

INSTRUCTION MANUAL

MODELING THE ELSIE

♦ AMERICAN FISHING SCHOONER, 1910 ♦



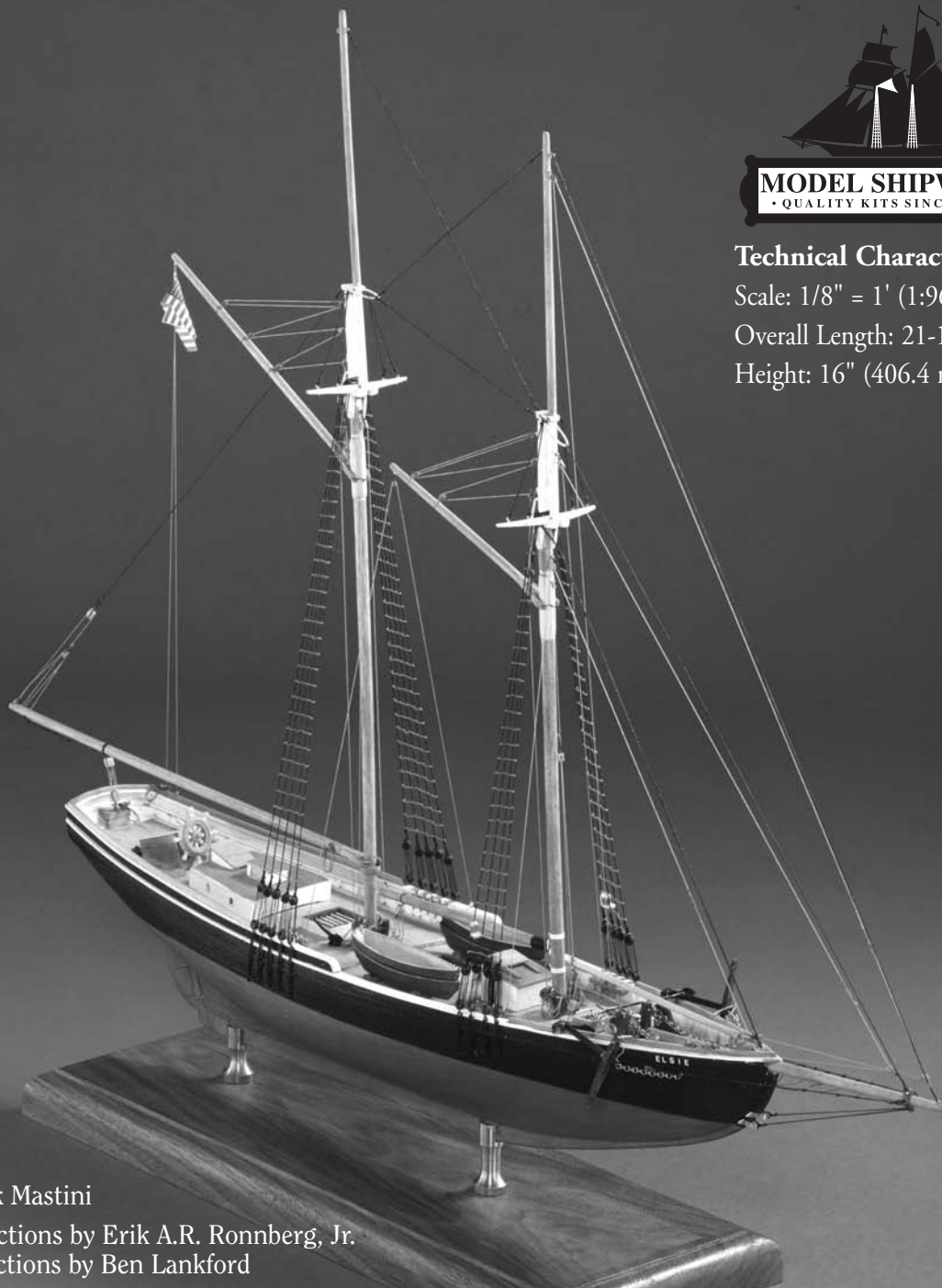
MODEL SHIPWAYS
• QUALITY KITS SINCE 1946 •

Technical Characteristics

Scale: 1/8" = 1' (1:96)

Overall Length: 21-1/2" (546.1 mm)

Height: 16" (406.4 mm)



Model by Frank Mastini

Original instructions by Erik A.R. Ronnberg, Jr.

Updated instructions by Ben Lankford

Manufactured by Model Shipways, Inc. • Hollywood, Florida • Sold by Model Expo, a division of Model Shipways, Inc.

<http://www.modelexpo-online.com>

Model Shipways Kit No. MS2005

History

ELSIE was designed by Thomas F. McManus of Boston and built in 1910 at the Authur D. Story Shipyard in Essex, Massachusetts for the Atlantic Maritime Co. of Boston. She was registered there until 1916. She was later sold to the Frank C. Pearce Co. of Gloucester, and in 1933 to Gorton Pew & Co. In 1934, the schooner was sold to Captain Levi Kearny of Newfoundland. On January 19, 1935, returning from Gloucester after delivering a load of salt fish, her seams opened at the stem rabbet and she foundered in the Gulf of St. Lawrence.

