers of the yard, which were used in wartime. Alternatively, a rope hanger can be used, hanging over the grooves of the mast cap.



Tie in small Blocks: Double Blocks



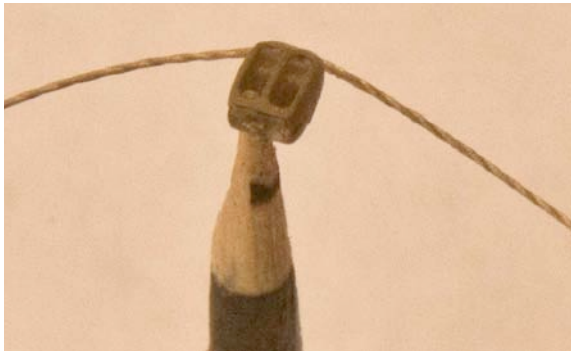
First you have to find out how the strop has to sit on the block, i.e. which side the through hole has to be on. As with the correct block, the through-hole side for the rope is larger on the printed blocks. This is the correct hole for the mount.



This block combination is intended for guns. They therefore have a hook at each end of the strop. A hook from board 7 is tied in with a normal double knot. I used normal fil à gants here for test purposes.

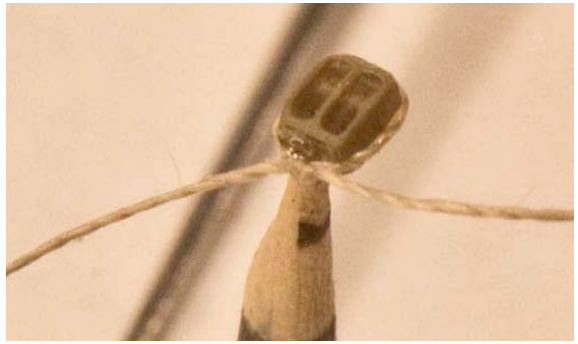
First the double block. Here the hook is on the side of the through hole. To make it easier to continue working, the block is turned so that the needed side of the block is facing away / at the back.

The yarn is coated with a drop of superglue across the width of the block and pulled against the block from behind to position it firmly ...

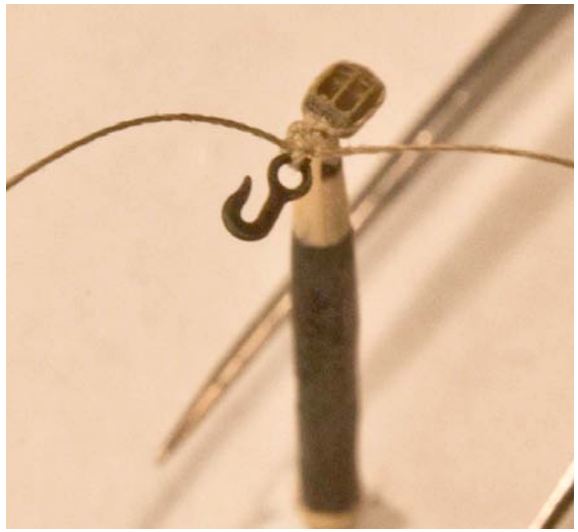


... and the free ends are pulled forward.

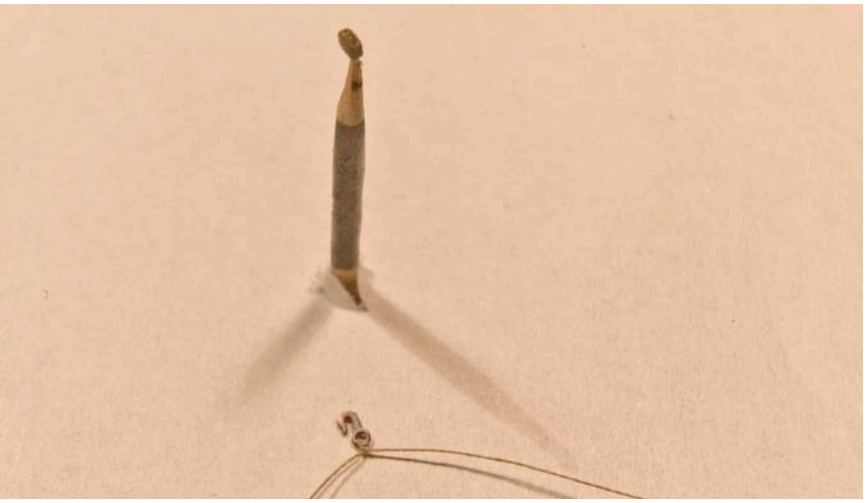
There they are tied with a normal knot and secured with some glue.



