

INSTRUCTION MANUAL

MODELING THE *DAPPER TOM*

◆ BALTIMORE CLIPPER PRIVATEER, 1815 ◆

Technical Characteristics

Scale: 5/32" = 1 ft.

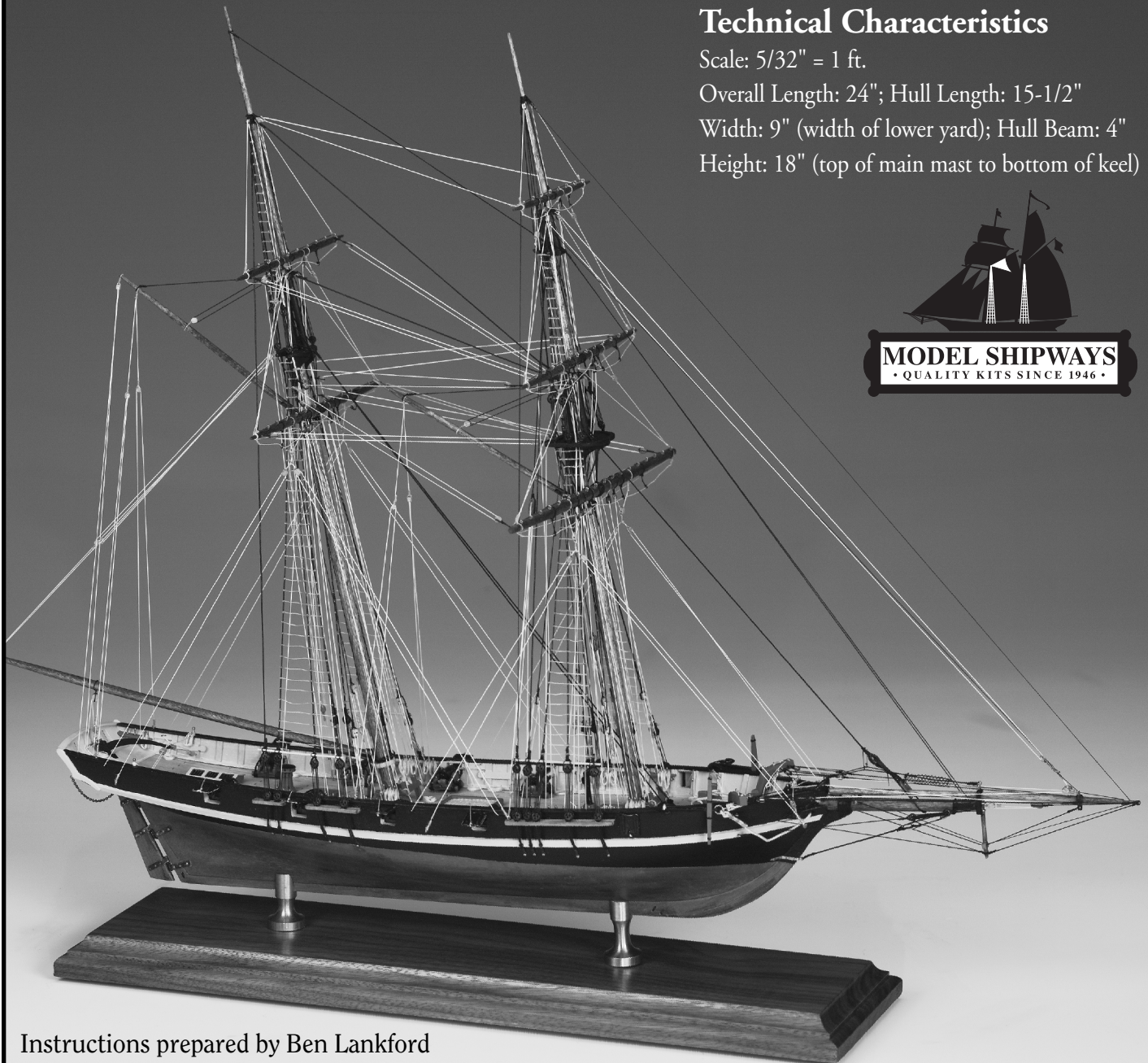
Overall Length: 24"; Hull Length: 15-1/2"

Width: 9" (width of lower yard); Hull Beam: 4"

Height: 18" (top of main mast to bottom of keel)



MODEL SHIPWAYS
• QUALITY KITS SINCE 1946 •



Instructions prepared by Ben Lankford
Model prototype by Bob Werner

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Model Shipways Kit No. 2003

HISTORY

During the 19th Century, many Baltimore Clippers were granted privateering licenses by the US Government. Since all commerce was subject to the legalized banditry of privateers, only a fast, well handled ship could be reasonably sure of reaching its destination. Privateers like the *Dapper Tom* depended on their sailing abilities and fire power to prey on foreign shipping and to escape the British men-of-war patrolling the high seas.

The *Dapper Tom*, an 8-gun topsail schooner, is to great extent, typical of Baltimore Privateers of a stormy decade when ships were at the mercy of any stranger, and even armed ships were safe only in proportion to their nimbleness.

The plans of the *Dapper Tom* were developed in 1954 by John Shedd, the original owner of Model Shipways in Bogota, New Jersey. The model is a reconstruction of a typical Baltimore Clipper. The model's hull is based on Marestier's drawing No. 6 as taken off that vessel in stocks in 1814. Rigging is based on contemporary practice. Those wishing to study the development of this type should consult Howard I. Chapelle's book *The Baltimore Clipper* (See Bibliography).

While the plans are reproduced from the original, the kit has been updated and reissued by Model Shipways. These new instructions are provided along with a more complete set of supplies for building the model. The fittings are now cast from lead-free Britannia metal and some laser-cut wood parts added.

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Before You Begin

The *Dapper Tom* is an interesting model for beginner and expert alike. This kit contains a solid hull which has been machine-carved from select, medium-hard, fine-grained basswood. This style hull provides a quick and easy lesson in the basic shapes and proportions of hull design and helps to develop woodworking skills. Although the exterior of the hull has been carved close to the hull lines as shown on the plans, further carving is necessary for reasons of accuracy. (Carving and finishing the hull to its final shape are discussed in the instructions.)

Constructing the *Dapper Tom* model also will provide you with the opportunity to develop some scratch-building techniques. During construction, you may want to substitute some of the kit fittings with your own creations. By all means try them, especially if you think you can improve the model.

If you are a beginner, completing this model will prepare you for a more complicated model such as the *Pride of Baltimore II*, which is outfitted with a plank-on-bulkhead hull. In the meantime, happy modeling!

Working with the Plans & Parts

Before starting model construction, examine the kit and study the plans carefully. Familiarizing yourself with the kit will serve two purposes. First, it will let you determine that all parts have been supplied as listed. And second, you'll be surprised at how quickly handling the parts allows you to better understand the kit requirements. Try to visualize how every part will look on the completed model. Also, determine ahead of time what must be done first. The instructions will help you in this regard, but a thorough knowledge of the plans at the outset is essential.

It is also suggested that all small fittings and hardware be sorted into labeled boxes or compartments to avoid loss during the building process.

Two Plan Sheets and One Template Sheet are provided:

1. Hull Templates - 1 sheet of heavy stock
2. Hull Plan-Sheet 1
3. Mast and Rigging Plan-Sheet 2

In addition, a set of sketches appears throughout the instruction manual to further illustrate the various stages of construction.

The *Dapper Tom* kit is manufactured to a scale of $5/32" = 1'0"$ and matches the plans. Consequently, most of the dimensions can be lifted directly from the plans using a "tick strip". This is simply a piece of paper (a roll of calculator paper tape works very well). Mark a dimension from the plan onto the

tick strip and transfer it to the model.

The *Dapper Tom* model is designed to be displayed without sails. Much of the reconstructed rigging was developed using references from well-known books, such as those by David Steel and Darcey Lever. (A bibliography of references appears at the end of this manual.) These texts provide many of the details, but lack some of the unique characteristics of the schooner rig. Consequently, in designing the plans, additional references, along with contemporary paintings and etchings also were used. Even so, many design decisions were made using good common sense: "If I were designing back then, what would I have done?" There is always doubt; no one can say for sure how the ship was actually rigged.

The *Dapper Tom* kit is supplied with Britannia metal, brass, as well as wooden fittings to eliminate problems in making such parts from scratch. Because the Britannia metals contain no lead, there are no possible corrosion problems. Many of these fittings will require final finishing before installing on the model.

Before painting the cast-metal fittings, clean them up by removing all the mold-joint flash. To do this, use a No. 11 hobby blade to cut the flash, then sand with fine sandpaper. It is also suggested that you clean the fittings thoroughly with warm soapy water before applying primer. Make sure they are rinsed thoroughly and allowed to dry before painting.

What You'll Need To Start

The following tools and supplies are recommended for the construction process. Modelers who have built before may have their own favorites. Almost all are available from Model Expo, a division of Model Shipways, Inc., at www.modelexpo-online.com.

A. Knives and Saws

1. Hobby knife with No. 11 blades
2. Razor saw (especially for cutting gunports out of the bulwarks)

B. Files

Set of needle files

C. Sharpening Stone

Necessary to keep the tools razor sharp

D. Clamps

1. A few small C-clamps
2. Several wooden clothespins
3. Rubber bands

E. Tool Set

A small carving tool set and chisels for shaping the hull.

F. Boring Tools

1. Set of miniature drills: #60 to #80
2. Larger bits for mast holes, bowsprit hole, and hawse pipe holes
3. Pin vise

G. Miscellaneous

1. Tack hammer
2. Tweezers (a few)
3. Small fine pointed scissors
4. Miniature pliers
 - a. Small round
 - b. Flat nose
5. Bench vise (small)
6. Soldering iron
 - a. Solder
 - b. Flux

Note: soldering is not essential for this particular model if the kit fittings are used.

7. Sewing thread (for seizings; other rigging is supplied)
8. Beeswax block (for treating rigging lines)
9. 1/2" or 3/4" masking tape
10. Wire cutters (for cutting fine wire and strip metal)

H. Sandpaper

Fine and medium grit garnet or aluminum oxide sandpaper (#100 to #220 grit)

I. Finishing:

1. Paint brushes
 - a. Fine point for details
 - b. 1/4" to 1/2" flat square for hull

J. Supplies: (will be covered in detail in the Painting & Staining section and throughout instructions)

1. Paints
2. Primer
3. Stain and Varnish
4. White or Carpenter's (yellow) Wood Glue
5. Five-minute epoxy
6. Contact or model airplane acetate cement
7. Cyanoacrylate (Super) Glue

Note about glues: White or Carpenter's yellow wood glue will suffice for most of the model. Five-minute epoxy provides extra strength for gluing fittings. Because white or yellow glues will tend to warp the scored-sheet decking, use a contact cement or model airplane type acetate cement. Cyanoacrylate (Super) glue, called CA glue for short, such as Zap is excellent for quick adhesion and is ideal for dabbing onto a rigging seizing to hold it in place. The best CA glue for most applications is a medium viscosity gap-filling type. The watery-thin type is recommended only to fill a narrow crack by capillary action. For CA glue, you can also purchase a liquid accelerator such as Zip Kicker. A spray or drop of the accelerator will instantly cure the glue. This is handy to eliminate clamping parts for long periods of time and waiting for glue to harden.

Use CA glue with caution. You can easily glue your fingers or eyelids together and the fumes can burn your eyes. It would be a good idea to have a bottle of CA debonder on hand. This product will dissolve the glue if you do get it on your body.

Painting and Staining

It may seem strange to begin an instruction manual with directions for applying the finishes to the model. Not so! Much time and effort can be saved and a more professional result can be obtained if the finishing process is carried out during construction. Proper timing in application of finishes and the use of masking tape to define painted edges should eliminate unsightly glue marks and splotchy stained surfaces. In the end, following these general suggestions will be to your advantage.

Paint Colors:

At the time of *Dapper Tom*, 1815, colors were largely determined by economics. Reds, yellows, and grays were cheap mineral colors, hence more common. White lead was coming into use but was still expensive.

A suggested color scheme for *Dapper Tom* is as follows:

Hull Above the Waterline - Black with a cream stripe at gunport level. Painting the Wake strip cream will do the trick.

Hull Bottom Below Waterline - Pale Green to represent weathered copper. A thin wash of black over the green will enhance the weathered look but do not overpower the green.

Deck Planking - Natural or a light tan stain such as pine.

Inside Bulwarks (including the stanchions), Waterways, Top of Skylight, Hatch Gratings, Transom Cap Rail & Side Mouldings, Inside Transom & Counter - Light Buff

Hatch Coamings, Galley Funnel Coaming, Pin Rails, Bitts, Channels, Cathheads,

Skylight Sides, Gun Carriages, Anchor Stock - Dark Reddish Brown (preferred) or White (second choice)

Stern Decoration - Gold stars.

Masts & Spars - Pine Stain.

Mast Doublings, Tops, Rudder Tiller, Galley Funnel, Gaff Jaws, Bowsprit Cap, Bulwark Cap Rails, & Gun Carriage Wheels - Black.

Cannon Barrels & Anchors - Iron Black.

Capstan - Black top & Dark Reddish Brown barrel.

Paint:

Use a flat-finish paint. Model Shipways line of acrylic paints are available in the recommended colors. You may also purchase an already assembled *Dapper Tom* paint kit from Model Expo at www.modelexpo-online.com.

Primer:

Use a grey primer (one is provided with the Model Expo *Dapper Tom* paint kit.) The grey color will highlight sanding scratches and other defects better than white primer. Prime all woodwork to be painted, and prime all metal fittings. Lightly sand the primed items. Use a spackling compound such as Pic-n-Patch brand to fill any scratches and defects, then re-prime.

Stains & Finishes:

For natural finished wood, use a protective coating after staining, such as low-sheen polyurethane varnish. You can also use an oil-resin mix like the ones sold by Model Expo or Minwax.

For the deck and spars, Model Expo stain or Minwax can be used. These are a combination stain-finish that will provide a light tone

to the wood. The deck plank scores can be darkened with any dark color to simulate caulking. It would be best to first varnish the surface, wiping the dark color into the scores, then wipe the surface of the planks clean. You can also run a sharp No. 2 pencil down each groove, then varnish.

The staining of all wood parts should be done before gluing, especially if any CA glue is used. Glue will leave ugly white areas in the finish, and the stain will not penetrate these areas.

Brushes & Procedures:

Use good quality soft sable or synthetic hair artist's brushes. A small pointed brush is good for details. For the main hull areas, use a 1/4" to 1/2" flat brush.

Before painting, clean the model with a tack rag. Apply your paint in smooth and even strokes, overlapping them as you go. Thin the paint enough to eliminate brush strokes, but not run. You will need three or four coats of the light colors to cover the grey primer and maybe only two coats of the dark. Check your finish between coats and sand and add spackle as necessary to get rid of any blemishes.

You will be told how to mark the waterline location in Stage A. At this line, and anywhere else two colors meet, use masking tape. Electrician's black plastic tape or any of the hobby tapes made of plastic film are ideal. They leave a nice edge and are not overly sticky. Do not use drafting tape unless it is Chart-pak brand. The edges are somewhat wrinkled and paint may run under them. A good trick; seal the edge of masking tape with a clear flat finish and let dry thoroughly. This will really prevent paint from running under the tape.

STAGE A: SHAPING THE PRE-CARVED HULL

Sanding alone will not shape the hull enough to precisely match the hull lines. Some carving is required, especially at the rail, keel, bow, & stern areas.

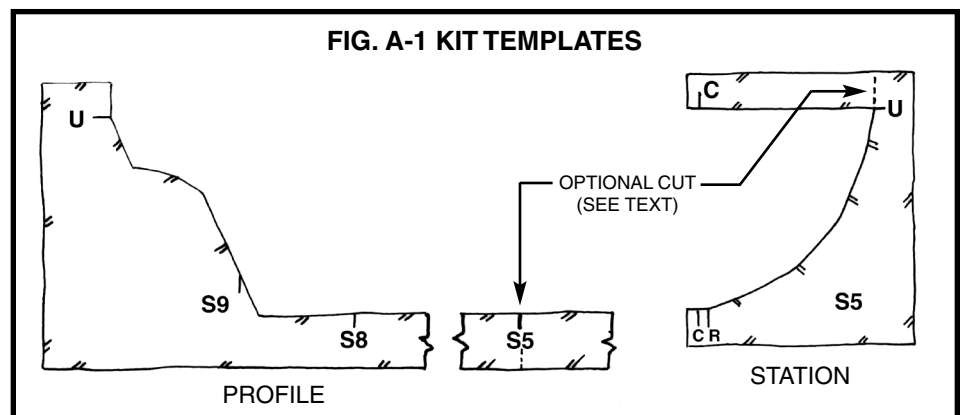
1. Using the Templates

For exact carving to hull lines, a template is required for the hull profile and each of the nine stations (Figure A-1). You will find a template set printed on heavy stock paper in the kit. Cut the templates out carefully with a No. 11 hobby knife. Do not use scissors! You will want a nice smooth edge.

Option-The profile template can be cut at Station 5 to make fitting easier. Just make sure you have the keel straight and don't build in a knuckle. Likewise, the station

templates can be cut at the bulwark. If you do this, mark the width of the hull at each

station on top of the bulwark beforehand and carve to these marks.



2. Carving the Hull

Cut a wooden block from scrap to about 3" x 1" x 3/4" thick. Screw the block to the deck so the model can be held in a bench vise for carving. First, check the accuracy of the profile and correct it as necessary, using a long sanding block (Figure A-2).

Next, mark the centerline, rabbet lines (where hull meets keel) and station lines on the model (Figure A-3). Place the station marks on the center of the hull bottom and on top of the rails so the marks won't be carved off as you work. Also, add the breadth marks on the rail if you elected the option noted above.

Start carving approximately at Station 5 (maximum beam) and progress forward, then aft, using chisels and gouges to cut away excess wood. Avoid carving against the grain by shifting forward or aft of Station 5 until you find a spot where you are going with the grain. Basswood carves easily, so you probably won't have much problem with the grain.