The *ELSIE* is a classic, and probably most well known Gloucester schooner, so-named for the region's principal port. She was fitted with small dories for hand-line fishing the Atlantic coast. She was designed with a semi-knockabout schooner rig (forestay inboard on the bowsprit), reflecting the influence of the safer, but costlier, knockabout schooners (no bowsprit). She was outfitted with power after her 1921 race with the Canadian fishing schooner *BLUENOSE*, but it was removed in 1931. An early Howard Chapelle drawing shows a propeller fitted in the skeg forward of the rudder.

The more you read about the New England fisheries, the more fascinating their history becomes. Unfortunately, the few substantial reference works available are mostly out of print, and one must either spend large sums at rare book shops, or ransack libraries to get at them. The easier volumes to find are those by Church, Chapelle, and Story—all excellent reading. Goode's *The Fisheries and Fishery Industries of the United States* is the great work on fishing methods as practiced in the 19th century. It is now quite rare, but well worth the trouble to locate. Chapelle's book, *The American Fishing Schooner*, has become a standard reference on fishing schooners, their design, and construction.

The 1937 movie, *Captain Courageous*, with Spencer Tracy, Mickey Rooney, and other great stars, is an excellent film if you wish to see the fishing schooners in action; very realistic for a Hollywood production. It was made during a time when these boats were still around.

Elsie Instruction Manual

By Erik A. R. Ronnberg, Jr.

1978 Instruction Manual Update By Ben Lankford

1995 Model built by Frank Mastini

The Model Shipways kit is based on surveys by the late naval architect and historian, Howard I. Chapelle, plus photographs and contemporary descriptions of the original schooner. The plans were prepared in 1978 by master model builder and historian, Erik Ronnberg, Jr. after an extensive research project. The plans contain a wealth of detail suitable for building a model to any scale. For additional historical reference, refer to Mr. Ronnberg's Nautical Research Guild articles (see bibliography).

This new instruction manual expands on the original instructions, and retains the excellent sketches and descriptions prepared by Mr. Ronnberg. The manual takes you through a step-by-step procedure for building a fine ship model. Beginners and advanced modelers alike should find this a very rewarding project.

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CONSTRUCTION STAGES & TABLE OF CONTENTS

Brief History	Cover	<u>Stage F: General Rigging</u>	
Introduction/Credits	Pg 2	<u>& Sailmaking Information</u>	Pg 20
Before You Begin	Pg 4	1. Cordage	Pg 20
What You'll Need to Start Construction	Pg 4	2. Treating the Lines	Pg 20
How to Work With the Plans & Parts	Pg 5	3. Differentiating Between the Lines	Pg 20
Painting & Staining the Model	Pg 6	4. Using Beeswax	Pg 20
<u>Stage A: Shaping the Pre-Carved Hull</u>	Pg 7	5. Sails: To Be or Not to Be	Pg 20
1. Hull Templates	Pg 7	6. Making the Sails	Pg 20
2. Carving the Hull	Pg 7	7. Rigging the Model With Sails	Pg 21
3. Carving the Deck & Bulwarks	Pg 8	8. Rigging the Model Without Sails	Pg 21
<u>Stage B: Completing the Basic Hull Structures</u>	Pg 9	9. Flags	Pg 21
1. Installing the Keel, Stem & Sternpost	Pg 9	<u>Stage G: Standing Rigging</u>	Pg 22
2. Drilling the Larger Holes in the Hull	Pg 9	1. Chainplates	Pg 22
3. Holes to be Drilled as Work Progresses	Pg 9	2. Rigging the Bowsprit	Pg 23
4. Planking the Deck	Pg 9	3. Turnbuckles	Pg 23
5. Installing Thick Pads, Grub Beam & Hawse Timbers	Pg 10	4. Footropes & Manropes	Pg 23
6. Installing the Bulwark Stanchions & Rails	Pg 10	5. Fore & Main Shrouds	Pg 23
7. Planking Options	Pg 11	6. Belaying Pin Racks	Pg 24
<u>Stage C: Mounting the Hull</u>	Pg 12	7. Ratlines	Pg 24
1. Mounting Board with Two Pedestals	Pg 12	8. Lantern Boards	Pg 24
2. Launching Ways	Pg 12	9. Sping Stay	Pg 24
<u>Stage D: Adding the Hull Details</u>	Pg 12	10. Jumbo Stay	Pg 24
1. Rudder	Pg 12	11. Jib Stay	Pg 25
2. Cleats & Snatch Cleats	Pg 12	12. Spreader Lifts	Pg 25
3. Bowsprit	Pg 12	13. Fore & Main Topmast Shrouds	Pg 25
4. Hatches, Companionway, Trunk Cabin & Wheelbox	Pg 12	14. Main Topmast Stay	Pg 25
5. Skid Battens	Pg 13	15. Pullback Stay	Pg 25
6. Deck & Rail Fittings	Pg 13	16. Main Boom Footropes	Pg 25
<u>Stage E: Mast & Spar Constructin</u>	Pg 14	<u>Stage H: Running Rigging</u>	Pg 25
1. General Information	Pg 14	1. Blocks	Pg 25
2. The Importance of Scale	Pg 15	2. Jumbo, Fore & Main Boom Rigging	Pg 26
3. Tapering Masts & Spars	Pg 15	3. Fore & Main Gaff Rigging	Pg 26
4. Curved Spars	Pg 15	4. Head Sail Rigging	Pg 26
5. Lower Mast Fittings	Pg 16	5. Fore & Main Topsail Rigging	Pg 27
6. Topmast Fittings	Pg 18	6. Staysail Rigging	Pg 28
7. Stepping the Masts	Pg 18	7. Mooring & Other Lines	Pg 28
8. Gaffs & Booms	Pg 18	Scale Conversion Table	Pg 29
9. Jaws & Goosenecks	Pg 18	Rigging Line Diameters	Pg 29
10. Ironwork	Pg 18	Millimeters/Inches Conversion Chart	Pg 29
		Rigging & Block Sizes for Actual Vessel	Pg 30
		Bibliography	Pg 31