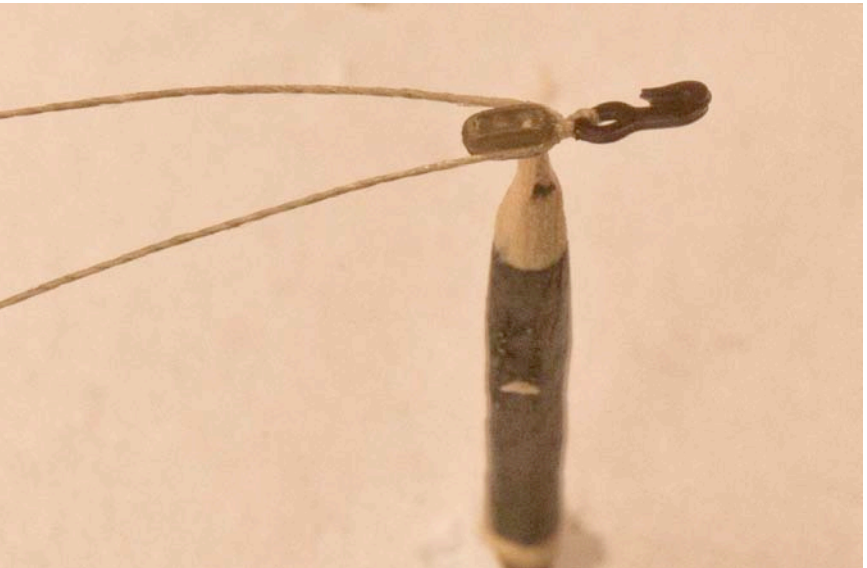
Now tie in the hook and secure with glue.



Tie in small Blocks: Single Blocks



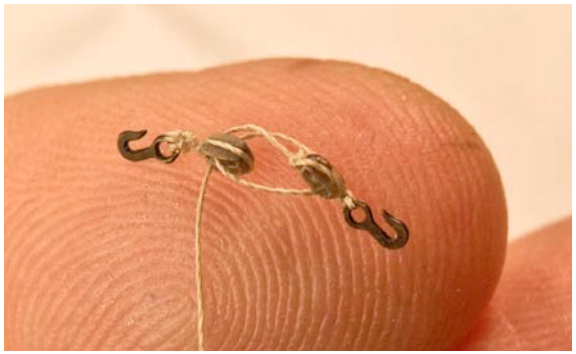
For the single block, first knot in a hook, apply some superglue to the hook and as with the double block ...