Carve very slowly and take off a little wood at a time. Fit the templates as you go. Carve until the template fits reasonably well, then use sandpaper to obtain the final shape. At first the templates will not fit very well. You must compare the template to the hull and visually decide where to remove wood. Cut a little off, then re-check the template.

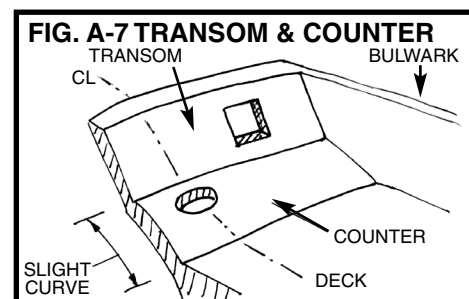
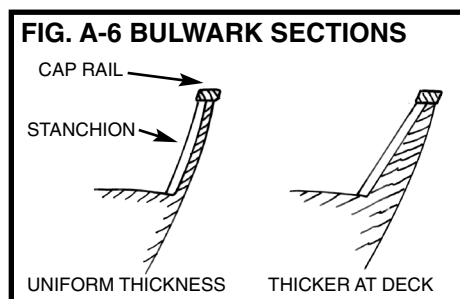
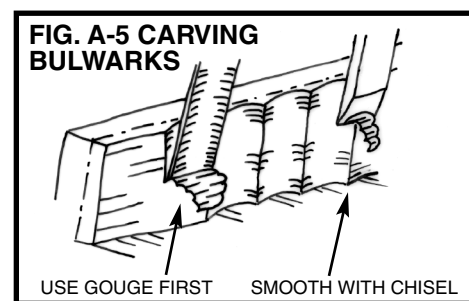
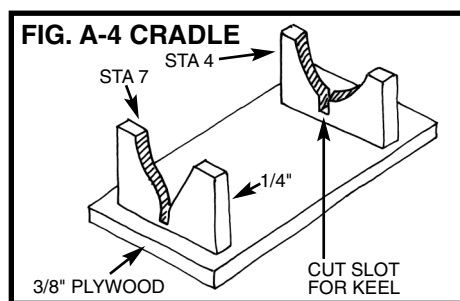
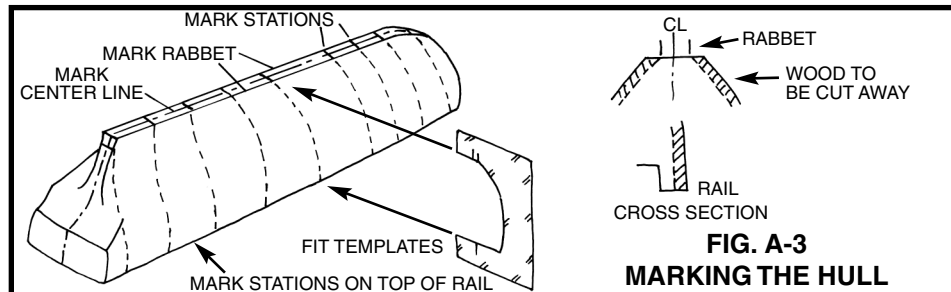
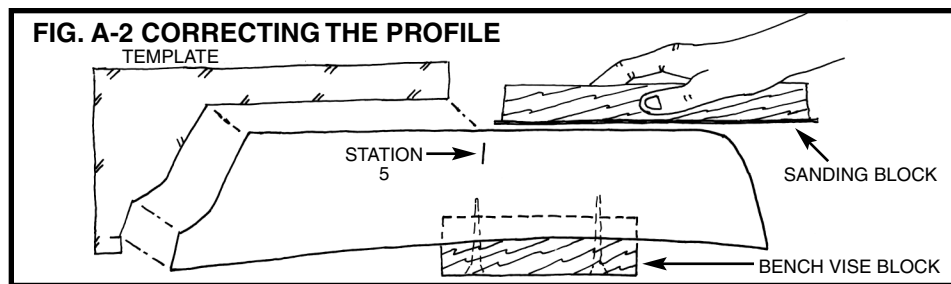
Finally, draw a few horizontal pencil lines (like waterlines) and the vertical station lines on the hull. Use these to visually check the shape of the hull. Hold the hull at various angles, and look to see if the pencil lines are fair (even). If you have any unfairness, dips or bump, they can usually be found with this visual check. You can also use a stiff stick of wood, about 1/8" square, and lay it on the hull at various locations. Dips in the hull will show up under the stick.

Sand the stern transom with a sanding block.

3. Carving the Bulwarks

Make yourself a temporary cradle to secure the hull while carving (Figure A-4). This cradle also will serve to hold the model for most of the remaining work. Make the cradle so the model sits in it with its waterline parallel to the baseboard and table. The tops of the cradle should be below the waterline. Later, when you are ready to paint, attach a pencil on top of a wooden block and slide it along the table to mark the location of the waterline.

The machine-carved hull has bulwarks thicker than scale so they won't break while inside the kit box. The upper surface is cut to the underside of the cap rail. After you carve the outside of the hull, the bulwarks will be thinner. If more than 1/16" thick, it will be necessary to carve the inside of the bulwarks.



This is the most difficult part, so work slowly as you carve (Figure A-5). After carving, sand the surfaces smooth. If you happen to have or want to buy a powered rotary tool like a Dremel, there are many cutters available to quickly reduce the bulwark thickness.

Note that bulwark stanchions go onto the inboard side of the bulwarks. Together with the bulwark (planks on a real ship) they must fit under the cap rail which is only 5/32" wide. If the stanchions will not fit, make them a little thinner, or better, sand the inside of the bulwark a little more at the top. You can then taper the inside down to the deck without reducing the thickness at the deck. You won't really see that the bottom is thicker than the top. Of course, you could use a wider cap rail but don't get it too wide or the scale will not look proper. Figure A-6 is a cross section through the bulwark showing the options.

4. Carving the Inside of the Transom & Counter

The top of the transom should be about 3/32" thick. If necessary, carve the transom down on the inside, tapering to the counter line. Like the bulwarks, a rail sits atop the transom. The counter is that portion of the stern from the transom down to the deck. This should be a slightly curved shape. See Figure A-7 for a transom and counter view. The sketch also shows the openings that will be cut later.

Transom Option - On a machine-carved hull the wood grain at the stern is in the wrong direction. If you are worried that the transom might split, you could add a thin basswood sheet on the outside to strengthen it. You could even cut out the transom completely and add a sheet transom.

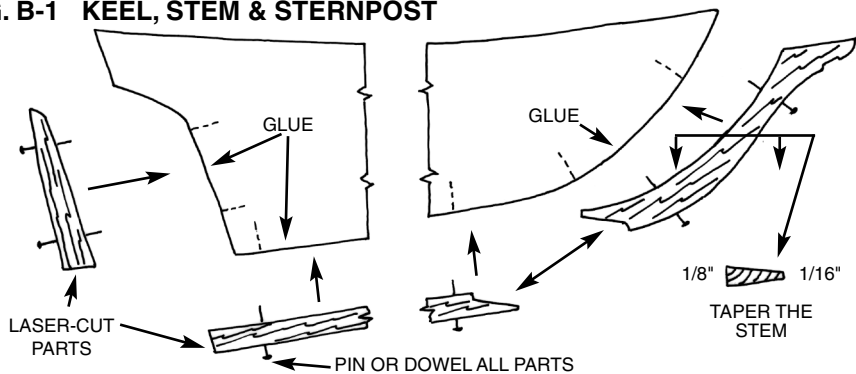
At this stage, the basic hull is fully carved. Sand the entire hull with #220 grit sandpaper for the final smoothing. Be careful not to round the upper edges of the rail or at the rabbet. These should be sharp corners.

STAGE B: COMPLETING THE BASIC HULL STRUCTURES

1. Installing the Keel, Stem & Sternpost

The keel, stem & sternpost are laser-cut parts. Taper the stem and install the parts (Figure B-1). Note that the hull plan shows a scarf joint between the keel and stem with a step in the middle of the joint. This step has been eliminated in the laser-cut part. Also, the stem is shown to be made up of two pieces. A one piece stem is provided instead. Use pins or dowels to position the parts before gluing. Scrape off any glue squeeze-out. Fill any gaps remaining at the glue joints with wood filler and then sand.

FIG. B-1 KEEL, STEM & STERNPOST



2. Installing the Rudder

The rudder, a laser-cut part, can be shaped and installed now or later. The rudder is tapered and has a round front edge. The pintles & gudgeons are made from brass strip or by using paper strips. See Figure B-2 for construction.

3. Drilling the Larger Holes in the Hull

Before going any further with the details, drill all the large holes in the hull. These would include a hole for the rudder post & bowsprit, two mast holes and two pilot holes in the keel for screws or pins for mounting the model on a display base. The rudder post hole will need to be filed to an oval shape as shown on the plans. For the mast holes, make a drill guide jig so you will drill at the correct mast rake angle (see Figure B-3 for some ideas).

4. Holes to be Drilled as Work Progresses

There will be other holes to drill as the work progresses. For example, the hawse holes for the anchor cable are drilled through the bulwarks forward. Holes will be required in the deck for the galley funnel, the capstan, bits, and the pumps. You will also need to drill small holes for inserting eyebolts that hold blocks for the rigging and gun lines, holes for belaying pins, and holes for pinning various parts in place.

5. Planking the Deck & Installing the Waterway

The deck planking supplied in the kit is a scored basswood sheet. To represent caulked seams darken the scored lines. The Painting and Staining Section of these instructions provide some suggestions how to do this. To fit the sheet, first make a paper pattern of the deck area. Make sure the scored plank lines are parallel to the centerline when the sheet is installed. Glue the sheeting down with contact cement or airplane-type cement (see gluing notes in the Painting and Staining Section). Before you glue the deck consider

FIG. B-2 RUDDER

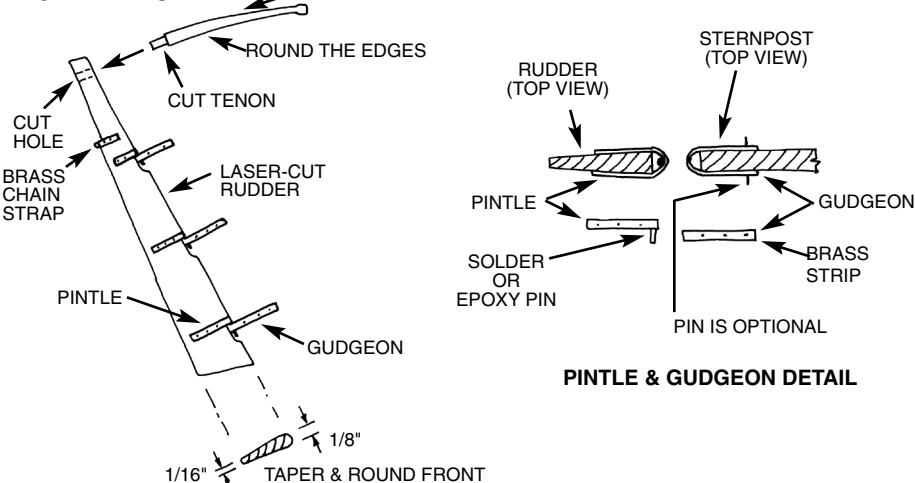


FIG. B-3 JIG FOR MAST HOLES

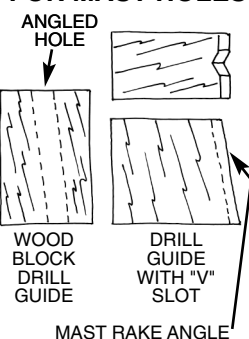
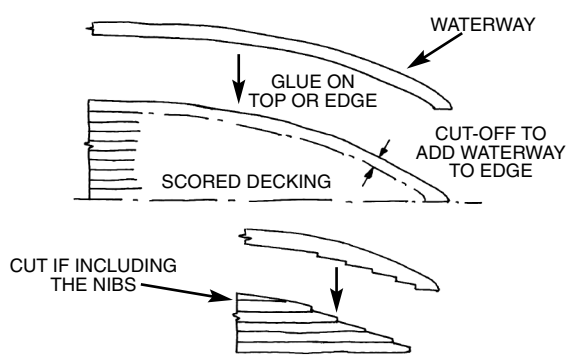


FIG. B-4 WATERWAY NIBBING STRAKE

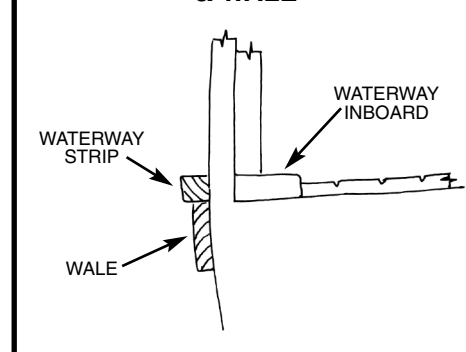


the options as follows:

Individual Planks -You could lay individual planks instead of the scored sheeting, but wood for this is not included in the kit. If you elect to do this, paint one edge of each plank black or brown. When the planks are glued together, the color will show up as caulking between planks.

Waterway -Along the inside of the bulwarks, flush with the deck or just slightly thicker, there is a waterway-nibbing strake. If you want to add this detail, cut the edge off the scored deck, the width of the waterway, and glue the waterway to the edge of the sheet. Figure B-4 illustrates the procedure. You

FIG. B-6 WATERWAY STRIP & WALE



could also install a waterway without cutting the ribs. Another way, the scored decking could go into the bulwark, and a thin waterway glued on top of the decking.

6. Creating the Ladder Way Hole

The ladder way shown on the plan indicates an open hatch with a ladder. If you want to do this you must cut a hole into the deck. If not, the hatch can have covers. The details will be discussed in Stage D.

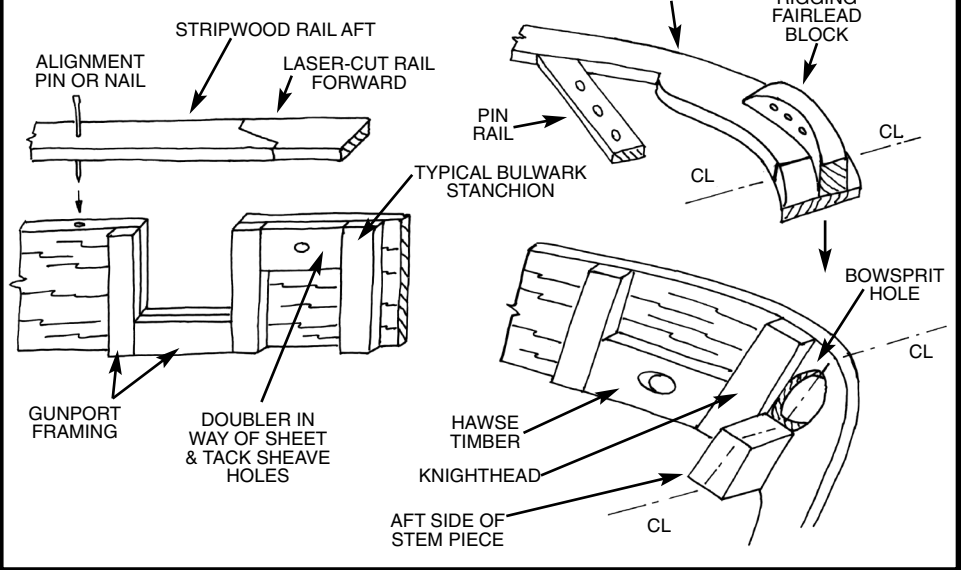
7. Cutting Out the Gunports & Transom Ports

Cut the gunport openings and transom ports according to plan. Be careful cutting the gunports. After cutting, the remaining bulwark will be fragile until the cap rail is installed. Use a fine razor saw blade to cut the vertical sides and then cut the bottom with a hobby knife.

8. Installing Bulwark Stanchions & Cap Rail

With the bulwarks in a fragile state, now is the time to install the cap rail and bulwark stanchions. Install the stanchions first, then the cap rail. While you are at it, up forward, add the inboard side of the stem, knight-heads and hawse timbers, and drill the hawse holes. Also, add the doublers in way of the sheet and tack sheave holes, and the bow

FIG. B-5 BULWARK DETAILS



fairlead for rigging lines atop the rail. Drill the fairlead holes before installation. Figure B-5 should clarify the details.

9. Installing the Outboard Waterway Strip & Wale

The waterway on the deck of the real ship is a wide plank that protrudes outboard just past the normal hull planking. For our solid wood hull you need to add a 1/6" square

strip outside the hull port and starboard for the full length to simulate the outboard edge of the waterway.

Below the waterway strips add a 1/32" thick wale strip. The profile view on the plans show the wale shape. Note that it is wider forward and tapers to a more narrow plank aft. See Figure B-6 for a cross section view in way of the waterway and wale.

STAGE C: MOUNTING THE HULL

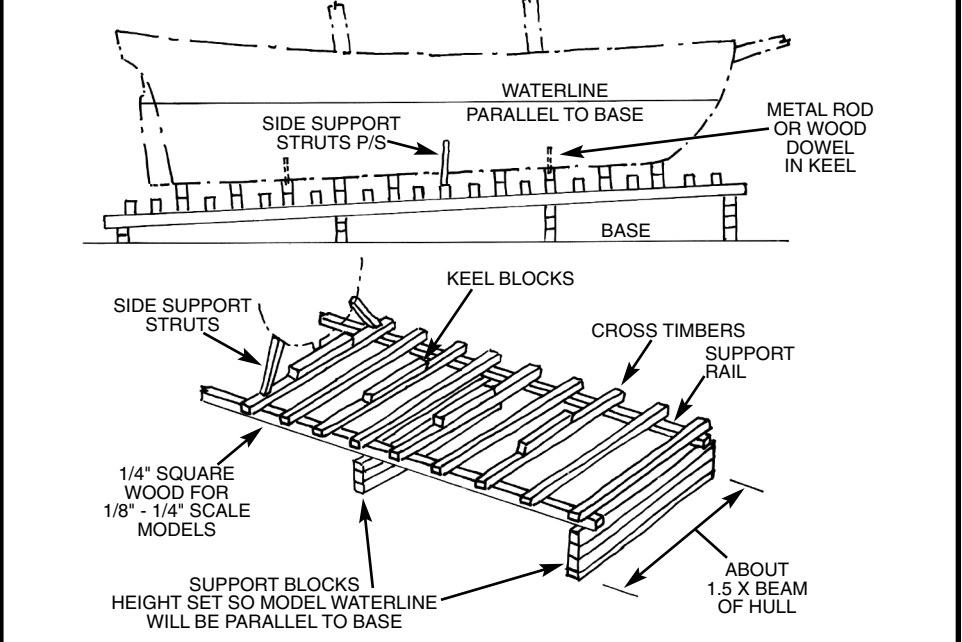
Before proceeding with additional work it is best to mount the hull. This step will help prevent details from becoming damaged during handling and will allow you to make any alignments that require a true waterline. Proper mounting of the hull is very important and will allow the accurate building and aligning of the remainder of the model. The kit does not include any parts for mounting. However, the following suggestions are provided.