BEFORE YOU BEGIN

The ELSIE is an interesting model for beginner and expert alike. This kit contains a solid hull which has been machined 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 ELSIE hull has been carved close to the hull lines as shown on the plans, further carving and sanding is necessary for reasons of accuracy. Shaping and finishing the hull to its final shape are discussed in the instructions.

The kit also contains thin hardwood strips for those who would like to plank over the solid hull. This will provide you with practice for later Plank-On-Bulkhead type models, or to have a hull which looks like a planked type. It can also be coated with natural finishes in lieu of paint.

Constructing the ELSIE model 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, take your time. This model is fairly simple to build but still has a fair amount of detail and small parts. Make sure you complete one stage before moving to the next. When things go awry, consider doing it over. Completing this model will prepare you for a more complicated model such as the Plank - On - Bulkhead kits PRIDE OF BALTIMORE II or RATTLESNAKE. Good luck!

WHAT YOU'LL NEED TO START CONSTRUCTION

The following tools and supplies are recommended for the construction process. Modelers who have built before may have their own favorites.

- A. Knives & Saws
 - 1. Hobby knife with No. 11 blades
 - 2. Coping saw (or jeweler's saw frame) and fine blades
 - 3. Razor saw
- B. Files
 - Set of needle files
- C. Carving Tools
 - Small chisel and gouge for shaping the hull
- D. Sharpening Stone
 - Necessary to keep the tools razor sharp
- E. Clamps
 - 1. A few small C clamps
 - 2. Several wooden clothespins
 - 3. Rubber bands
- F. Wire Cutters & Tin Snips
 - For cutting fine wire & chain; for cutting brass sheet
- G. Boring Tools
 - 1. Set of miniature drills: #60 to #80
 - 2. A pin vise
 - 3. Larger bits: 1/16", 3/32", and 1/8"
- H. Miscellaneous
 - 1. Tack hammer
 - 2. Tweezers (a few)
 - 3. Small fine pointed scissors
 - 4. Miniature pliers
 - a. small round for forming rings and eyes
 - b. flat nose (with serrated jaws)
 - 5. Draftsman dividers
 - 6. Bench vise (small) with own base for moving around
 - 7. Soldering iron with 1/8" diameter tip and/or propane torch
 - a. solder
 - b. flux
 - 8. Sewing thread (for seizings & lanyards; other rigging in kit)
 - a. Black
 - b. Beige
 - 9. Beeswax (for treating rigging lines)
 - 10. 1/2" or 3/4" masking tape
- I. Sandpaper
 - Fine and medium grit garnet or aluminum oxide sandpaper (#100 to #220 grit)
- J. Finishing:
 - Paint brushes
 - a. fine point for details
 - b. 1/4 to 1/2" flat square for hull

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

- 1. Paints
- 2. Primer
- 3. Stains/varnish
- 4. White or Carpenter's (yellow) wood glue
- 5. Five minute epoxy
- 6. Super glue
- 7. Model airplane type glue

L. Cotton or linen cloth: (fine weave) for sails, if added

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. Cyanoacrylate (Super) glue such as Jet, can be used for quick adhesion and is ideal for dabbing onto a rigging seizing to hold it in place. The best cyanoacrylate glue for most applications is a medium viscosity gap filling type. The watery thin type is recommended to fill a narrow crack by capillary action. For scribed decking sheets, it is best to use a contact cement or model airplane type cement. White glue tends to warp thin sheet wood and makes it difficult to install.

HOW TO WORK WITH PLANS AND 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 just 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 suggested that all small fittings and hardware be sorted into labeled boxes or compartments to avoid loss during the building process.

1. The Plans

Three Plan Sheets and a template sheet are provided:

1. Hull Plan - Sheet 1 of 3
2. Rigging Plan - Sheet 2 of 3
3. Detail- Sheet 3 of 3
4. Hull templates on heavy paper stock for hull carving

Many sketches throughout this manual further illustrate the various stages of construction.

The ELSIE kit is manufactured to a scale of $1/8" = 1'0"$. The plans are drawn to the exact scale that the model is to be built, except where some details have been enlarged for clarity. Most dimensions can be lifted directly off the plans by using a set of draftsman dividers or by using a "tick" strip, which is simply a piece of paper used to "pick up" the dimensions (a roll of calculator tape works very well). Lay your paper strip over the plan and mark the lengths of items carefully with a sharp pencil. Then use the strip to transfer the marks to the wood or item to be made to scale.

At $1/8"$ scale, detail can be simplified to degrees that are unacceptable in larger scales. This reduces construction time and legitimizes "short cuts" in many otherwise difficult phases of construction. Many beginners have thus been successful in working to $1/8"$ scale. While a good "introductory" scale, $1/8"$ scale can also pose a real challenge to the advanced modeler, should one care to replicate all of the ship's details in all of their subtleties.