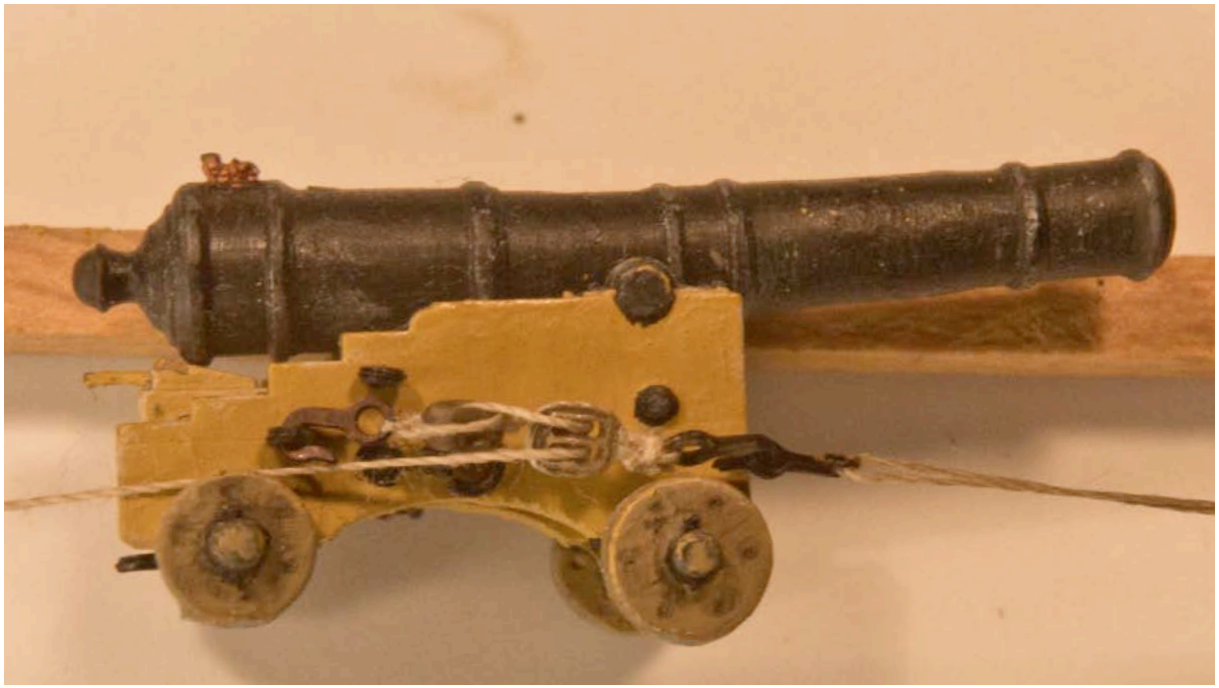


... attached to the back with a little superglue and the ends tightened towards the front.

Tie a knot, secure and cut to length.

Now comes the most difficult part in my opinion: the correct run through the tackles so that nothing crosses over :-)





Stropping in Jeer Blocks 1

Jeer blocks hold the main weight of the large yards and are among the largest blocks on the ship.

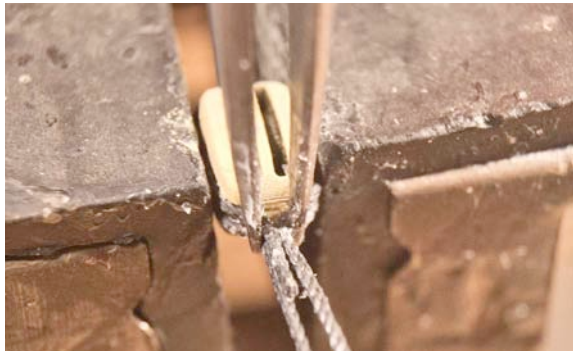
The hangers are dressed. Since the lining is both difficult and usually not to scale on this scale, I decided to use a fake version.

For this, the rope is coated with white glue in 3 passes so that the yarn structure disappears and then painted over with black paint.

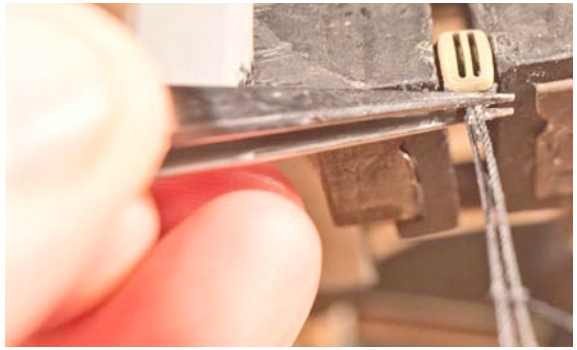
The strop is glued into the first groove.