1. Mounting Board with Two Pedestals

A common mounting for ship models is a wooden baseboard with two wooden or brass pedestals. For a homemade board, a nice looking hardwood such as cherry, walnut, and maple would be ideal. You can round the top edges of the baseboard, or cut a simple chamfer. If you own a router, or can borrow one, you will be able to cut a nice fancy edge on the baseboard. Stain the base, if necessary, and give it a few coats of varnish or finish like Minwax.

The pedestals could be wood or brass. One pedestal needs to be longer than the other because you should have the model mounted with the waterline parallel to the baseboard. If you decide on this type mounting you should already have drilled pilot holes for the screws as noted earlier. For *Dapper Tom*, the pedestals should be located near station 4 and 7. If something went awry and the waterline is not level, you can add a brass

FIG. C-1 LAUNCHING WAY MOUNTING



shim under one pedestal to correct it.

2. Launching Ways - A second type of mounting that can be employed is the launching ways, which are most suitable for models without sails. Figure C-1 illustrates a simple design. Drilling of the keel is still required to insert rods that anchor the model

to the ways. The launching ways should be mounted on a baseboard or could be placed in a diorama comprised of boatyard ground activity.

Baseboards, pedestals, and launching way kits are available from Model Expo (www.modelexpo-online.com).

STAGE D: ADDING THE HULL DETAILS

1. General Notes

Don't forget to file off any flash on Britannia metal fittings, clean the fittings and then prime them with grey primer before final paint.

Locate deck fittings and place them into position. This can be done by measuring from mast holes, station lines and centerline (tick off from plans). Next, mark their positions by drilling holes into the deck and inserting locating pins or dowels which will be inserted into holes that you will need to drill into each deck piece. Before permanent installation, paint them according to the *Dapper Tom* color scheme or your choice of color. Having been pre-fitted, and with the pins in place, they will be easy to put back where they belong.

If wooden parts are not painted prior to installation, at least make sure you have the part sanded and ready for painting in place.

Use as little glue as necessary on parts. Watch out for that glue squeeze-out. It's hard to remove if left to harden.

2. Transom Rail, Mouldings, Counter Detail, & Main Boom Sheet Rod

The transom rail (or taffrail as it is generally called) curves both fore and aft and across the top and sides of the transom so it is best cut out of a wider piece of stripwood. Some steam bending may be required at the side corners, or the side rail portion can be cut to shape from a wider block.

The transom extends beyond the sides of the hull. This extension is not a part of the machine-carved hull, so you first must add the extension before installing the rails.

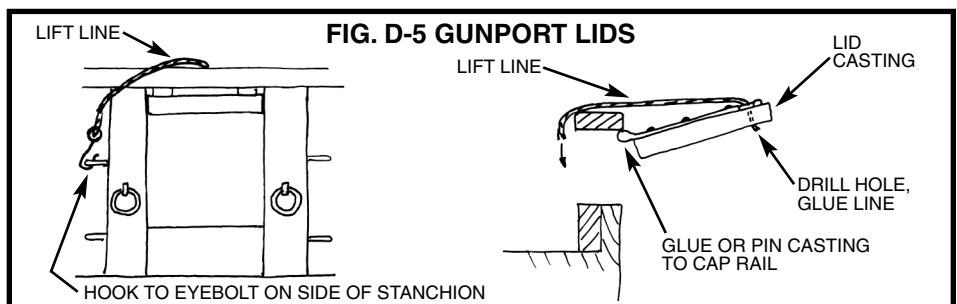
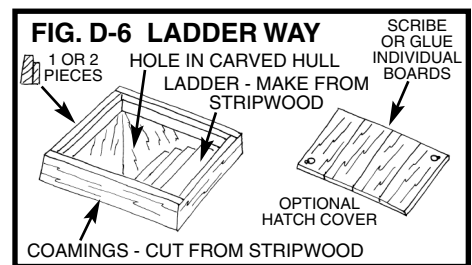
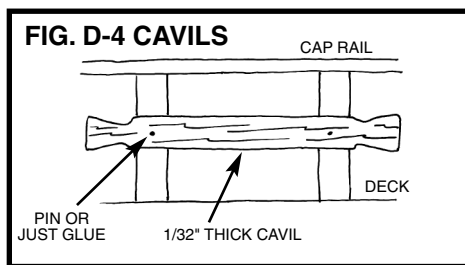
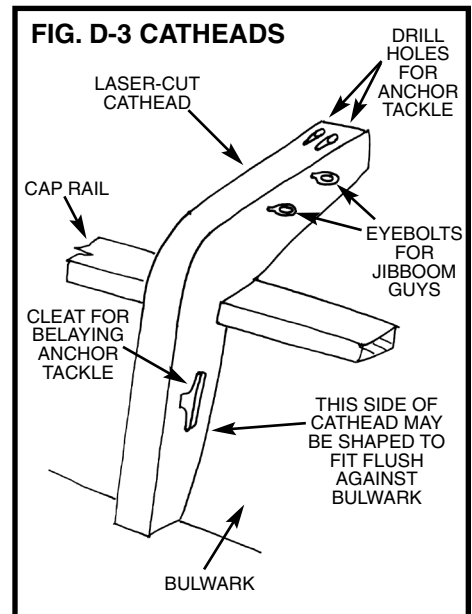
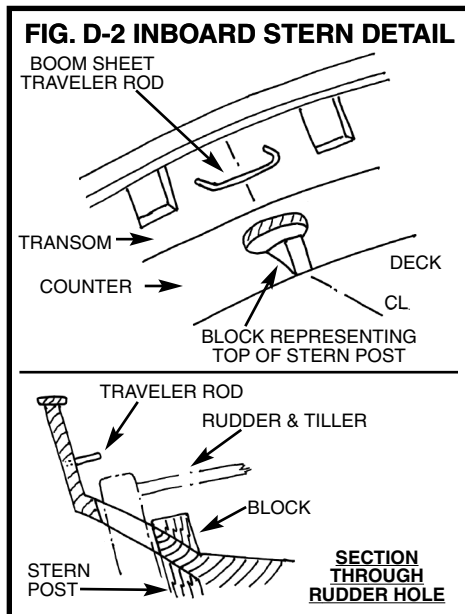
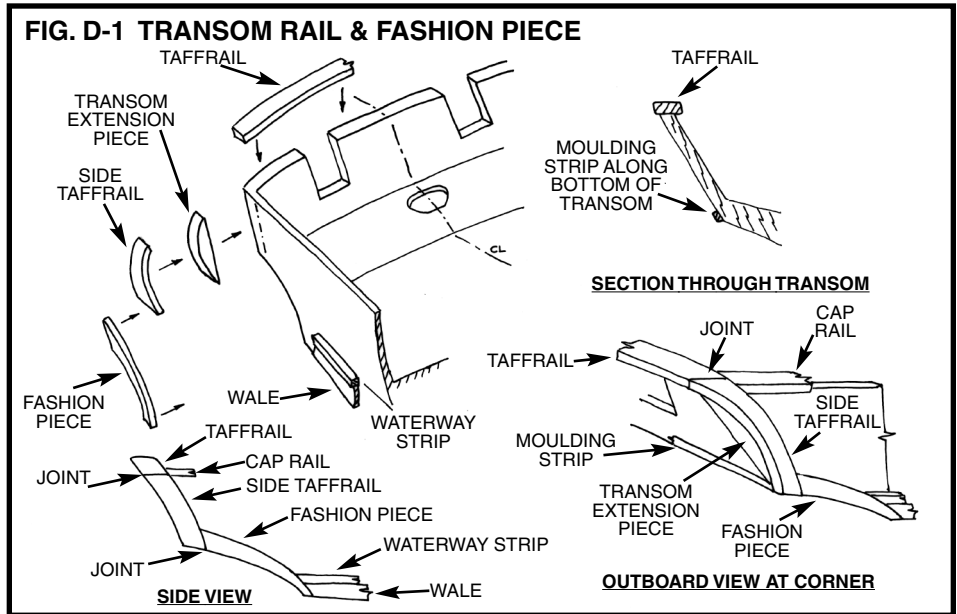
On the sides, the rail meets a fashion piece that curves down to the waterway strip and wale. Along the bottom of the transom outboard, add a moulding strip. Figure D-1 should clear up this often confusing area.

Inboard on the counter, there is a small block to be added on centerline just forward of the rudder post opening. This is actually the top of the sternpost on a real ship. On the transom, fit the main boom sheet traveler rod made from wire. See Figure D-2 for a sketch of the area.

3. Catheads, Bulwark Sheaves, Cavils, & Gunport Lids

When you installed the bulwark stanchions earlier, most of the bow timbers and hawse holes were finished at that time. There are still a few more details for the bulwarks unless you got these done while installing the bulwark stanchions.

The catheads are laser cut parts. Before installing, drill the holes for the anchor tackle and add the eyebolts for the jibboom guys (Figure D-3).



Install the cavils, cut from stripwood, across the bulwark stanchions in locations shown on the plans (Figure D-4).

The gunport lids are Britannia castings. Install these in the open position. Add the line for retrieving and holding up the line. The casting has a ring where the line attaches but it is molded in flat with the casting so is useless for attaching a line. Drill a small hole at this ring, insert and glue the line (Figure D-5).

4. Deck Bitts, Fife Rails, Pin Rails, Capstan, Galley Funnel, Hatches, Ladder Way, Pumps, & Skylight

The main hatch, galley hatch, capstan, galley funnel, bowsprit bitts, riding bitts and fife rails are all Britannia castings. Drill the necessary holes and install the fittings. The riding bitts have a stripwood bar between the port and starboard bitt. Glue this in place.

Fife Rails - Each of the fife rails consists of the topsail sheet bitts casting and two rail/stanchion pieces. The sheet bitt casting slopes aft, so drill the holes in the deck accordingly. Drill holes for belaying pins in the rails and glue the rails to the Bitts. The rail stanchions also require holes in the deck.

Galley Hatch & Galley Funnel - The base of the galley funnel and the galley hatch castings are slightly larger than shown on the deck plan. They will still fit, just adjust by moving the funnel aft a bit.

Ladder Way - As noted earlier, the ladder way hatch can be open showing the ladder or closed with hatch covers. The hatch coamings, ladder, and/or covers are to be made from stripwood (Figure D-6).

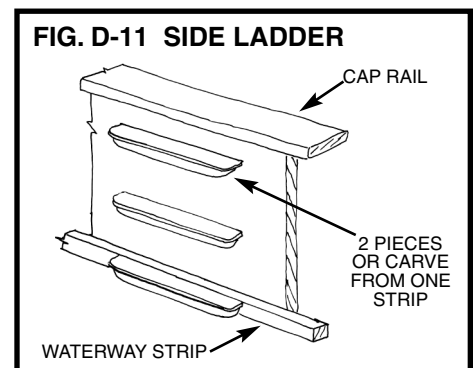
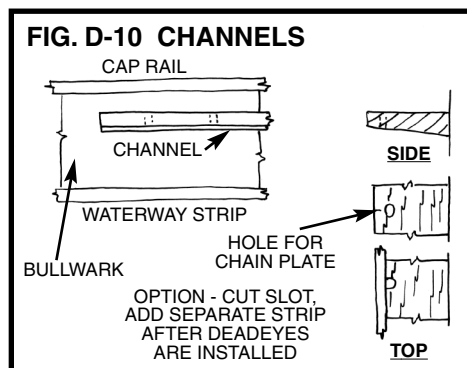
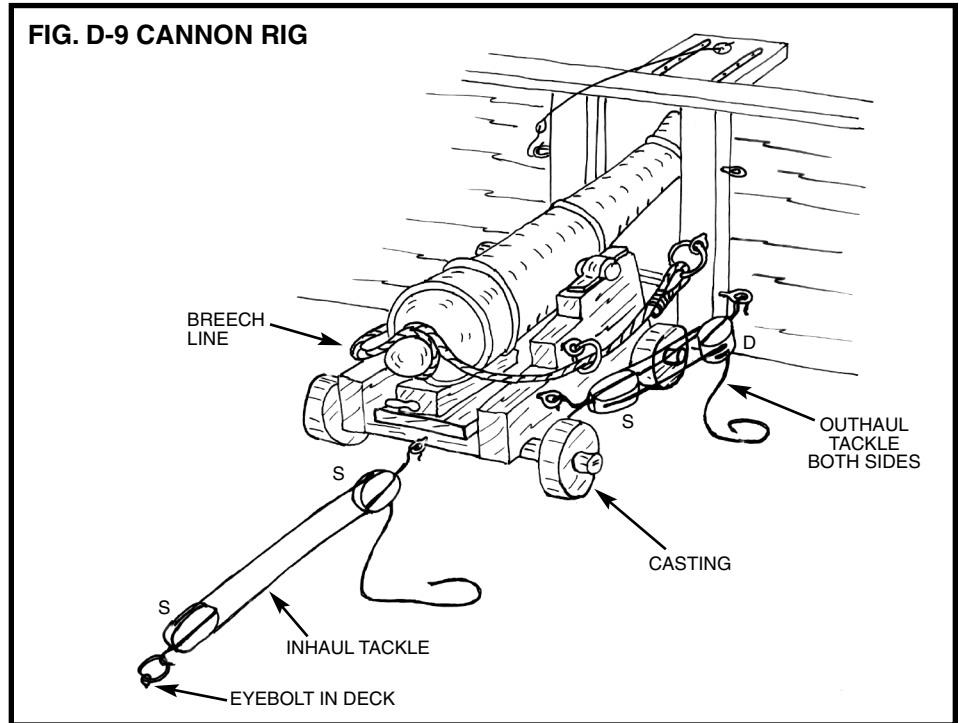
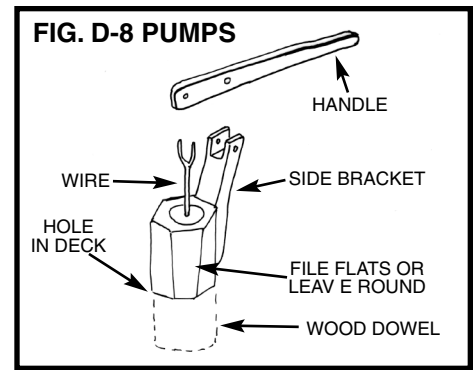
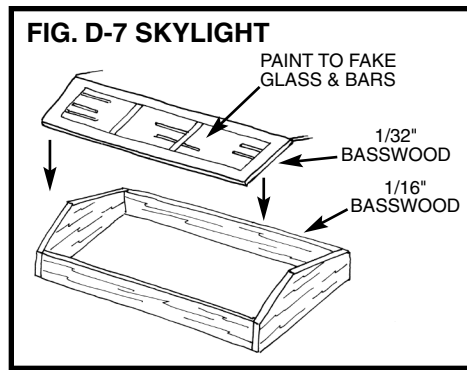
Skylight - Figure D-7 illustrates the construction of the wooden skylight. The top is rather small for much detail so the glass can be simulated by painted light blue with black ink bars.

Pin Rails - There is a pin rail between the bulwark cap rails forward and pin rails at various locations along the bulwarks. Make the rails from stripwood, and drill the holes and install the belaying pins before gluing the rails in place.

Pumps - Two wooden tub pumps are required on the deck just aft of the main mast fife rails. No casting is provided so these must be made from wood. Figure D-8 shows a suggested method.

5. Cannons

Now the fun begins. You will find the work a little tedious, but take your time and you will have some nice deck detail. The carriages and cannon barrels are Britannia castings. Glue the barrels atop the carriages. Drill a hole on each side of the carriage and insert a small eyebolt. The eyebolts are for hooking the gun outhaul tackles. Below the eyebolts drill another hole and add an eyebolt and split ring. This fitting is a fairlead for the breech



line, but at our model scale, this fitting could be omitted. Your choice.

After the guns are fitted and painted, add an eyebolt and split ring to form a ring bolt in the bulwark stanchions on each side of the gunports. This is for securing the breech line. Figure D-9 illustrates the cannon rigged in position. In back of each gun on the deck, there is an eyebolt and split ring as shown on the plan. This fitting is for a tackle to inhaul or train the cannons during battle. The actual tackle is portable, so it could be omitted on the model.

6. Channels & Side Ladder

There are three channel pieces port and starboard that support the lower deadeyes. Make these from stripwood and shape the inboard edge to the hull curvature. Drill holes large enough for the deadeye strops to pass through. Or, notch the hole and add a strip over the edge after the deadeyes are installed (Figure D-10).

The side ladder is three wooden steps on the outside of the bulwark. Make it from stripwood (Figure D-11).

STAGE E: MAST & SPAR CONSTRUCTION

Most references call a mast a mast, and anything else such as a boom, yard, gaff, and bowsprit a spar. Let's stick with that definition.

There are two mast assemblies for the *Dapper Tom*. They are a foremast & main mast. The foremast is built up in three sections: lower mast, topmast, & topgallant mast. The main mast is built up in only two sections: lower mast & topmast. Each of the sections are connected at the doublings (upper and lower mast overlap) by mast caps and trestletrees which in this kit are Britannia metal castings. Lower mast trestletrees are supported from the mast by bibbs (or cheeks) cut from wood sheet. The castings for the trestletrees include crosstrees and tops where appropriate, all in one casting which eliminates a lot of assembly. The mast and spar dowels included in the kit are round. True to scale, masts and spars must be tapered for their full length.