2. Making Allowances Along the Way

Try to be exact when following the plans, but use common sense along the

way. You may need to make adjustments or allow for small differences in how your model is shaping up; perhaps your mast has too much rake (the angle at which it sits). When lines go to belaying points they should not drape over parts or conflict with other lines. If necessary, move a belaying point or a fairlead. In other words, put yourself on the schooner and use your judgement. This is how the early ship riggers worked!

3. Understanding Hull Lines

Beginners may not be familiar with hull lines. Buttock lines are vertical longitudinal planes cut through the hull. Waterlines are horizontal planes, and sections are transverse vertical planes. All of these lines define the hull shape and are used by the draftsman to fair the hull form (create regular even curves). A complete set of hull lines is shown on the plans. However, you really do not need to use the hull lines for carving the hull if you use the template set provided in the kit.

4. Kit Lumber

Your kit may have limewood, a European wood, as a substitute for basswood most of us are familiar with. Both woods are similar in grain and workability.

5. Cast Metal Fittings

The kit is supplied with Britannia metal castings. The Britannia metal is a great improvement over the white metal that was used in some older kits. Unlike white metal and pewter, Britannia does not contain lead, so there are no possible corrosion problems. Many of these fittings, however, will require final finishing before they are suitable for 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 file or 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.

6. Soldering & Working with Brass

Some fittings for the ELSIE model, such as mast bands, are best made from brass, but will be difficult at $1/8"$ scale. Brass sheet can be cut with a small pair of tin snips or heavy scissors. Heavier brass will require the use of a jeweler's saw. After cutting, all edges should be smoothed with needle files and fine wet

or dry sandpaper. When cutting slivers from the brass sheet, you may notice that shears tend to bend the sheet sideways, as well as curl the piece. To straighten the edges in both directions, grip with a pair of small pliers.

Drilling holes in brass can be accomplished using small drills and a pin vise, which is a slow process. A Dremel Moto Tool mounted on a Dremel drill press is ideal. This tool is worth the cost. Prior to drilling, use a small centerpunch to start; otherwise, these small drills tend to wander. Lubricate with a light oil and drill very slowly to avoid breakage. When using the Dremel, clamp the pieces in place or hold them down with a stick of wood. The brass will be very hot, so keep your fingers off!

Solder: Use a lead-free solder. It is strong and melts at a fairly low temperature. It does not contain lead, so it will not corrode.

Soldering: The key here is to keep all brass parts clean. Use a solvent, or lightly sand, or both. Keep your fingers off to avoid grease spots. Soldering is easy if care is taken to properly set up your work area first. Use jigs or other holding devices, so the parts do not move around. Soldering can be done with a small torch or pencil soldering iron. First, add flux to the joint, just enough to do the job. The solder will flow where the flux is applied. Next, heat the joint. This sequence is important. The larger the parts, the longer it will take to heat the brass before the solder will flow. If you get too much solder on the joint, file it off with needle files. You'll want the joint to look like the real thing, not a big glob of fillets.

Figure 1 illustrates how to make mast bands, eyebolts and rings. Rings can be soldered or left as is.

Options to soldering: Because of the small scale, beginners, or even advanced modelers, may wish to use some simplified methods instead of soldering. For example, instead of making a brass mast band with soldered eyes, use a paper strip for the band and insert eyebolts in the mast. Or, you could just forget the band altogether. Other brass parts requiring soldering could be glued instead with epoxy or super glue. Throughout these instructions, some simplified techniques are highlighted.

PAINTING & STAINING THE MODEL

It may seem strange to begin an instruction manual with directions on 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. Painting of various small parts, masts and spars should be accomplished before they are installed on the model. Painting sequence must be a well thought out procedure, otherwise you may have difficulty as you proceed with assembly. For example, it is easier to paint a cabin or hatch coaming before it is glued to the deck. Put the parts aside until they are ready to be installed. 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.

1. Preliminaries

Rub down all external surfaces with #220 grit dry sandpaper and wipe off all dust thoroughly. Give all unprimed surfaces two coats of primer. A very light sanding is recommended after the last coat of primer, but don't sand down to bare wood. With clean hands, a soft brush, and a clean, soft rag or tack rag, gently dust and wipe off the hull.

Choosing paint: For hand brushing, use a flat finish paint. Glossy finishes are not desirable. A satin finish will give the most satisfactory results, but the undercoat (primer) paint should be dead flat. Use model paints such as those made by Floquil, Polly S, Testors, Humbrol, and Model Masters. You also could use artist's paints by Jo Sonja (used by many bird carvers) or Holbein Acryla Gouache. These paints are a combination acrylic gouache.

Are you ready for a real top quality paint job? Although slightly expensive, a Paasche, Badger, Model Master or similar type airbrush paint sprayer is well worth the investment. These small sprayers are easy to use, work well with all the paints mentioned, and do an exceptional job. The air brush throws a pattern only about 1/2" wide, but obviously, you would still need a large work space such as a house workshop or isolated room.

If you prefer to paint by brush and have no favorite medium, by all means try the Floquil paints. Theirs is a very fine and versatile line of ready mixed colors. They are subdued in tones and their properties make both spraying and brushing techniques easy to master. Be sure to get a copy of Floquil's booklet *Painting Miniatures* and read it thoroughly.