Then place the second one in the other groove so that the short ends are diagonally opposite each other, i.e. one at the top and one at the bottom.

Then place the whole thing in the holder, put a drop of superglue in the middle and ...



... and press together vertically and horizontally with sturdy tweezers.



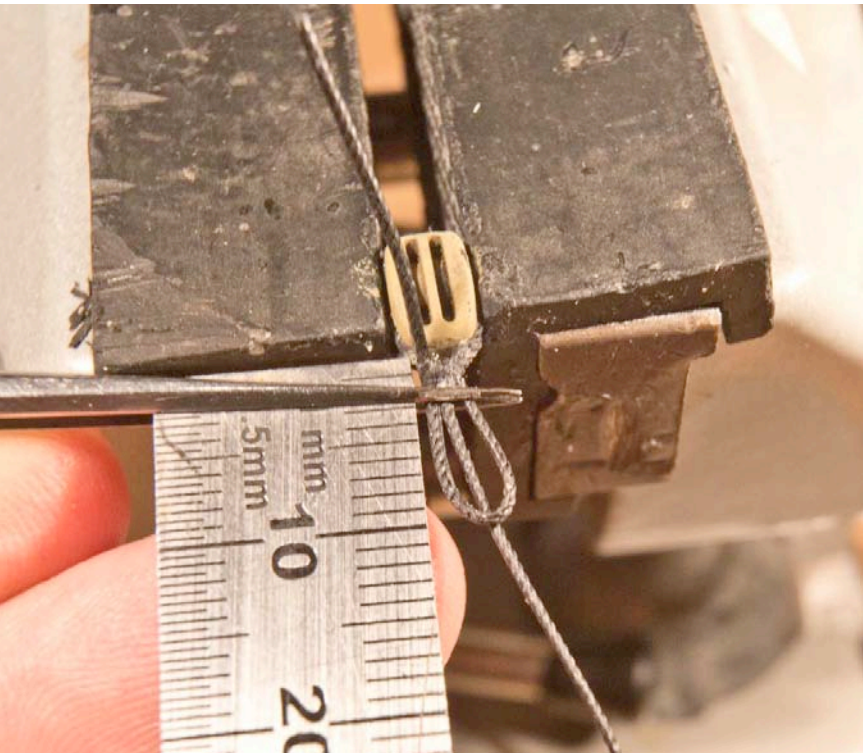
Then tie a safety knot close to the block.

Then cut the short ends as short as possible.

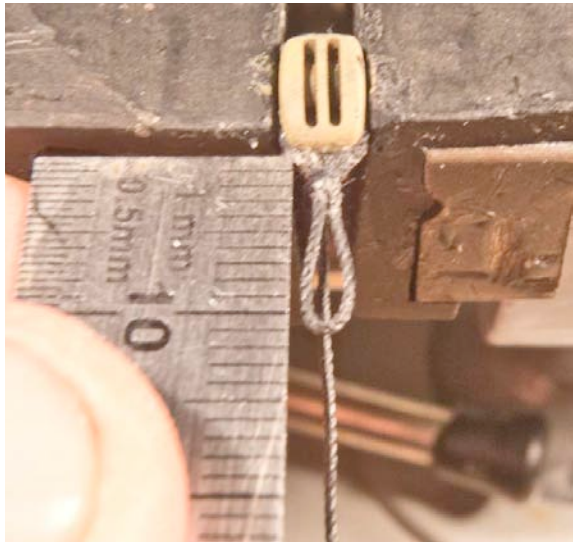
Stropping in Jeer Blocks 2

The circumference must now be determined on the yard. The block must be centered at the top, with the seizing at the front. The length for the short end at the front and the longer legs at the back must therefore be defined. In the case of my model, it was 10 mm and 16 mm for the main yard.