1. Shaping the Masts

Establishing the Correct Curve of the Masts

The correct shape of the masts are shown on the plans. Each of the mast sections should be tapered in a slight (parabolic) curve (Figure E-1). However, for this kit scale, it may be difficult to accomplish a parabolic shape. A straight line taper should be sufficient. The best way to taper the masts from dowels is to cut the taper into squares, then octagons, and finish by sanding into a round shape (Figure E-2).

Shaping the Mastheads & Heels

The next areas of the masts to be shaped are the mastheads and heels where the masts join together at the doublings (see plans for location). Each mast has a head and a heel located at its uppermost and bottom ends, respectively. The masthead on the lower masts and fore topmast is from the trestletrees upward to the cap.

To accommodate the mast caps and trestletree fittings, the mastheads must be shaped square. The lower masts also have flat sides below the trestletrees where the trestletree cheeks (also called bibbs) are to be glued.

The heel of the topmasts and topgallant mast is round where it passes through the mast cap at the top of the doubling and square at the bottom at the trestletrees. The transition from the square to the round portion is shown on the plans. A fid (protruding bolt of wood or iron) is located in each topmast and topgallant mast heel to prevent them from falling through the holes formed by the trestletrees. The lower masts at the deck are octagonal in shape. As an option the masts could be left round.

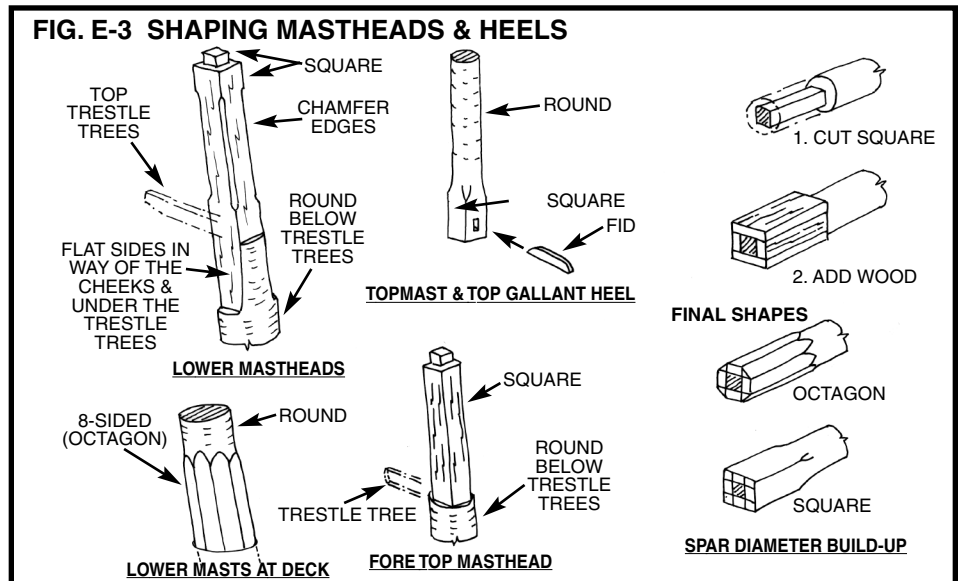
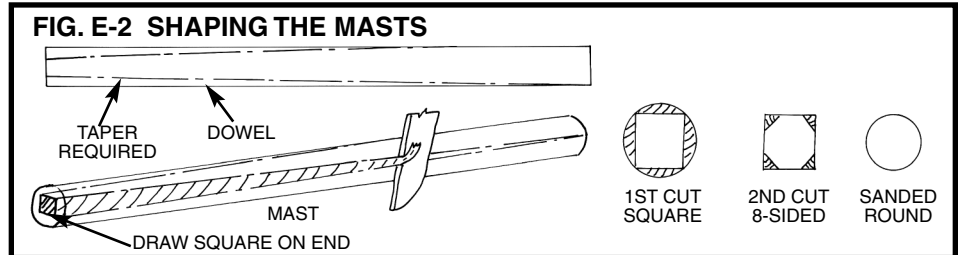
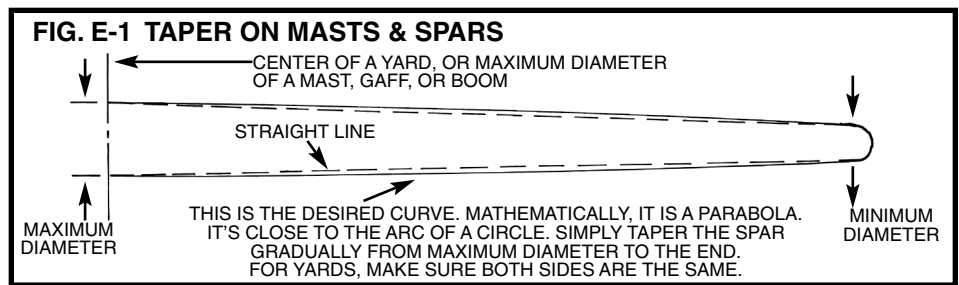


Figure E-3 illustrates the shaping of the mastheads, heels and the fid. Since you are dealing with wood dowels, the sketch also shows how to build the square or octagonal ends by adding wood to the cut-end. Adding wood is necessary because the dimension across the flats of the square must be the same as the dowel diameter. Consequently, the diagonal of the square is greater than the dowel diameter.

2. Assembling the Masts

First, install the lower mast top fitting, then the topmast heel into the fitting. Make sure you already have the fid installed into the topmast heel. Then slide the mast cap over the top mast and secure the cap onto the lower masthead. Make sure the topmast lines up straight with the lower mast when looking fore and aft and that the two mast sections are parallel when looking from the

side. You can now glue the fittings. Assemble the fore topgallant mast to the topmast in the same manner.

Mast Details - Before painting and staining the masts there are a few details to add. The fore topgallant mast and the main topmast should have a shoulder where the lifts and stays are seized near the top of the mast. If you have not tapered the masts with the shoulder, do so now, or cut a groove at that point. This is needed so the rigging lines do not slide down.

The topgallant and topsail ties pass through sheaves in the masts. You don't need a sheave on the model, but drill a hole through the masts for the lines.

The head of the fore topmast has a cheek block port and starboard with two sheaves. Make the block with stripwood and drill a hole where the sheaves would be. The holes on the starboard side are for passing the jib

stay and the jibsail halliard. The port side block is not used or is for other lines not rigged on this model. Figure E-4 illustrates the mast details.

Main Boom Rest - The main mast has a rest for the boom. The rest is a laser cut part but requires support chocks cut from stripwood (Figure E-5).

3. Shaping & Detailing the Spars Yards

Shape the yards in the same manner as the masts. The maximum diameter of each yard is at its center. Taper the yards outward from each center.

Yard Details - Cut a shoulder on each end of the yards which is a stop for lifts and footropes. Also, drill holes (sheaves on real ship) in the ends of the yards for the sheets from the sail above. Though the plans do not show them, most likely the yards have chocks in way of the parrels and trusses.

Jackstays (12A) consists of a series of eyebolts thru which a line is passed and fixed at the ends of the yard. The line and eyebolts are used for attaching the head of the sail and the footrope stirrups. Note that the eyebolts are on top of the yard but slightly forward of the yards centerline. You have a lot of holes to drill for the eyebolts. While you are detailing the yards you might as well add the jackstay lines after the eyebolts are installed.

Figure E-6 illustrates a typical yard.

Boom & Gaffs

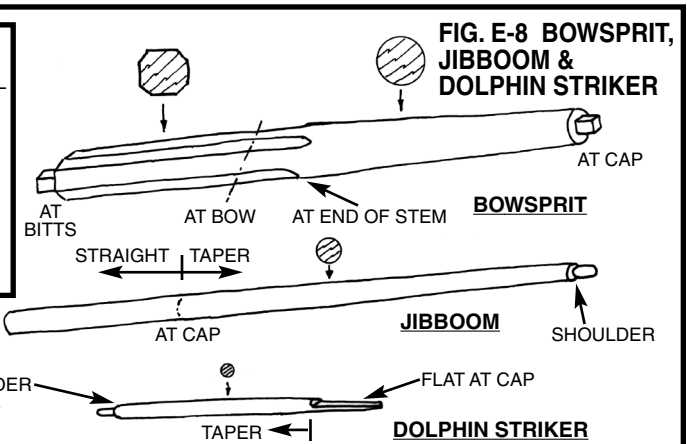
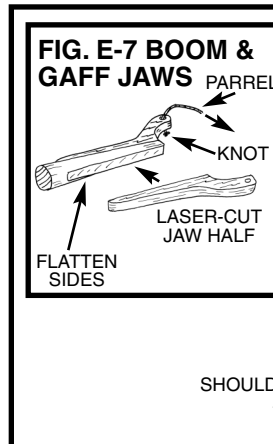
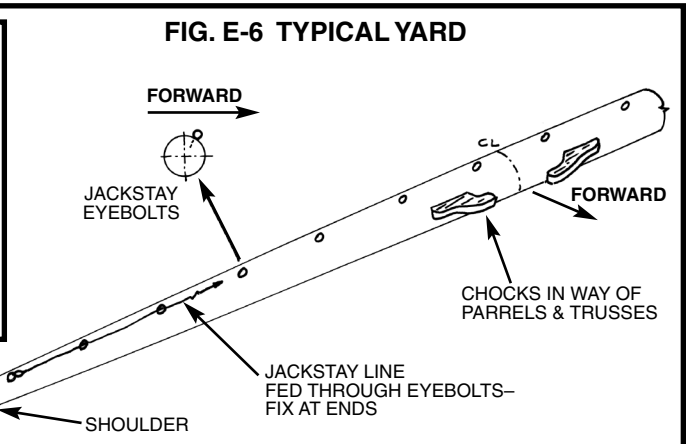
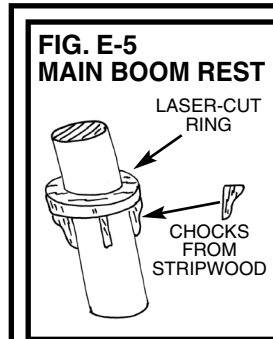
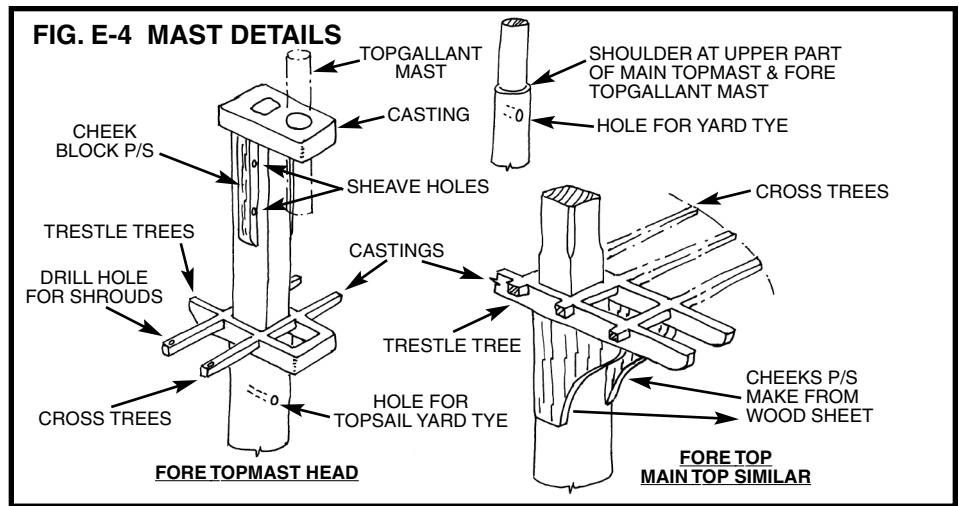
The main boom and fore and aft gaffs also taper, but the maximum diameter of each spar should be about one-third from its fore end. Like the yards, cut a shoulder at the outer end of these spars. The boom and gaffs require that jaws be added to their throats for joining to the masts. The jaws are laser-cut wood parts in this kit (Figure E-7).

Bowsprit, Jibboom, & Dolphin Striker

The bowsprit is tapered forward from the hull. At the outer end, cut the square shape to fit the bowsprit cap (Britannia casting found in kit). The aft end of the bowsprit tapers from the bow back to the bits. From the end of the stem back to the bits on deck, the shape is octagonal with a square end to fit the bowsprit bits hole. If using the dowel, you will need to add wood as you did with the squares on the masts. Or, you could forget this task and just leave the bowsprit round.

The jibboom should be straight from the aft end to the bowsprit cap, then tapered forward of the cap. At the outer end cut a shoulder for rigging stops.

Where is the aft end of the jibboom? The plans show only that it stops at the bow, but this is not the complete story. Typically, Balti-



more Clipper jibbooms ended somewhere along the outer end of the bowsprit lashed down to a saddle on the bowsprit. So for *Dapper Tom*, it is recommended that you stop the jibboom just aft of the forestay.

The dolphin striker is a simple tapered round spar. Cut a flat at the upper end where it will be glued to the bowsprit cap. At the bottom of the spar, a wooden or metal cleat is fitted to each side, which guide the fore topgallant stay and martingale stay.

Figure E- 8 illustrates the bowsprit, jibboom, and dolphin striker details.

Assembly -Glue the bowsprit cap onto the bowsprit. Make a saddle for the jibboom, then insert the jibboom. Make sure the jib-

boom lines up with the bowsprit and then glue it to the saddle atop the bowsprit. Glue the dolphin striker (proper name martingale) to the bowsprit cap. Add the bees for the fore topmast stays, chock stops for rigging collars, lashings, eyebolts, and other details as shown in Figure E-9.

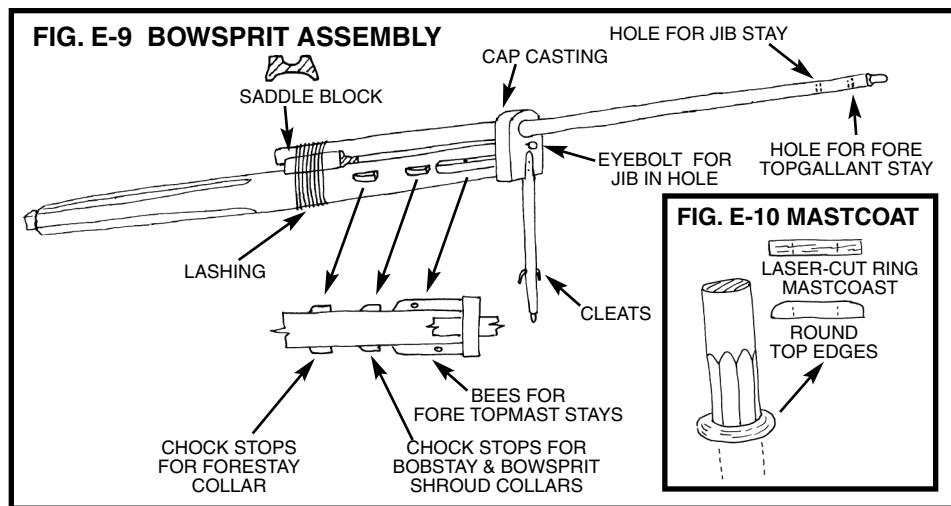
4. Installing the Mast & Bowsprit Assemblies

Before installing the masts, shape and slide on the mast coats which are laser cut rings (Figure E-10). The mast coats on a real ship are actually canvas covers over the wedges holding the masts in place.

Place the masts and bowsprit in the holes you

drilled into the hull. It is suggested that you do not glue the masts and bowsprit into the holes. The rigging will hold them in position. Furthermore, if the model gets restored in the future, the masts and bowsprits can be easily removed.

Check the alignment of the masts and bowsprit. If not straight, looking aft, or at the correct angle shown on the plans, you can shim the holes. If necessary, drill the holes larger to accommodate shimming.



STAGE F: GENERAL RIGGING INFORMATION

1. Rigging Identification

Most all of the rigging is identified on the rigging plan by number. The small belaying pin plan on the rigging plan shows a recommended location for belaying the numbered lines.

The key to the plan numbers is as follows:

Note: Numbers 1 through 24 are standing rigging. Use the black rigging line supplied in the kit. Numbers 25 through 50 are running rigging. Use the tan rigging line supplied. If a standing rig has a tackle on the end, use tan line for the tackle. P/S indicates lines that are both port and starboard.

1. Shrouds (for all masts, P/S)
2. Ratlines (for all shrouds, P/S)
3. Deadeyes (for all shrouds, P/S)
4. Lanyards (for all deadeyes, P/S)
5. Fore Topgallant Mast Stay
6. Jib Stay (includes an ouhaul tackle at the bowsprit cap)
7. Traveler Ring at Jib Stay
8. Fore Topmast Stay (P/S)

9. Forestay
10. Footropes (for all yards, P/S)
11. Stirrups (for all yards, P/S)
12. Fore & Main Topmast Futtock Shrouds (P/S)
- 12A. Jackstays (for all yards, P/S))
13. Fore & Main Topmast Backstays (P/S)
14. Fore Topgallant Mast Backstays (P/S)
15. Lifts (for all yards, P/S)
16. Main Stay (P/S)
17. Spring Stay
18. Main Topmast Stay
19. Bobstay
20. Bowsprit Shrouds (P/S)
21. Martingale Stays
22. Martingale Backropes (P/S)
23. Manropes
24. Fore & Main Lower Yard Slings
25. Fore & Main Sail Tacks (P/S)
26. Fore & Main Sail Sheets (P/S)
27. Fore & Main Sail Clew Garnets (P/S)
28. Fore & Main Topsail Sheets (P/S)
29. Fore & Main Topsail Clew Lines (P/S)

30. Fore Topgallant Sail Sheets (P/S)
31. Fore Topgallant Sail Clew Lines (P/S)
32. Fore Lower Yard Braces (P/S)
33. Fore Topsail Yard Braces (P/S)
34. Fore Topgallant Yard Braces (P/S)
35. Main Lower Yard Braces (P/S)
36. Main Topsail Yard Braces (P/S)
37. Fore & Main Topsail Yard Tye
38. Fore & Main Topsail Yard Halliard Runner & Fall
39. Fore Topgallant Yard Tye
40. Fore Topgallant Yard Halliard & Fall
41. Fore & Main Gaff Peak Halliards
42. Fore & Main Gaff Throat Halliards
43. Fore & Main Gaff Vangs (P/S)
44. Main Boom Topping Lifts (P/S)
45. Main Boom Sheet
46. Main Gaff Ensign Halliards
47. Jib Halliards
48. Jib Inhaul
49. Jib Sheet (P/S)
50. Anchor Tackle & Fall P/S)

A few rigs are not numbered but are shown on the rigging plan to some degree. They are as follows and will be detailed later in these instructions:

Parrel (or parral) - On upper yards which can be raised or lowered, these lines hold the yard against the mast. Beads, or rollers, on the lines allow the yards to move freely along the mast. There is a detail shown on the upper right side of the plan.