Masking off surfaces: It can be very tricky to mask off the surfaces you don't want to paint. Some brands of masking tape are ab-

solutely no good because they allow paint to bleed under them, so be selective. For masking off fine stripes or lines, such as the cove line, it is best to use graphic design tape, such as the Chart Pak brand. It is available in widths as fine as 1/32" and 1/64." This tape has very good adhesion and will not bleed when applied firmly. You may also use black plastic electrician's tape.

Spray Painting: Spraying techniques work best with fast drying lacquers. The Floquil paints spray very well when thinned about 25%. You will find many brands of paint available in aerosol cans which can give quite good results. Test them on a wood block as previously described before using them on the model.

Brush painting: Painting with fine, soft bristle brushes is probably best for the beginner. And many highly skilled model-makers prefer the brushed on technique because a brushed surface, with its fine imperfections, imparts a more life like appearance to the model.

Choosing Brushes: Brushes must be very soft and of the highest quality. Artist grade sable or synthetics are the best. They should be a littler wider for painting the surface. A too narrow brush will cause excessive streaking of the finish.

Brushing Technique: When applying paint or stain with a brush, lay down one thin coat in a single stroke, then move the brush over to coat the adjacent areas with single strokes. Never make repeat strokes over fresh paint or you will tear up the surface of the first brush stroke. Wait until the paint has dried to a hard finish before applying a second coat.

Scribing the Waterline: This can be done in a variety of ways. One method is to level the hull (mount it so the waterline is parallel to the bench top) and scribe the waterline using a height gauge and a sharp scriber point (see figure 2). It is then a matter of painting the bottom and topside colors precisely to this mark, with or without the aid of masking tape. The scribe line acts somewhat as a barrier to transgressions by either color, but a very steady hand is needed for this operation.

A second method is to spray or brush on the bottom color, guessing roughly where the waterline will lie and deliberately painting beyond this arbitrary boundary. The waterline is then scribed on this overlapping coat of bottom paint and the topside coat is painted down to the line, covering previous excesses. Masking tape can be used as a substitute for shaky hands when painting to the line.

2. ELSIE Color Scheme

Based on photographs and eyewitness recollections, ELSIE'S color scheme (ca. 1920) was as follows:

Hull below load waterline: Deep reddish brown

Hull from load waterline to outside edge of all rails: Black

Cove, carved scroll work, and lettering: Bright Gold

Rails: tops and inboard edge: White

Fore and main decks, coamings of hatches, trunk cabin, and companionways: Gray

Bulwarks inboard and waterways: White

Deck structures, including grub beam, bowsprit (inboard end), samson post, windlass bitts and knees, fife rails, hatches (but not hatch covers), cabin trunk top and sides, companionways, quarter bitts, jiber box, gurry kid, chain box, and boom crutches: White

Bowsprit (outboard): Black with White pole and bands

Masts-poles, doublings, trucks - White; also White from deck to main boom saddle or fore boom gooseneck (including these items); hoists (areas to which the gaff jaws and mast hoops travel) were "slushed": Walnut or Natural Pine Stain

Gaffs and Booms: varnished at time of 1921 races - Maple, or Teak Stain (for somewhat darker effect); painted White by late 1920's.

Blocks: same as gaffs and booms

Dories: outboard: Rust; inboard: Gray; Black gunwales optional.

Anchors - stock: Roof Brown; iron: Dull Iron Black

Anchor chain: Dull Iron Black flecked with Rust

Hawse pipe lips: mix Light Green with equal part of White

Pumps: Black with Medium Red spout and lining

Lantern boards: port: Medium Red; starboard: Light Green

Hatch and gurry kid covers: Natural Pine Stain

Galvanized hardware, including steering wheel (except spokes which are Brown), windlass hardware, catheads, smoke heads, deadeye straps, mast caps, bails, halliard bands, gooseneck, turn-buckles, ringboats: Dull Silver

Windlass barrel - windlass heads, hawser whelps: White; chain side of barrel, center ratchet: Medium Brown

As the 1920's progressed, more of the galvanized hardware was painted, usually the color of adjacent woodwork.

STAGE A

SHAPING THE PRE-CARVED HULL

Sanding alone will not shape the hull enough to precisely match the hull lines. Actual carving should prove to be minimal, but some carving is required, especially at the rail, keel, bow, and stern areas. Particular care should be taken to shape the stern properly, being certain to maintain the symmetry above the rudder.

1. Hull Templates

For exact carving to hull lines, a template is required for the hull profile and each of the stations. A template sheet is provided in the kit, printed on heavy stock paper. Cut the templates out carefully with a No.11 hobby blade. Do not use scissors! You will want a nice smooth edge.

2. Carving the Hull

Cut a wooden block from scrap to about 2 inches by 1 inch by 3/4 of an inch thick. Screw the block to the deck so the model can be held in a bench vise for carving (see figure 3). First, check the accuracy of the profile and correct it as necessary, using a long sanding block (see figure 4 and 5).

Next, mark the centerline, rabbet lines (where hull meets keel), and station lines on the model. Place the station marks on the center of the hull bottom and on top of the rail so the marks won't be carved off as you work.

Start carving approximately at amidships (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 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, and make sure they are fitted perpendicular to the keel. 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. Sand the stern with a sanding block. Figures 6, 7, and 8 illustrate the proper procedure.

Notice that along the top edge of the hull there is a "waist". The hull planking is thicker below the waist than in the bulwarks. Consequently, there is a little step in the hull side. The templates show this step. Figure 9 shows an easy way to shape the waist in lieu of carving.