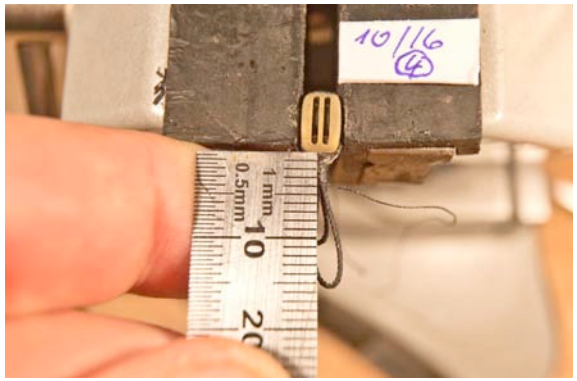
Then set the determined length for the short loop, cut the rope to length, fix it in the middle with a drop of glue and press it together again with the tweezers.



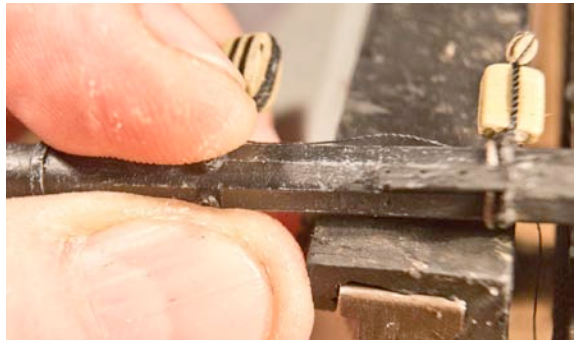
Check length.



Adjust the long loop and proceed in the same way.



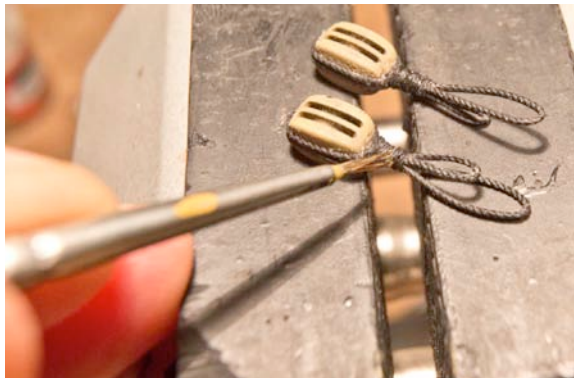
The whole thing should then be stable enough to make a test fit at the place of use - it fits here.



Then place a knot for the seizing at the specified distance of 4 mm from the block and then alternate the knots at the top and bottom up to the block. This is quick and, unlike the original winding, nothing slips in between.

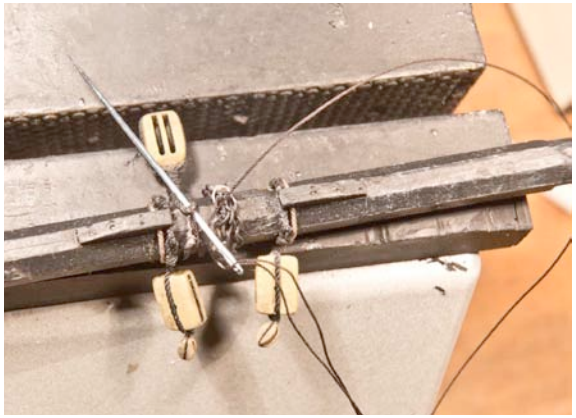
Stropping in Jeer Blocks 3

Use a little black paint to soften the white glue spots ...

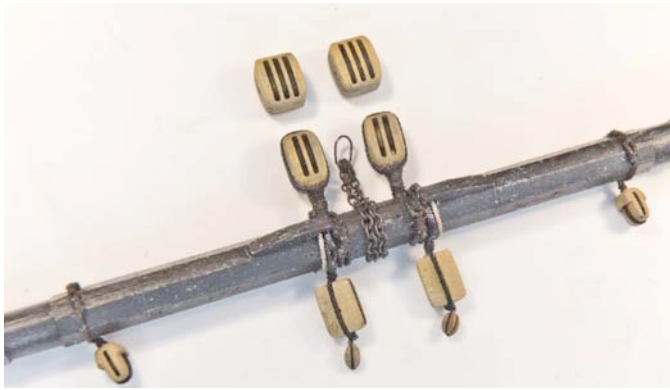


Tied the lanyard in place ...