Truss - On lower yards, there are no parrels, instead, a fixed line holds the yards against the mast. It has two running ends, each of which has a tackle secured to eyebolts in the deck at the mast and the tackle belays to the fife rail. Thus, the truss can be tightened or loosened at deck level. The truss is rope on the *Dapper Tom*. On later ships the rope truss was replaced by an iron fitting.

Jibboom Guys - These guys are shown in a plan view on the left hand side of the rigging plan. Note that the inboard ends have a tackle at the cat heads.

If you are not familiar with the names and functions of rigging lines, the book *How to Build First-Rate Ship Models From Kits* by Ben Lankford contains a description of Nautical terms (See Bibliography).

Note: Throughout these instructions the lowest yards and their sails are referred to as "Lower Yards or Sails". A more proper term is "Course Yards or Sails".

2. Line, Block, & Deadeye Sizes

There is a limited number of different size rigging lines in the kit. The following is a suggested list of line size use:

Standing Rigging (Black Line)

0.008" Dia. Line - All Ratlines, Fore & Main Topmast Shroud Lanyards, Fore Topgallant Shrouds, Topgallant Yard Lifts, & Fore Topgallant Stay.

0.012" Dia. Line - All Yard Footropes & Stirrups, Main Lower Yard & Topsail Yard Lifts, Fore & Main Topmast Shrouds & Futtock Shrouds, Fore Topgallant Backstays, Jibboom Guys, Fore & Main Lower Shroud Lanyards, Martingale Stay & Backropes, Bowsprit Shrouds, Fore Topmast Stays, Main Topmast Stay, & Jib Stay.

0.021" Dia. Line - Fore & Main Lower Shrouds, Fore & Main Topmast Backstays, Spring Stay, & Lower Fore Yard Lifts

0.028" Dia. Line - Forestay, Main Stays, Bobstay, & Fore & Main Lower Yard Slings & Trusses.

Running Rigging (Tan Line)

0.008" Dia. Line - Topgallant Sail Clew lines & Sheets, Fore & Main Topsail Clew Lines, Topgallant Yard Braces, Fore & Main Gaff Vangs, & Main Gaff Ensign Halliards.

0.012" Dia. Line - Fore & Main Topsail Yard Braces & Sheets, All Jackstays, Fore & Main Sail Clue Garnets, Jib Stay Outhaul Tackle, Jibboom Guys Tackle, Boom Topping Lifts, Jib Halliard & Sheets & Downhaul, Jib Stay Inhaul & Outhaul tackle, & Topgallant Yard Tye & Halliards.

0.018" Dia. Line - Fore & Main Sail Tacks & Sheets, Main Boom Sheet, Fore & Main Topsail Yard Tyes & Halliards, Fore & Main Yard Truss Tackle, Gaff Peak & Throat Halliards, Lower Fore & Main Yard Braces, & Anchor Tackle.

0.040" Dia. Line - Anchor Cable.

Blocks - Like the lines, the blocks for running rigging are not sized on the plan. However, blocks are sized to suit the line that runs through their sheaves. The following list suggests the block sizes that should be used with the line sizes provided:

0.008" Line - Use 3/32" blocks.

0.012" Line - Use 1/8" blocks.

0.018" Line - Use 5/32" blocks.

Long Tackle Blocks - The plans show several blocks which are long blocks with two sheaves in line rather than side by side. None are included in the kit. However, you can glue two single blocks together end to end to simulate the block, or simply substitute a common double block.

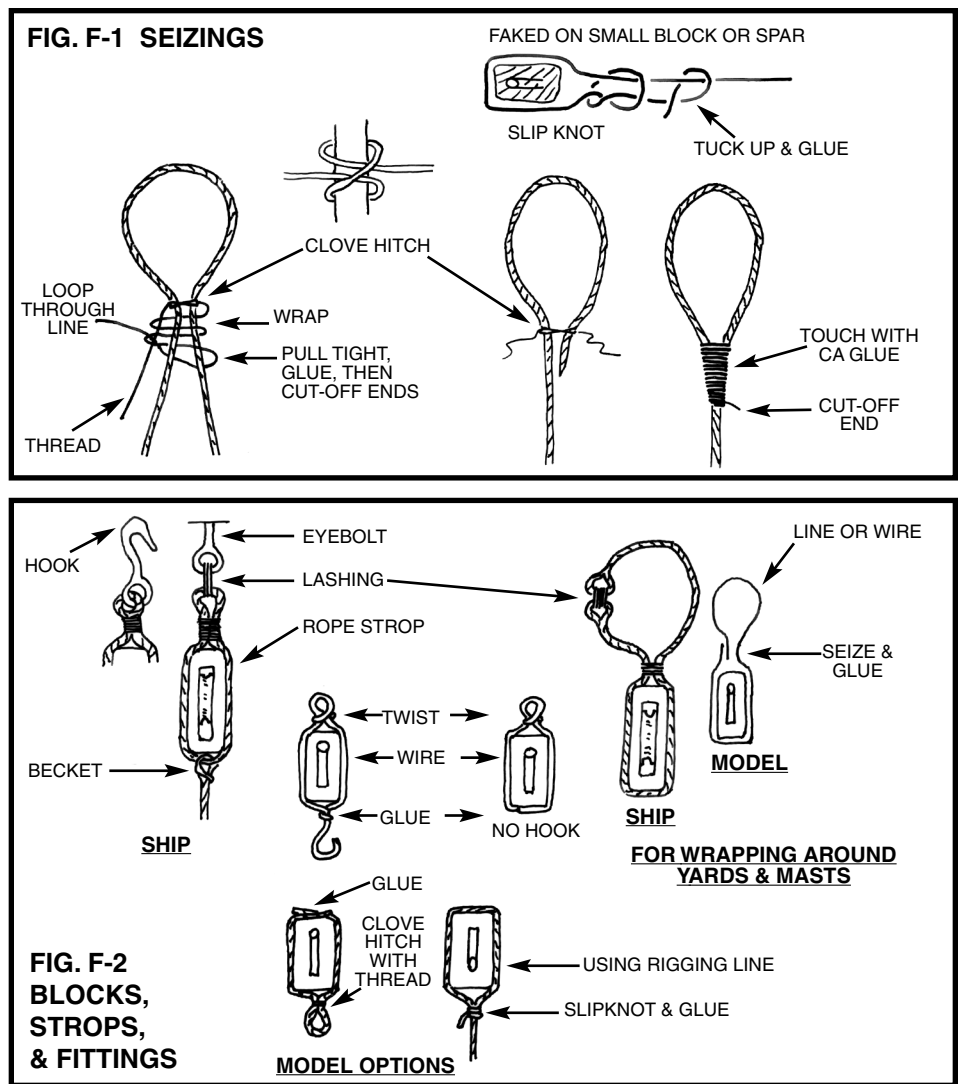
Deadeyes - Use the smaller 3/32" Deadeyes for the Fore & Main Topmast Shrouds, Fore Topgallant Backstay, & Bowsprit Shrouds. Use the 5/32" Deadeyes for Fore & Main Lower Shrouds, Fore Topmast Backstays, Main Topmast Backstay, & the Bobstay.

3. Rigging Sail Lines

The *Dapper Tom* model is intended to be completed with sails removed. However, even without sails, some of the rigging lines such as sheets, tacks, halliards, and clew lines are to remain, along with their lead blocks. Some of the lines are to be hooked together, such as the jib halliard and sheets, and yard clew lines and sheets. The running ends of these lines should be belayed at their proper locations. Installing the sail rigging lines on the *Dapper Tom* adds tremendously to the look of the model, especially at the jib stay where the contrasting black stay and light running lines, along with their blocks, create interesting visual detail.

4. Applying Beeswax to the Lines

Before placing the lines on the model, run the line through a block of beeswax several times.



Then, run the line through your fingers. This heats the wax slightly and rubs it into the line. The beeswax will cut down on fuzz and protect the line from moisture.

5. Seizing the Lines

Seizing of lines (binding or securing two lines or different parts of the same line) can be done as shown in Figure F-1. To prevent seizings from unraveling, add a touch of CA glue. For seizings, use the 0.008" line in the kit or sewing thread.

6. Blocks, Stropps, & Fittings

Around the time the *Dapper Tom* was built, the use of rope for stropping blocks, and for parrels and slings on yards, was more common than iron fittings. However, such items as iron-stropped blocks, hooks, and eyebolts were available. There is no sure way to determine exactly what was on the *Dapper Tom*. The details shown in the sketches and plans illustrate only one of the ways it may have been done. A block shown lashed into an eyebolt could just as likely have been lashed around the spar without the use of an eyebolt. A strop is an iron or rope band or grommet around the shell of a block for attaching lines.

The blocks in the kit are fairly small, so it will not be easy for you to create the exact detailing. Some modeling shortcuts are in order. See Figure F-2 for some life-size ship details and model options.

7. Rigging Tools & Belaying Lines

Figure F-3 illustrates some homemade tools that are essential aids in the rigging process. Figure F-4 shows some suggestions for belaying lines to belaying pins and cleats.

A word of advice - Rigging plans are hard to follow. Lines cross each other and they sometimes go behind something or seem to disappear into thin air. Before you start the rigging, get a notebook and do a small sketch of each rigging line on a separate page. Sketch in where the lines end, such as at an eyebolt and label these points. If something seems to be missing when you view your sketches, seek help or find the answer in a rigging text (consult the bibliography). Use the final sketches as you rig the model. You won't need to crawl your way through the rigging plan again.

When rigging such items as yards, booms and gaffs, do as much rigging as possible with the item in hand before installing the part on the model. Seize the lines to the part and

have enough running rigging line so it can reach to its final destination, such as a belaying pin, with a little line left. Better to be too long than too short. Standing rigging such as yard footropes are included, as these would be very difficult to do with the yard hanging at the mast.

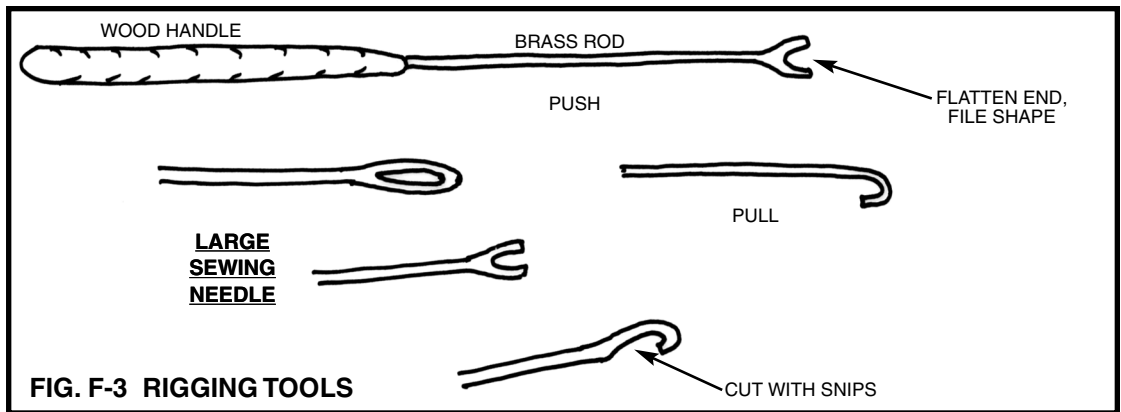


FIG. F-3 RIGGING TOOLS

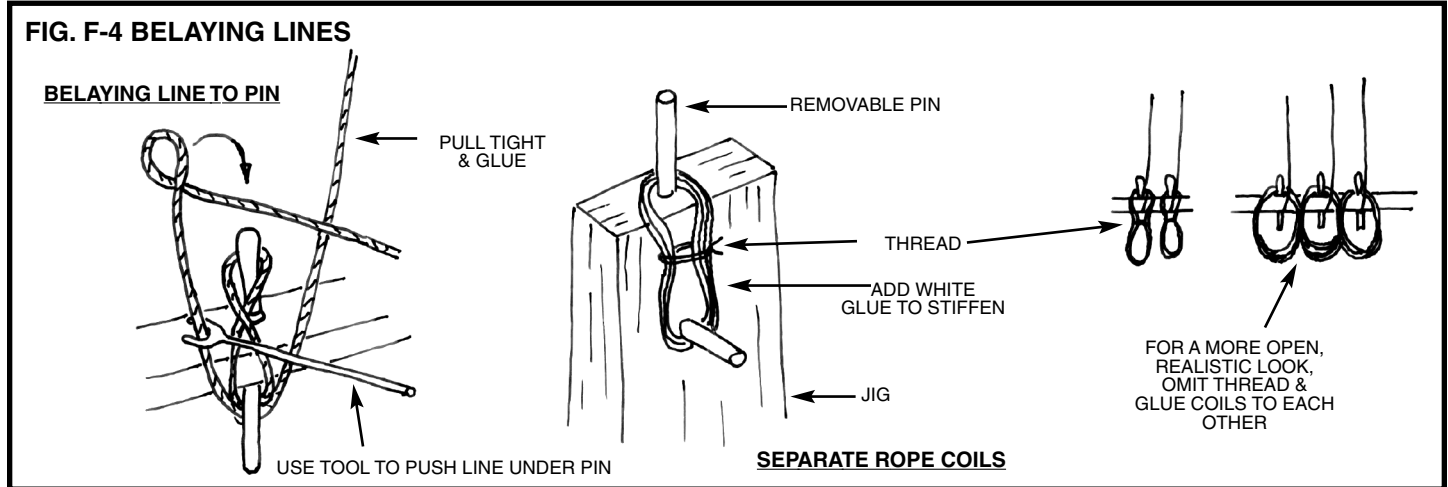


FIG. F-4 BELAYING LINES

STAGE G: STANDING RIGGING

1. Bowsprit Rigging

Begin the standing rigging with the bowsprit. Add the gammoning (0.012" or 0.021" black line), which ties the bowsprit to the stem. Wrap the gammoning neatly, laying each part of the line side by side as it is wrapped. Next, install the bobstay (19), then the bowsprit shrouds (20). Figure G-1 illustrates the rig to this point. Rigging at the bowsprit will be completed while and after installing the head stays. But first, the mast shrouds will be installed since the head stays and all fore and aft stays go over the top of the shrouds at the mastheads.

2. Shrouds & Backstays

The lower shrouds (1), topmast backstays (13), and topgallant backstays (14) are set up with deadeyes and lanyards at the channels and attached along the outside of the ship using chain plates. The lower deadeye strops and chain plates are to be made of steel wire provided in the kit (Figure G-2). To set up the shrouds, make a temporary jig of wire to space the deadeyes as you do the seizings (Figure G-3). The sketch also shows the sequence for reeving the lanyards and the proper sequence for the shrouds going around the mastheads. Keep an eye on the masts as you rig the shrouds, so you will not pull them out of line. After the shrouds are in place, proceed

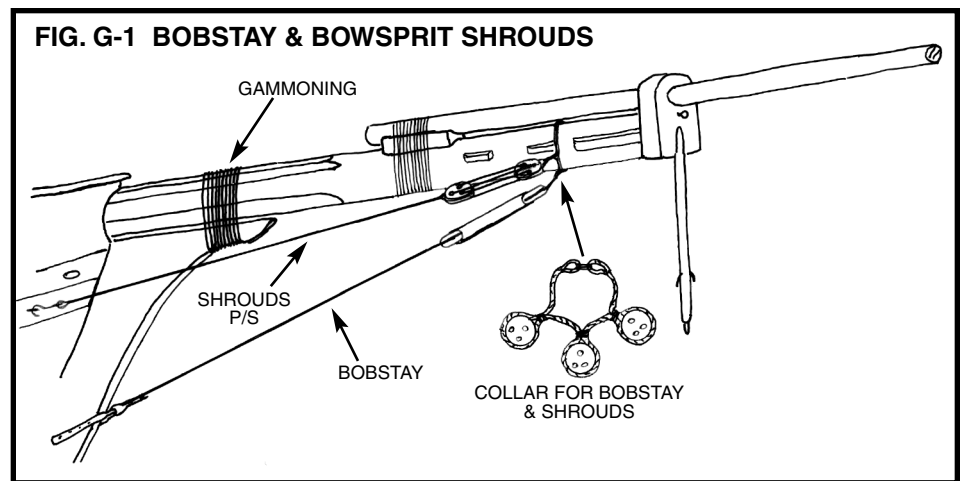


FIG. G-1 BOBSTAY & BOWSPRIT SHROUDS

to add the ratlines and the sheer poles (Figure G-4). The sketch shows ship practice and various model options.

The topmast shrouds are set up similar to the lower shrouds but instead of having chain plates they set up to futtock shrouds (12). The rigging plan seems to indicate that the futtock shrouds go to the mast, but this is not the practice for the period. They actually seize to the lower shrouds (Figure G-5).