Below the waist, there is a "cove", which is a groove. At 1/8" scale, the cove could just be painted on (it is gold) rather than actually scribing a groove.

FIG. 1 – Making Mast Bands, Eyebolts & Rings

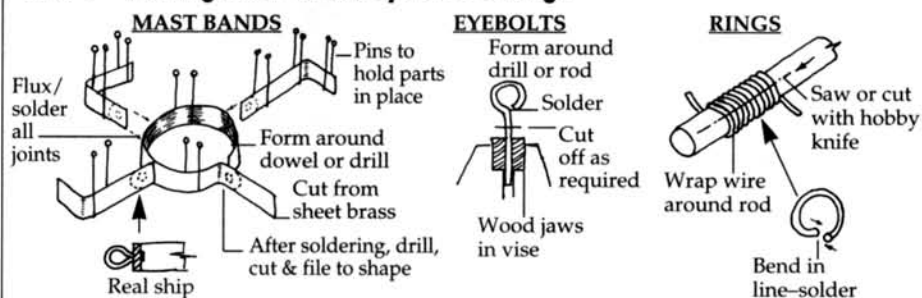


FIG. 2 – Scribing the Waterline

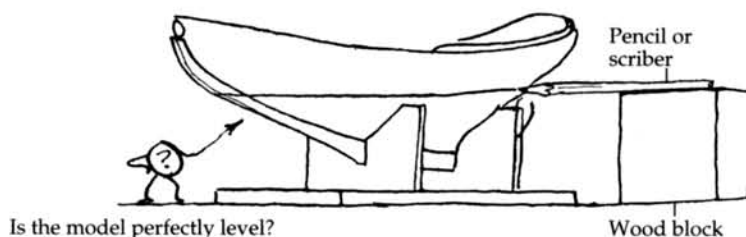


FIG. 3 – Mounting the Hull

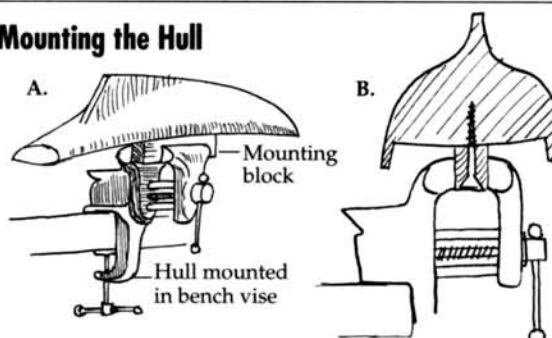


FIG. 4 – Profile Templates

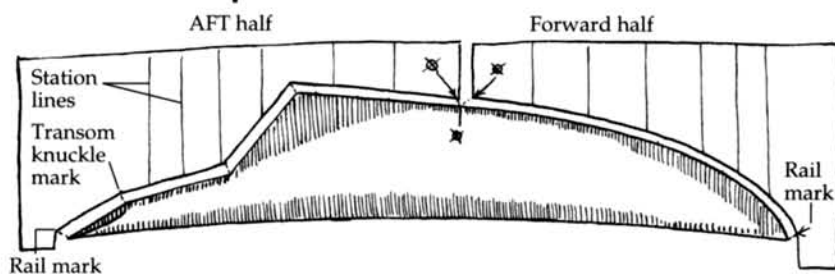
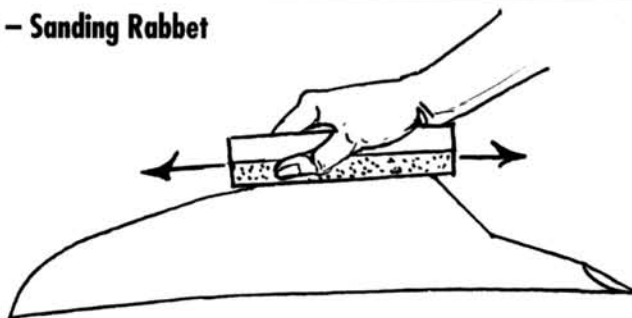


FIG. 5 – Sanding Rabbet



Finally, draw a few horizontal pencil lines (like waterlines) and the 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 bumps, they can usually be found with this visual check. You can also use a stiff stick of wood, about 1/8 inch square, and lay it on the hull at various locations. Dips in the hull will show up under the stick.

3. Carving the Deck & Bulwarks

Make yourself a temporary cradle to secure the hull while carving (see figure 10). 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 top of the cradle should be below the waterline. Later, when you are ready to paint, or copper, 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 approximately 1/8" thick. They are thicker than required, 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, including the step at the waist, the bulwarks will now be a little thinner. If necessary, carve the inside of the bulwarks so that the final bulwark thickness above the waist is about 1/32" thick (see figure 11). This is the most difficult part, so work slowly and be careful not to break off the bulwarks as you carve. Figure 12 shows a way to slope the bulwark for easier carving. The bulwark at the top edge must be thin because after adding the bulwark stanchions, the rail must cover both the stanchion and the bulwark plank thickness. If your bulwark is too thick, and you opt for a wider rail, then you have really deviated from true scale and the model will look bulky.

The deck will be covered with the scored deck sheet included in the kit, unless you desire to lay individual planks as an option. In any case, you must first take a chisel and square up the corners at the deck step, the transom, and at the bow, and sand the deck smooth.