... and put the whole thing in place and the lashing sewn in with a needle. The sheet quarter block on the inside had already found its way to the yard :-)



And then to enjoy the view.



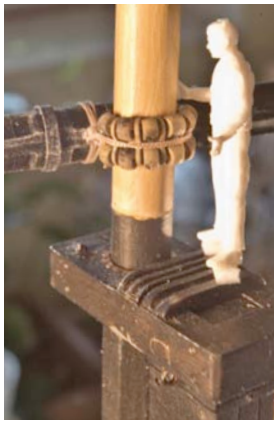
Parrels

The kit comes with 3 different types/sizes of parrels:
- 3 sets large with ribs for fore top yard, main top yard, and crossjack
- 4 sets small with ribs for Spritsail topsail yard, Fore topgallant yard, main topgallant yard, and cross topgallant yard
- 1 set for gaff and boom

I apply a first coat of paint still on the support, then the parts are lined up on a suitable wire and painted finally.

The right number of parrels for the yards is important to ensure that the rack sits firmly but can be moved.
In my experiments, I used 6 beads for the top yards, 5 for the topgallant yards and 8 for the gaff. However, this can vary.

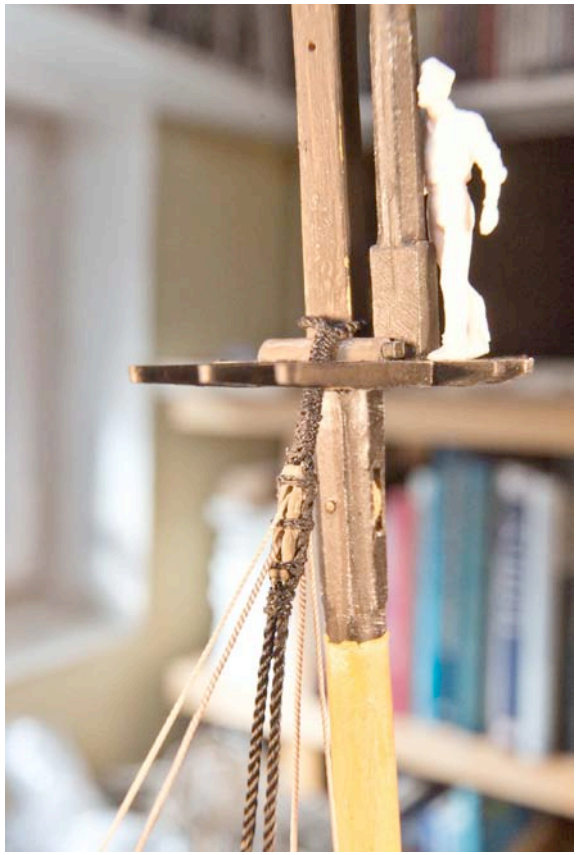
To thread: Tie a loop or thimble on one side (here on the left), then thread on the beads and ribs. Check on the mast how loose it needs to be so that you can get around easily. Then attach the thimble/loop to one side of the yard, pass it around the mast, secure it with a knot and use the long ends (here on the right) to tie it to the yard. The excess length is used to bring the two ends back through the notch in the ribs to the other side and secure them there. Ideally, the rack should run freely. If you wish to have a heavily braced yard, the rack should be laced more loosely to get past the shrouds. Please try it out.



Marking the gaff sail drilling point ...

... drill, thread and check fit.

More exemplary Blocks



Sister blocks between the shrouds for the lifts and reef rackle pendants, clew garnets for the clew-lines and a long tackles for the foremast stay, which is hooked into the timber heads.