On this particular ship the topgal-

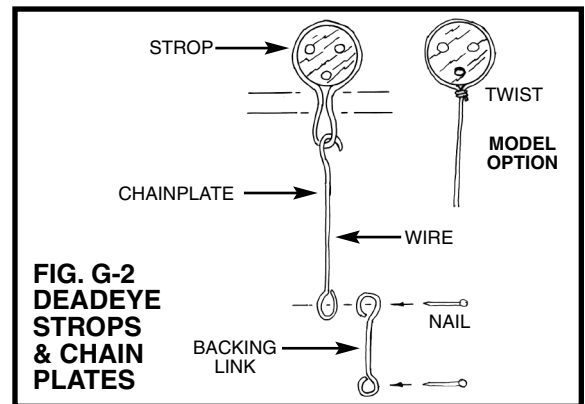


FIG. G-2 DEADEYE STROPS & CHAIN PLATES

lant shrouds have no deadeyes or ratlines. The shrouds pass through the crossrees and seize to the topmast shrouds.

3. Foremast (Head) Stays

Forestay -The forestay (9) sets up to a closed and open heart and collar at the bowsprit. The closed heart shown on the plan appears rather large for this ship. Normally, the open heart is simpler, and does not straddle the bowsprit as shown. That would make the heart much too wide. The hearts in the kit are laser-cut and reflect the modification. File a groove around both of the hearts to receive the stay and collar (Figure G-6).

Figure G-7 illustrates the remaining head stays; fore topmast stay, jib stay & fore topgallant stay.

Fore Topmast Stay -The fore topmast stay (8) is a double line passing port and starboard through the bees on the side of the bowsprit and are seized with lanyards to eye-bolts at the bow. Notice that the hole in the port bee is a little aft of the starboard bee hole. Actually, the starboard stay should be called a spring stay.

Jib Stay - The jib stay (6) is an interesting stay as it can be moved in or out along the jibboom with the aid of an outhaul tackle (6) and an inhaul (48) which are attached to a traveler ring. The ring is not included in the kit. Fashion it from brass or steel wire. Make sure you place the ring over the jibboom and rig this stay before you rig the outermost fore topgallant stay. The top of the jib stay passes through a cheek sheave on the side of the masthead and down to a tackle just above the deck.

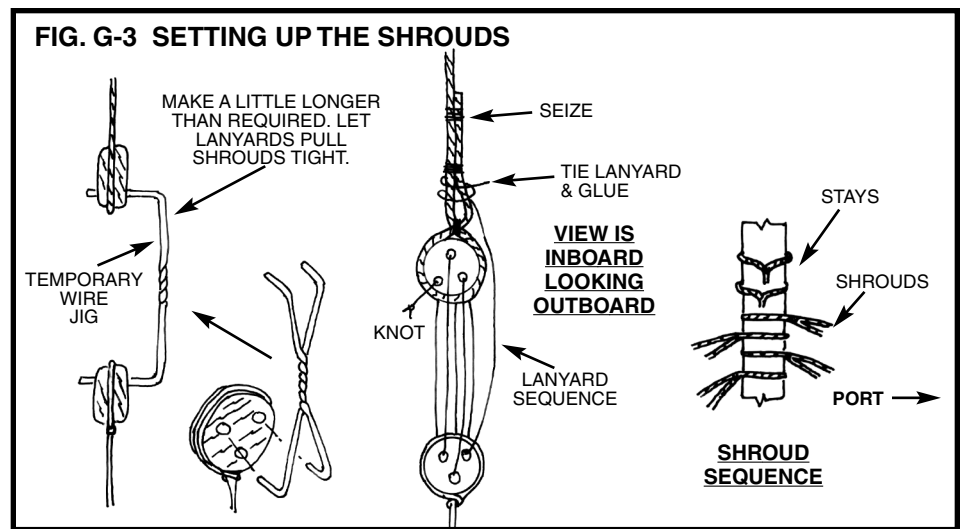
Fore Topgallant Stay - This stay (5) passes through a hole (and sheave) at the end of the jibboom, under the starboard cleat on the dolphin striker, through a lead block on the starboard side of the bowsprit, then through a hole in the bow and belays to a pin on the forward pin rail. This stay could also be set up to an eyebolt in the bow with lanyards and not through a hole in the bulwark.

Note: The detail on the rigging plan is confusing. The fore topgallant stay and the martingale stay appear to cross after passing the dolphin striker. This is not likely so just switch the lines with the topgallant going starboard and martingale going port.

4. Completing the Bowsprit Rigging

Now that the head stays are completed, you can finish up the other bowsprit and jibboom rigging. Figure G-8 illustrates the lines discussed.

Martingale Stay & Backropes - This is the lowest stay on the jibboom. Seize the forward end around the jibboom outer shoulder. The stay (21) is lashed to the bottom of the dolphin striker. From that point there is a



backrope (22) port and starboard seized to eye-bolts at the hull. There is another martingale stay, the inner martingale (also 21), attached to the bottom of the traveler ring and feeds back via the dolphin striker, through a lead block on the port side of the bowsprit to belay inboard.

Note: Refer back to the note under fore topgallant stay regarding some confusion with the plan detail.

Manropes (23) - Install an eyebolt port and starboard on top of the fairlead block at the bow. Run the lines to the eye-bolt stanchions atop the bowsprit cap. Midway there are support lines hanging from the forestay. A small netting is shown on the plan between the port and starboard manropes. No netting is provided in the kit so you can omit it, or use some netting material from your local florist.

Jibboom Guys - Use black line for the guys and tan for the tackles set to eyebolts on the catheads. The outer guys are secured to the end of the jibboom and the inner guys to the jib traveler ring.

5. Mainmast Stays

Mainstay - This stay (16)

FIG. G-4 OPTIONS FOR TYING RATLINES

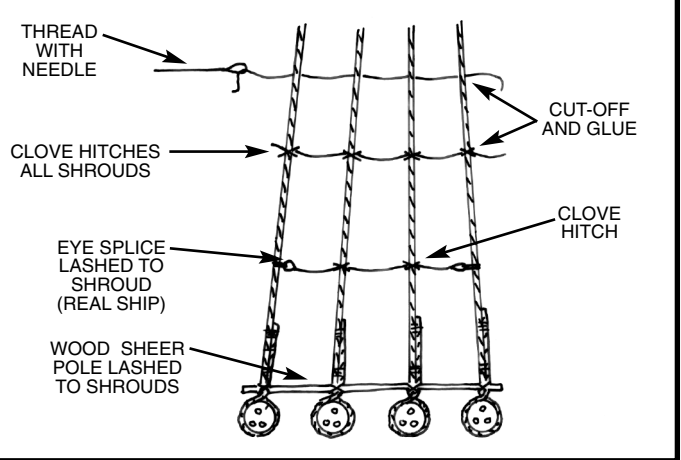
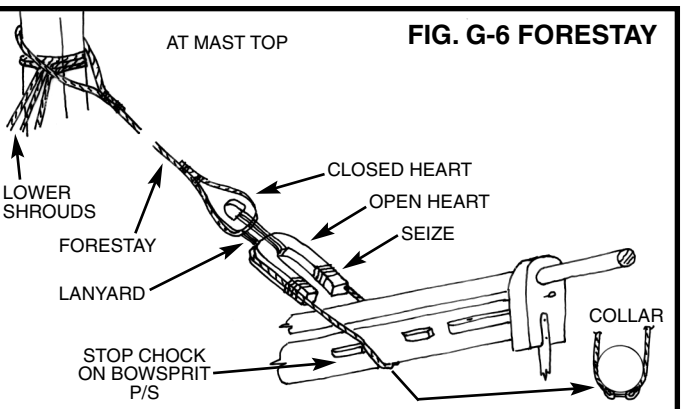
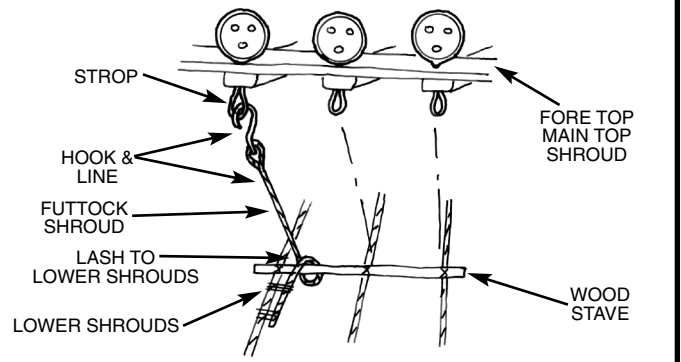


FIG. G-5 TOPMAST FUTTOCK SHROUDS



is a pair, passing on each side of the foremast and setting up port and starboard with lanyards to the eyebolts shown on the deck plan just forward of the foremast five rail. The stay eye would be fitted with a metal thimble (Figure G-9). This arrangement is a common solution. However, on some ships the stay could have set up to bullseyes or deadeyes at the deck. There is usually many solutions to rigging these old ships.

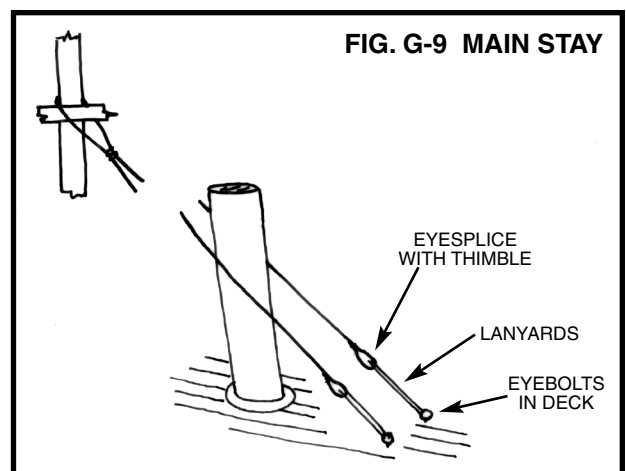
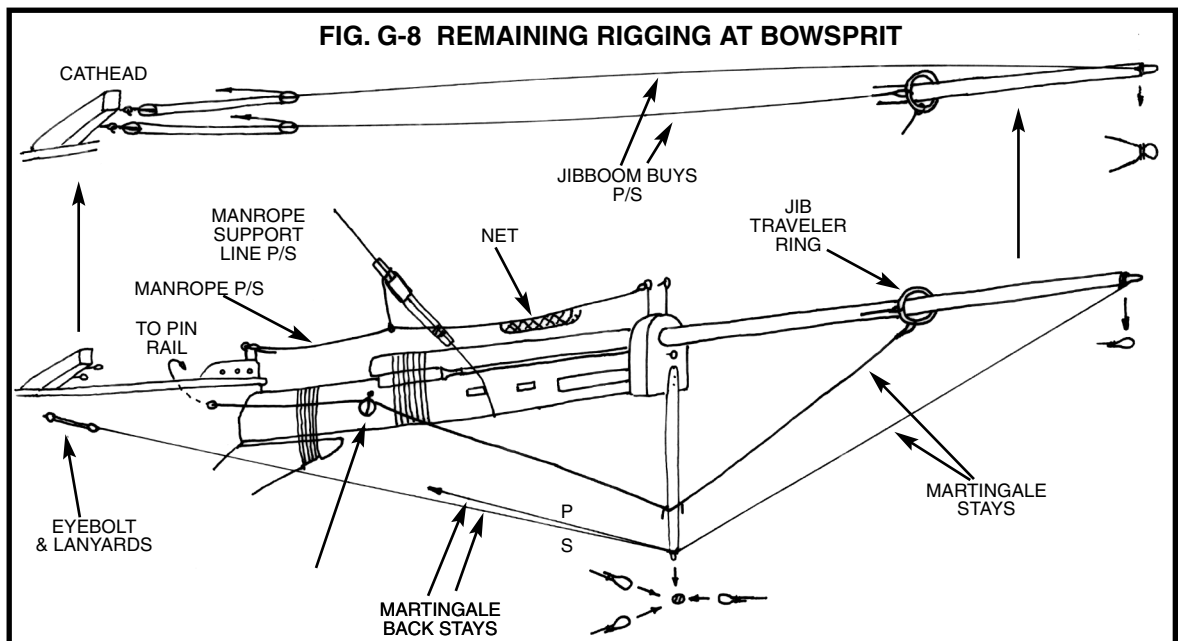
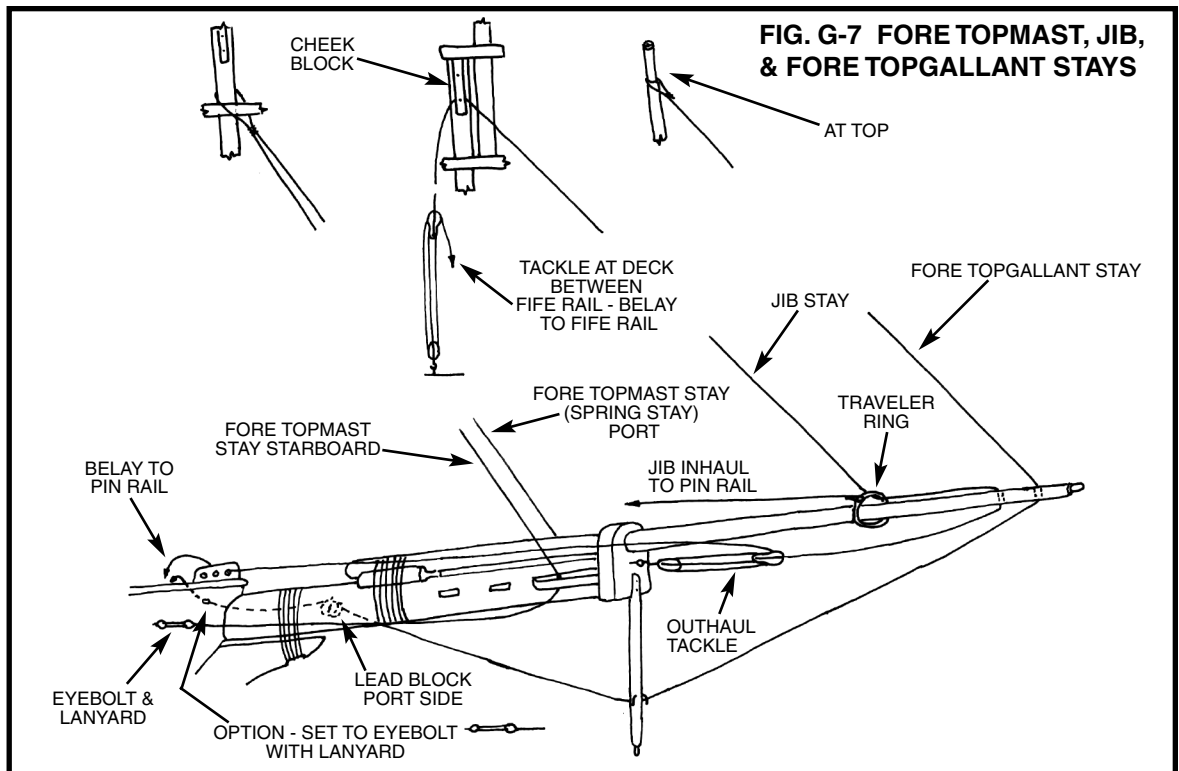
Spring Stay & Main Topmast Stay - The spring stay (17) sets to eyebolts on the fore and main mast caps. The main topmast stay (18) is seized around the main topmast and to an eyebolt on the foremast cap next to the spring stay.

Main Topgallant Stay - This stay is shown but not numbered or identified on the rigging plan. Above the main topmast stay and shrouds, the topmast continues for another 13 feet or so. This extension could be classified as a topgallant. Therefore, the fore and aft stay at the top will be identified as main topgallant stay. Secure the forward end at the fore topmast crossrees.

6. Yard Lifts, Footropes, Stirrups, Slings, & Trusses

These lines are a part of the standing rigging list but we will defer the instruction to running rigging, Stage H. These lines are best installed along with some running rigging while working with the yards. Just don't forget that these lines are black.

Examine the model before moving to the next stage. Is a mast or the bowsprit and jibboom out of alignment? Now is the time to correct these mistakes.



STAGE H: RUNNING RIGGING

Before starting on the running rigging, have all your blocks stropped and/or seized to a line as much as possible. Some running lines may pass through a sheave hole, they require a block. If so try starting at the block and rigging backward. Of course, if in such a situation a block is required on both sides of the sheave, you are stuck with having to seize at least one of the blocks on the model.

1. Jib Rigging

The only head sail lines shown on the plan are for a jib. There should have been more head sails such as a fore staysail and a jib topsail. If you desire to add any additional sail lines to your model, consult the Baltimore Clipper book in the Bibliography. It would be advisable and add to the model if you at least add halliards and downhaul at the fore topgallant stay. Rig it like the jib halliards.

The jib halliard (47) is seized to the topmast cap, goes down through a single block, back up through a cheek sheave on side of the masthead, and down to its belaying pin on deck. With no sail, the lower block is brought down and placed just above the bowsprit and hooked to the jib sheets (49). But wait, the lines are floating in thin air. That's because a line is missing from the plan. There should be a downhaul for the jib sail. To correct this omission, add a single block lashed to the traveler ring. The downhaul will be hooked along with the sheets to the lower halliard block. The downhaul then goes thru the block on the traveler ring and belays on the pin rail at the bow. The jib sheets could be omitted, but if fitted the standing end is secured to an eyebolt on the port and starboard cap rail, and the line belayed to the pin rail on the bulwarks. Figure H-1 illustrates the entire set-up.