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

FIG. 6

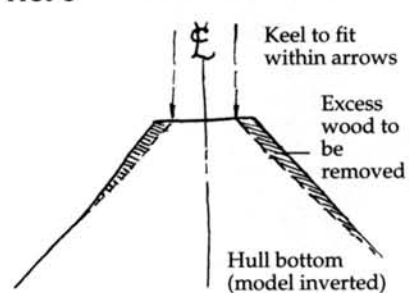


FIG. 7 – Template for station

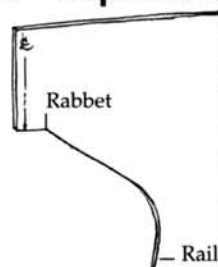


FIG. 8 – Holding a Template Properly

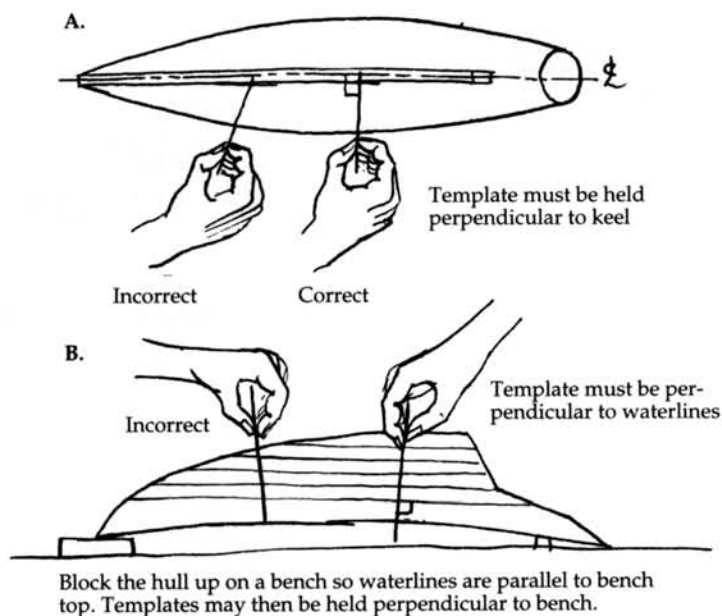


FIG. 9

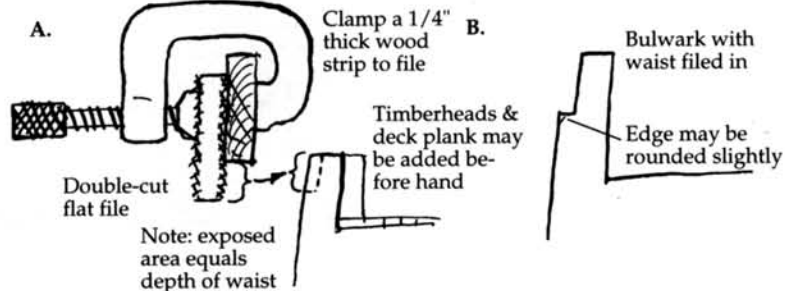
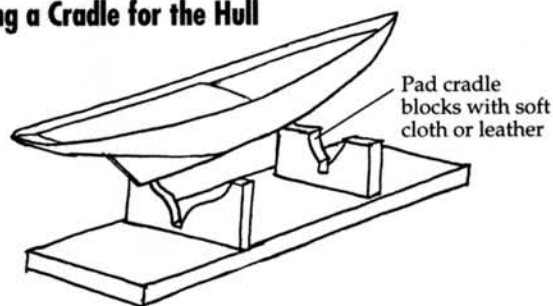


FIG.10 – Making a Cradle for the Hull



STAGE B

COMPLETING THE BASIC HULL STRUCTURES

1. Installing the Keel, Stem & Sternpost

Precut the keel, stem and sternpost and install them (see figure 13 and 14). Make sure the grain of the wood is in line with the piece. It is best to use some scarf joints as shown in the sketch rather than the simplified butt joints. Use pins or dowels to position the parts before gluing. Scrape off any glue squeezed out. Fill any gaps remaining at the glue joints with wood filler and then sand.

At this stage, drill the pilot holes through the keel for pedestal or launching way mounting.

2. 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 and bowsprit, and two mast holes. For the mast holes, make a paper or wood angle template as a guide for your drill. You want the correct mast rake (angle).

3. Holes to be Drilled as Work Progresses

There will be a few other holes to drill as the work progresses. For example, the hawse holes for the anchor cable are drilled through the bulwarks forward. You will also need to drill small holes for inserting eyebolts that hold blocks for the rigging, and holes for pinning various parts in place.

4. Planking the Deck

The fishing schooners had a very unusual deck plank layout and nibbing arrangement. The fore deck plank is laid parallel to the centerline and there are ribs for five or six planks at the rail. The quarter deck is laid parallel to the trunk cabin sides and there are ribs near the stern and along the centerline.

For this model, you lay individual planks for the decking. Figures 15 and 16 illustrate the process.

Glue the deck planking down with model airplane type cement or contact cement. White or Carpenters wood glue tends to warp the wood.