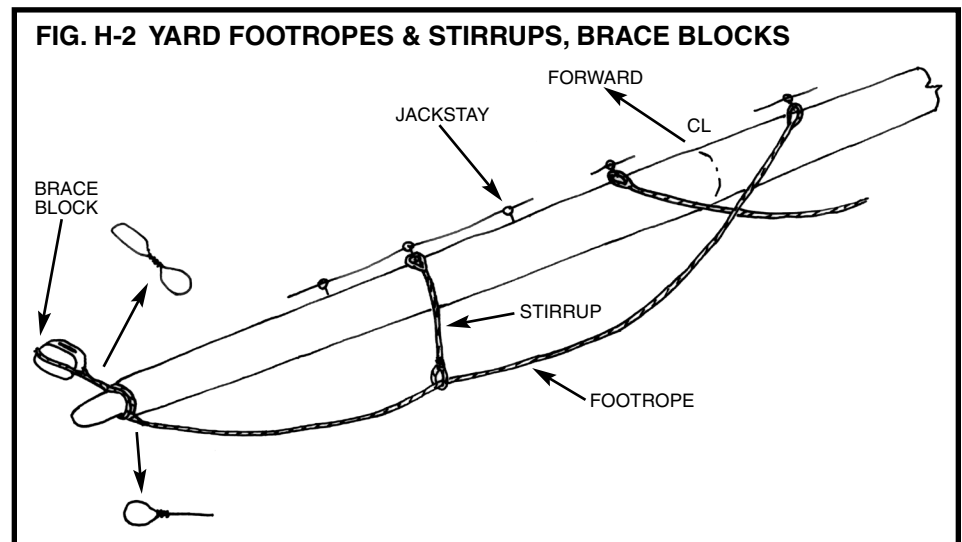
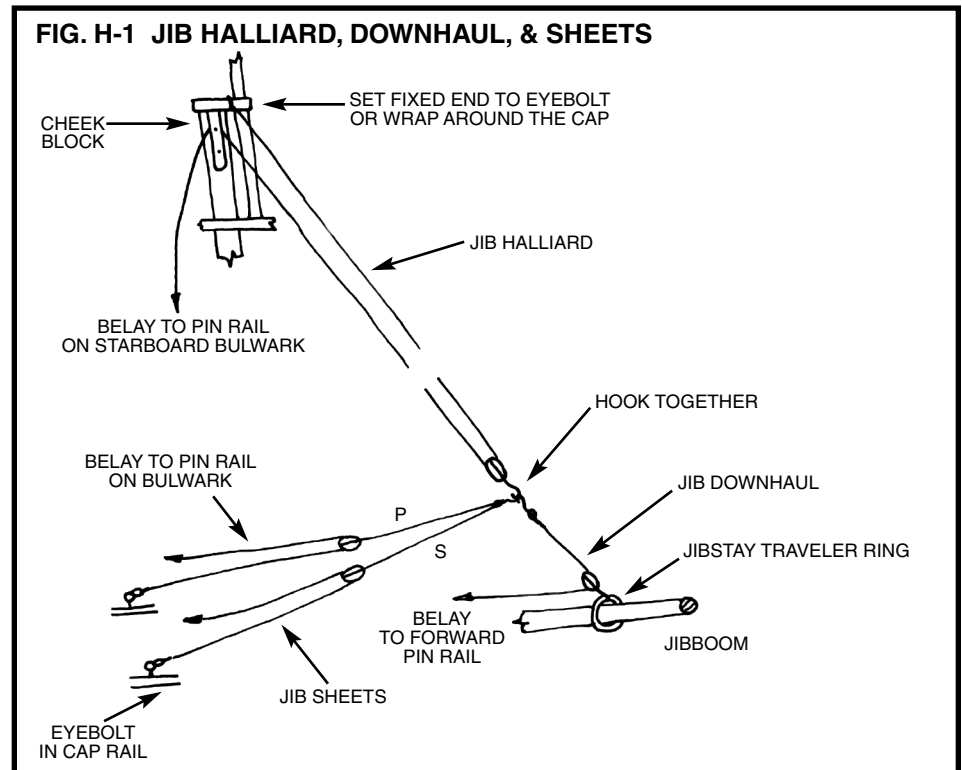
2. Lower Yards

Jackstays - The jackstays were already installed when you detailed the yards in Stage E so no further work is required.

Footropes (10) & Stirrups (11) - Remember these are black standing rigging lines. Beeswax the footropes heavily so you can droop them into a natural hanging curve and they will stay in place. Note the stirrups and inboard end of the footrope goes on the aft side of the yard (Figure H-2).

Braces - For now, just add the brace blocks at the ends of the yard (also Figure H-2). The main yard blocks face forward and fore yard blocks face aft. The brace rigging will be discussed later.

Clew Garnets (27), Sheets (26), & Tacks (25) - These are all sail lines hooked together when the sails are removed. The clew garnets are the only lines actually attached to the yard.



You could hook up the sheets and tacks after the yard is installed on the model, or add them now. Both the sheets and tacks go to the hull thru sheaves in the bulwark and belay to cavils on the bulwark stanchions with one exception. The forward tacks go to the end of long poles called boomkins protruding from the hull (Figure H-3).

Topsail Sheet Blocks - Refer to the topsail sheet discussion in the next paragraph.

Slings - The lower yards have no halliard and tye, but a fixed sling (24), since the yards are not hoisted like other yards. The sling can be attached to the yard now, but cannot be fully completed until the yard is in place since the

sling goes around the masthead (Figure H-4).

Truss - The truss (not numbered) holds the yard against the mast. The line is pulled up tight by the port and starboard ends which are attached to a tackle at the deck (also Figure H-4). On some ships the truss is flipped and the tightening tackle placed at the top above the yard instead of at the deck.

Lifts - The lifts (15) for this particular ship reconstruction appear to be fixed standing rigging at the caps. However, on most ships of the period a more common arrangement would be to have the lifts pass through blocks at the cap and down to a tackle on deck. See Figure H-5 for both the fixed lifts and running option.

3. Topsail Yards

The jackstays, footropes & stirrups, lifts and brace blocks are essentially the same as for the lower yards.

Clew Lines and Sheets - The clew lines (29) are just like the lower yard clew garnets, just a different name. There are no tacks. The sheets (28) hook to the clewline block, then go through a sheave (a hole will do) at the ends of the lower yards, through the block on the lower yard inboard of the clew garnet block and down to the belaying pins (Figure H-6).

Parrels - The topsail yards move up and down. To hold the yard against the mast a parrel is used. The parrel is a beaded fixture so the yards will move freely along the mast. However, because of the small scale of this model, a simple line without the beads will be adequate (Figure H-7).

Tye and Halliards - The halliard (for lifting the topsail yards) is made up of a tye (37) attached to the yard, a runner (38), and finally a fall (also 38) which is the tackle at the deck. The tye passes through a sheave in the mast. Just drill a hole if you have not already done so while making the masts.

For both fore and main rigs, the runner seizes to an eyebolt in the channels. The lower fall block also seizes to an eyebolt in the channels but on the opposite side of the ship. One difference between fore & main, the rig is flipped so the foremast fall is on the starboard side and main mast on the port side. Figure H-8 illustrates the rig.

4. Fore Topgallant Yard

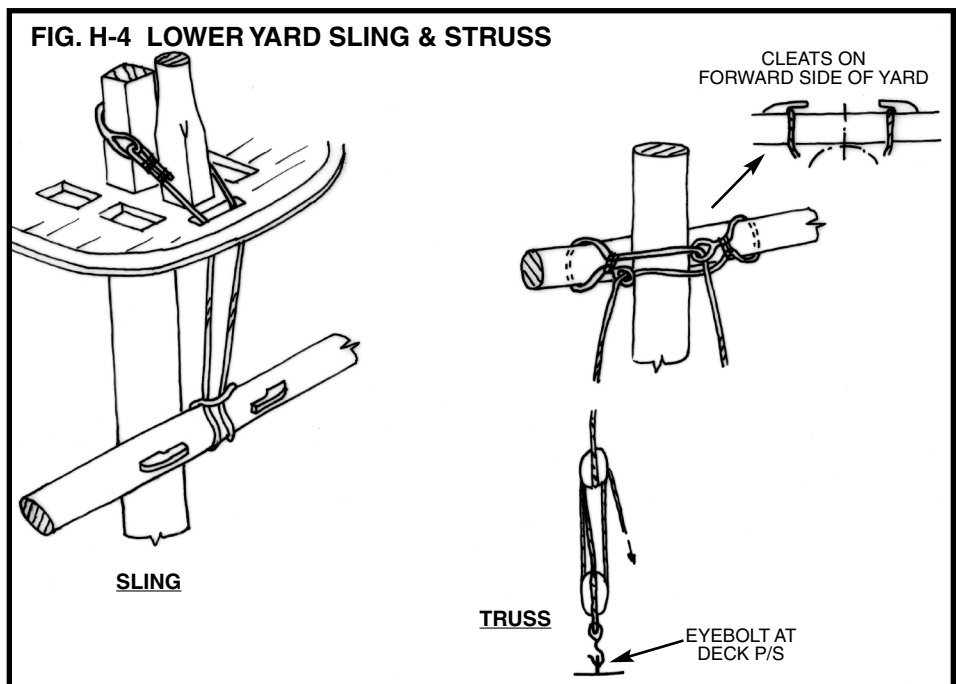
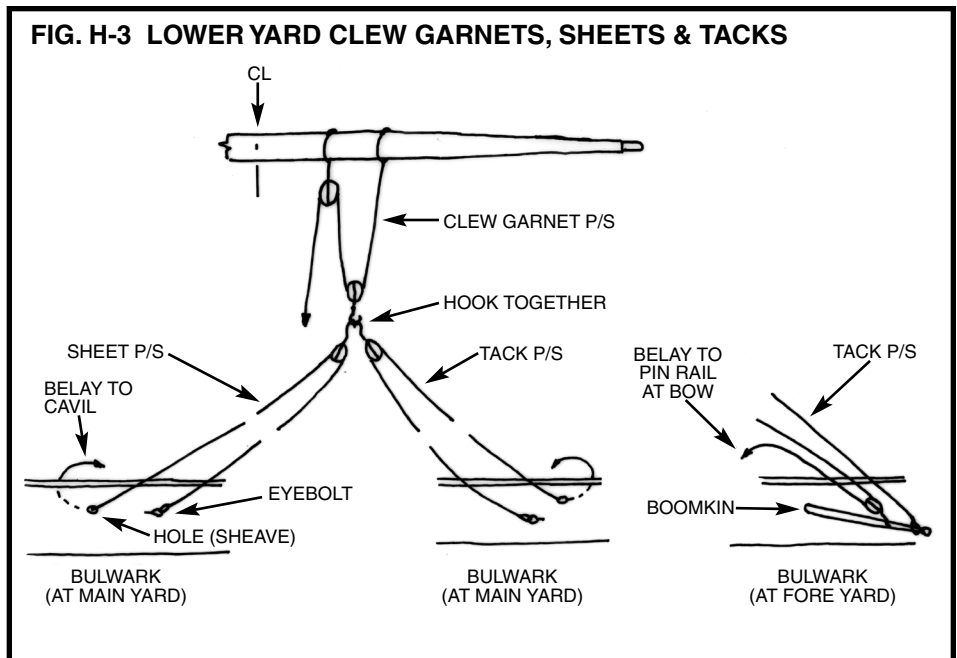
Everything is basically the same as the topsail yards except for the halliard. The runner is eliminated so you have only the tye (39) and fall (40). The lower fall block is hooked at the fore top, or at the channel but the line still goes to the deck for belaying.

5. Rigging the Yard Braces

You should have the blocks on the yards already. Now you need lead blocks at the masts. Figure H-9 shows where these blocks are located. All brace lines belay at deck level. Note that the sketch shows the main topsail yard lifts set to eyebolts on the fore lower mast cap. An option would be to fix the blocks and fixed ends to a rope collar around the mast head just under the cap.

6. Fore & Main Gaffs & Main Boom

The foresail on the fore gaff of the lower foremast is loose footed. The gaff is fitted with vang (port & starboard) that extend from the peak of the gaff to the outboard deck to steady the gaff when the sail is furled. Peak and throat halliards raise and lower the gaff. For our model, without sails, the sheet for the foresail



would have been removed with the sail. The remaining peak and throat halliards and the vangs are identical to the mainsail.

Unlike the foresail, the mainsail has a boom and a boom topping lift (44). Normally, when the sail is furled or removed, the gaff is lowered to lay on top of the boom. However, for the model the gaff looks better in the up position and the vangs help fill in the open space. The rigging plan shows it this way.

Gaff Throat and Peak Halliards - Rig the throat (42) and peak (4) halliard lower blocks and peak halliard seizing on the gaff before installing the gaff. The upper blocks are secured below the top and mast cap respectively. The hauling end of the peak halliard should go down on the starboard side of the boom and the throat halliard on the port side. The

belaying plan is confusing because it indicates what appears to be eyebolts in the deck between the main mast five rails. In this case, there would be a tackle in the halliards hooked to these eyebolts and the fall lines belayed to the five rail. The fore five rail has no indication at all where the halliards are belayed. To simplify the rigging, it is suggested that no tackles be installed and the halliards simply be belayed to pins in the five rail. See Figure H-10 for the halliard arrangement.

Boom Topping Lifts, Gaff Vangs, & Boom Sheet - Figure H-11 illustrates these running lines. The topping lifts (44) are a pair of lines port and starboard. Quite a hefty rig but the mainsail would be quite heavy when the sail is furled.

The vang (43) are fitted port and starboard. The plan does not clearly show where the fixed end of the fall is located. Seize it to an eyebolt in the deck close to the bulwark or on top of the cap rail directly in line with the line on the plan.

The main boom sheet (45) lower block is fitted with a ring around the traveler rod on the transom. The running end can be belayed port or starboard to the cavils on the bulwark stanchions. The lead block on the deck can be considered optional.

7. Anchor Tackle

Figure H-12 shows the anchors, port and starboard, rigging and stowage. Coil the anchor cables on the deck.

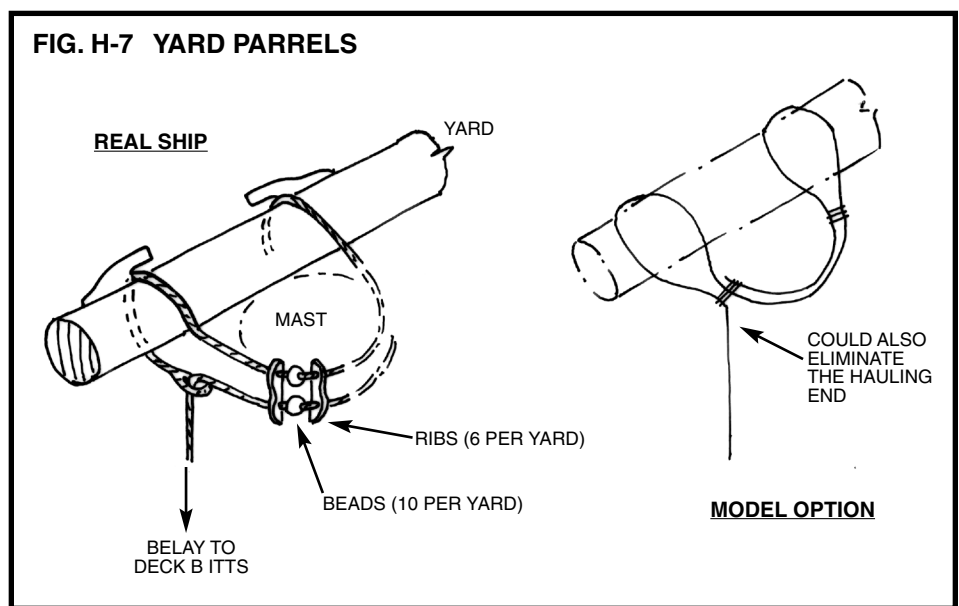
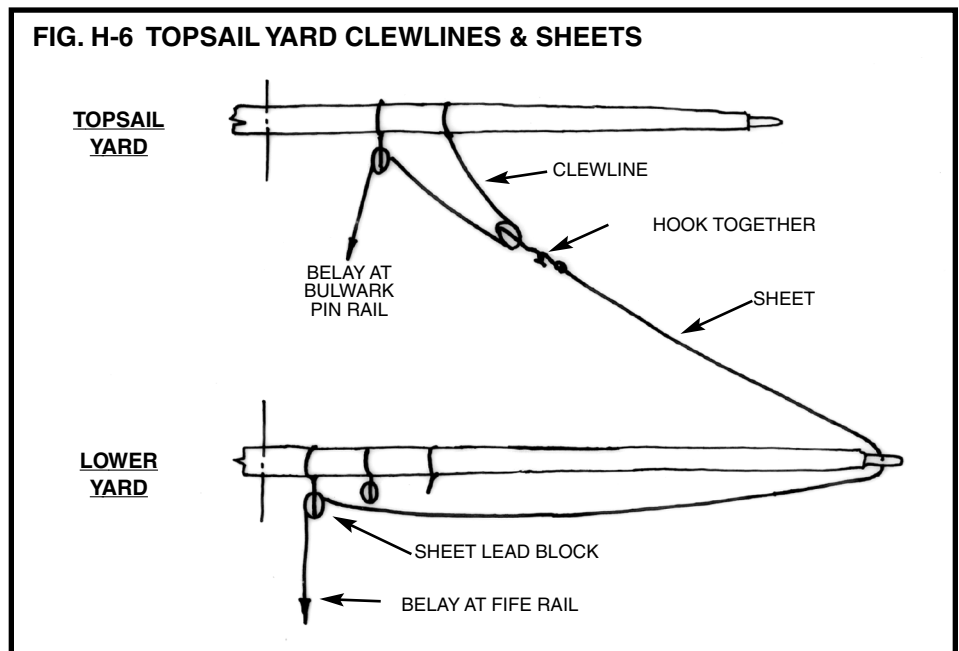
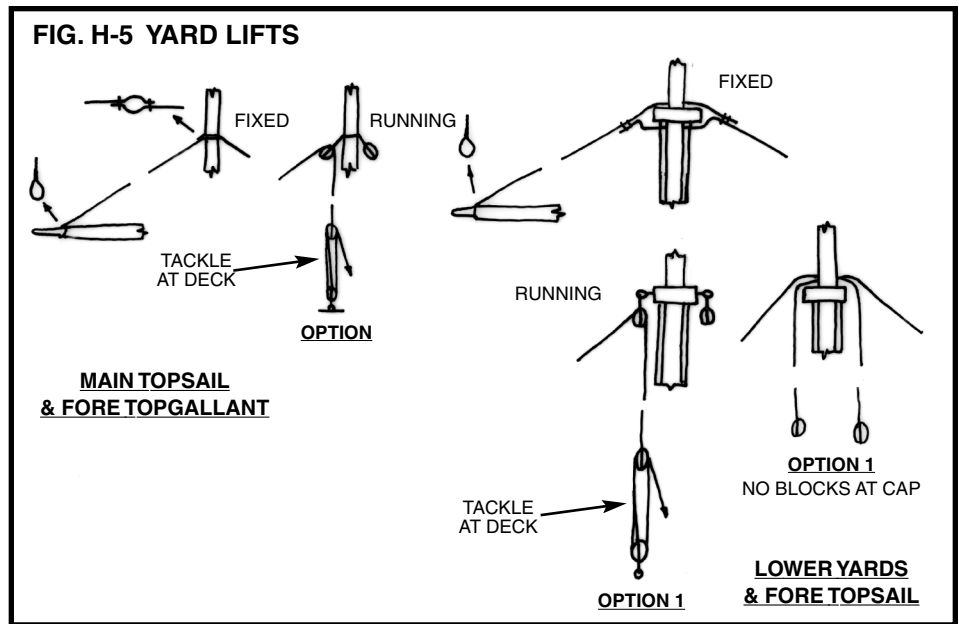
8. Final Touches

After all the rigging is in place, re-check every line, and make sure all the seizings are sound. If necessary, add another touch of CA glue to seizings. Check to see if there are any shiny places on the rigging. If necessary, tough-up standing rigging with black paint, or black liquid shoe polish. For running rigging, use a tan stain, or brown liquid shoe polish.

Check to see if any of the painted wooden parts were marred or scratched during the rigging process and touch-up as necessary.

Congratulations—you've done it! We look forward to helping you with your next ship modeling project.

Below and on the following pages are photos of the Dapper Tom rigging on our prototype model.



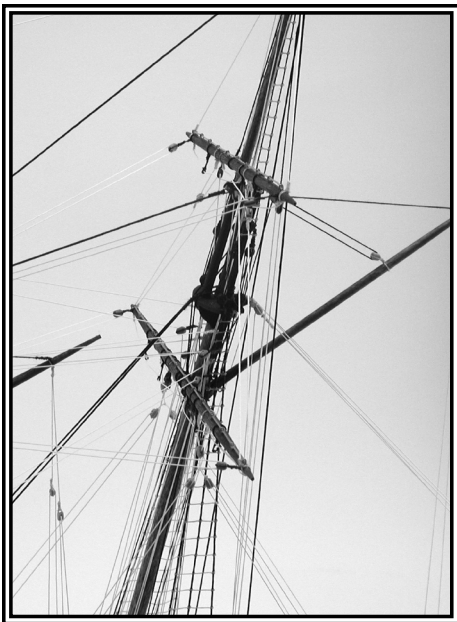


FIG. H-8 TOPSAIL, YARD TYE & HALLIARD

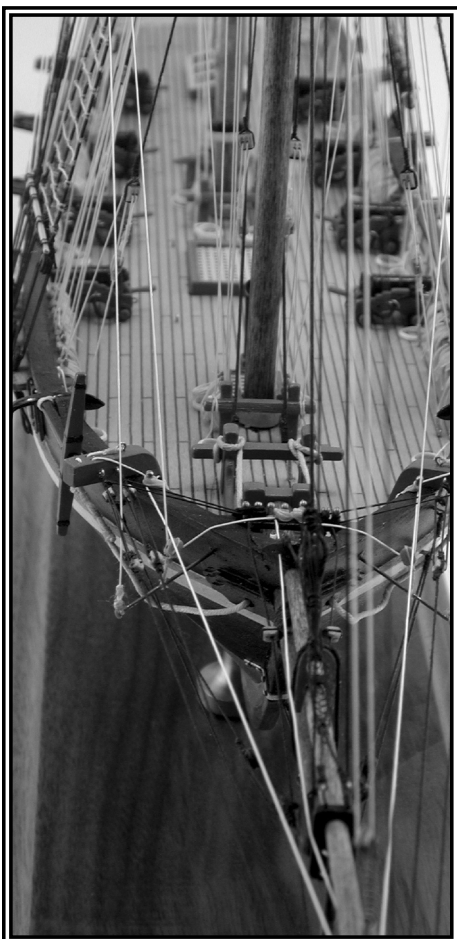
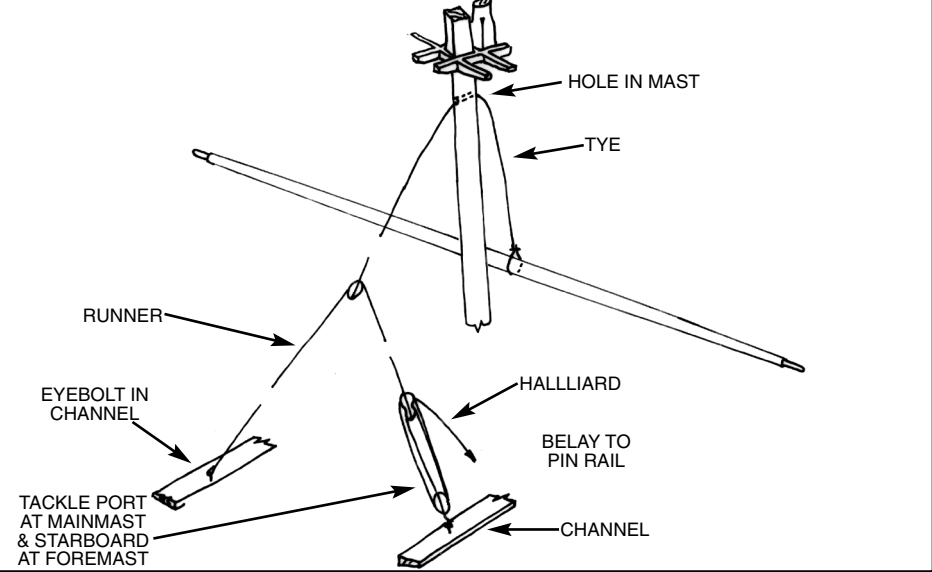


FIG. H-9 YARD BRACES

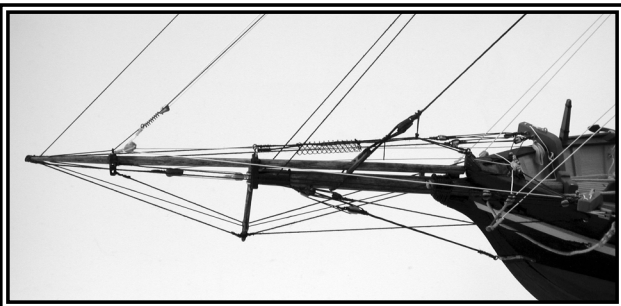
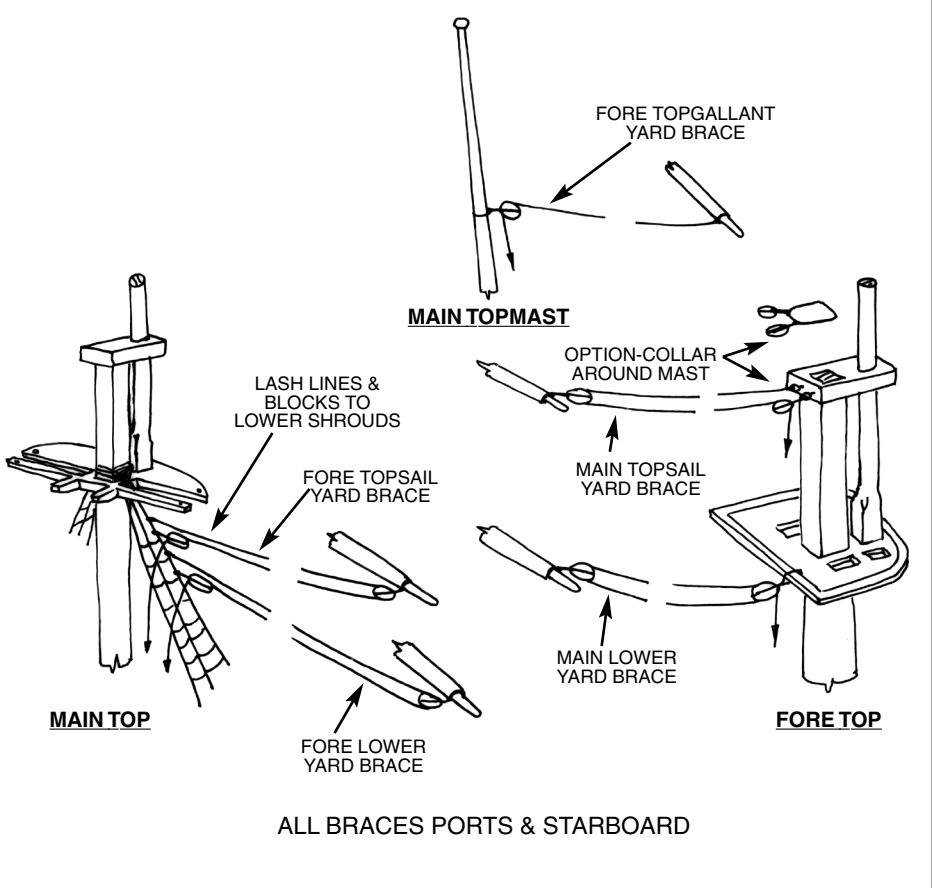




FIG. H-10 GAFF THROAT & PEAK HALLIARDS

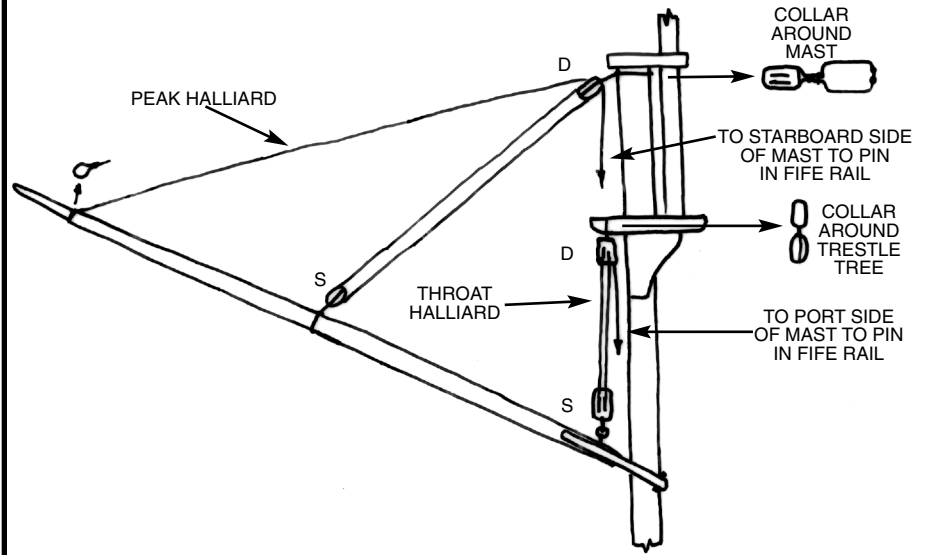


FIG. H-11 GAFF VANGS, BOOM TOPPING LIFTS & SHEET

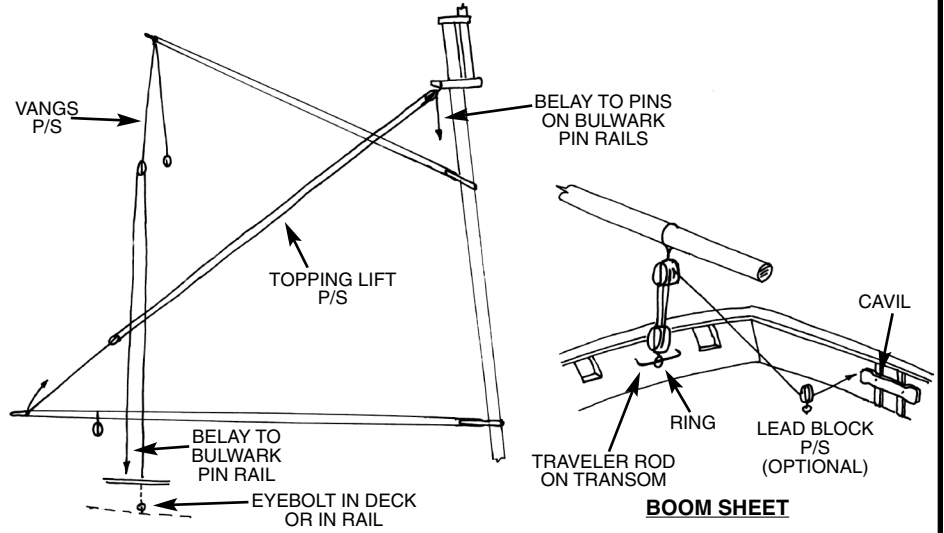
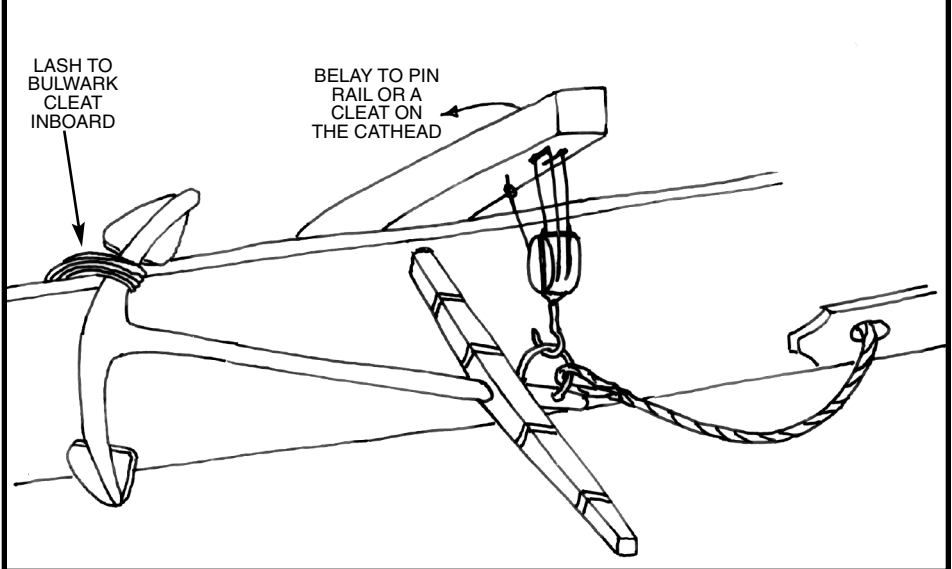


FIG. H-12 ANCHOR TACKLE



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This is a complete history of the Baltimore Clipper type. It contains many plans of contemporary schooners.

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by Darcy Lever. 1819 (reprinted)
Block and spar details, and typical rigging techniques of the period.

3. Steel's Elements of Mastmaking, Sailmaking and Rigging

by David Steel. 1794 (reprinted)
Details of masts and spars, block, rigging practices, and rigging sizes.

5. The Art of Rigging

by George Biddlecombe. 1848 (reprinted)
There is essentially an update of David Steel's earlier work.

6. The Neophyte Shipmodeller's Jackstay

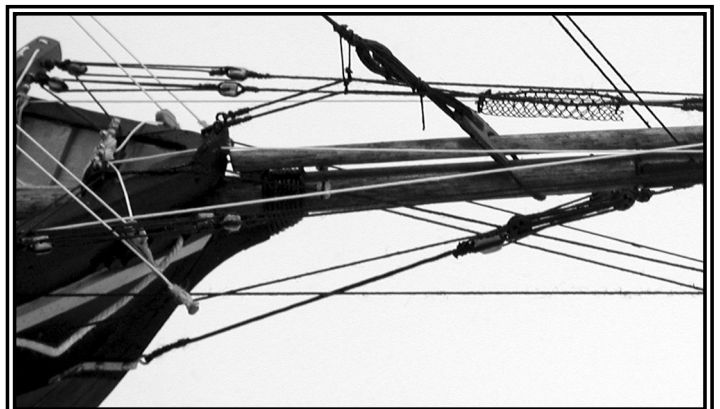
by George F. Campbell. Model Shipways, 1962.
Excellent visuals and background information on building models from kits.
Good detail on hulls and rigging. Great for beginners.

7. How to Built First-Rate Ship Models From Kits

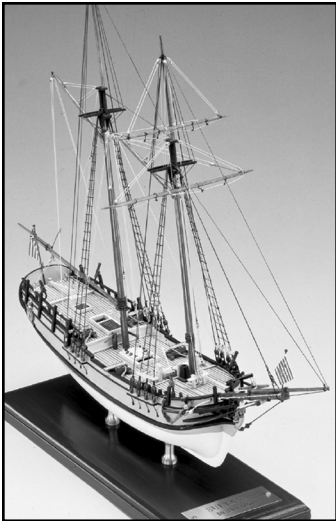
by Ben Lankford. Model Expo 2002.
Comprehensive reference covers construction methods for solid hull, plank-on-bulkhead, and plank-on-frame kits. The book is profusely illustrated and includes glossary of nautical terms.



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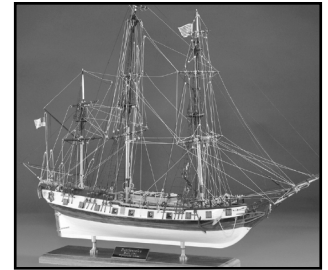
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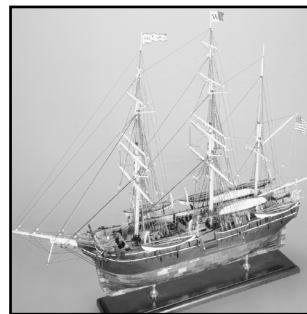
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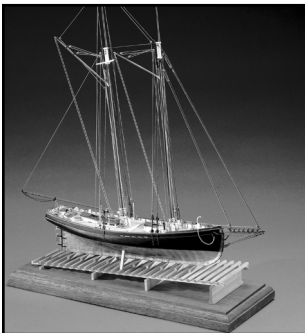
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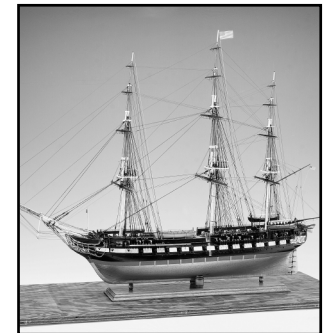
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Model Shipways Kit No. MS2027



EMMA C. BERRY
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BEDFORD WHALEBOAT
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