FIG. 11

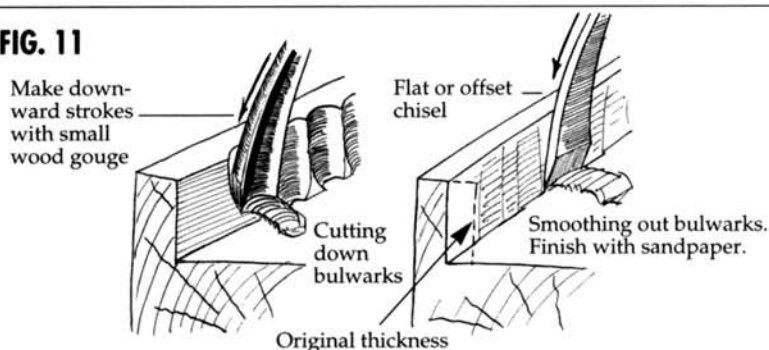


FIG. 12

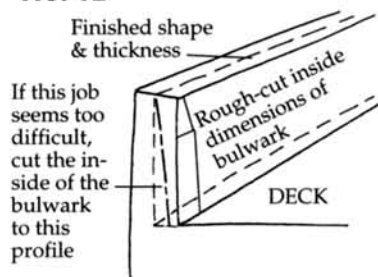


FIG. 13 – Stern Post

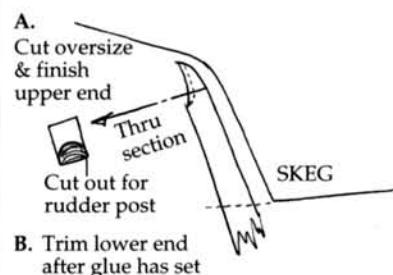


FIG. 14 – Fitting Keel & Stern Post

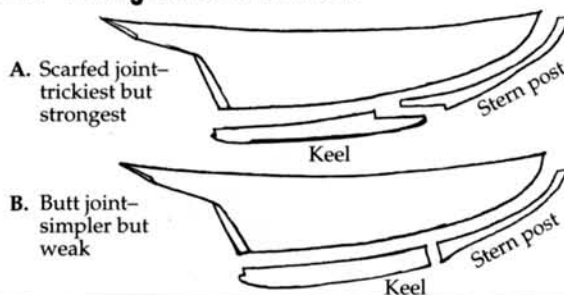
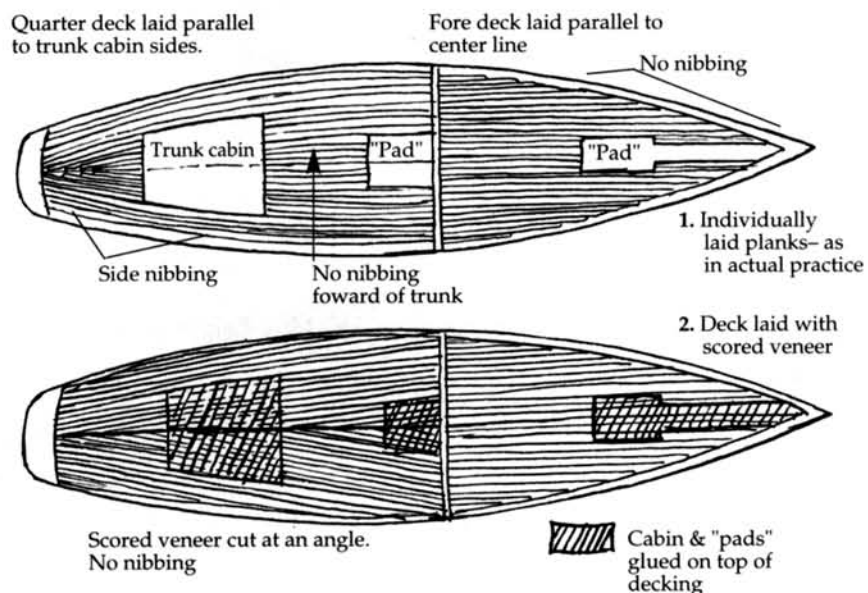


FIG. 15



5. Installing Thick Pads, Grub Beam, and Hawse Timbers

After the deck sheets are done, add the grub beam at the deck step, followed by the thick pads glued over the planking (see Figure 17 and 18). The thick pads add a realistic touch in way of fife rails and windlass, but could be omitted. Another simplification that is not too drastic.

The hawse timbers, hawse pipe and the manger are also shown in figure 18. The hawse pipe lips on the outside of the hull are supplied as Britannia castings. Glue them to the hull over the hawse hole.

6. Installing the Bulwark Stanchions and Rails

Before installing the bulwark stanchions (also called timberheads), you may want to consider the scupper slots in the bulwarks. However, at 1/8" scale, they are very small slots and could be omitted.

Cut each bulwark stanchion to length and glue in place. Cutting and mounting the stanchions is tedious work, so exercise great care in the installation. Check the plans for spacing and appearance. Glue the main rail atop the bulwark and stanchions, making sure it extends slightly beyond the bulwark outboard and stanchions inboard. Use pins to help align and hold the rail in place (see figure 19).

Rail Moldings: The edges of the rails of many fishermen had simple moldings, usually super-imposed "half-rounds" (see figure 20). This is good stuff to know. However, for our model at 1/8" scale, forget it!

The main pinrails are simple swellings of the main rail on its inboard sides abreast of the main mast which hold the belaying pins (see lower right of figure 20). Note dimensions and their location on the hull plan. Instead of cutting a rail with the pin rail, simply glue a separate pin rail to the edge of the main rail.

The buffalo chock is added next. This is a very simple log rail on top of the main rail, port and starboard, at the bow (see the plans). It should be square or rectangular in cross section and taper aft slightly. Taper the rail first, planing and sanding it lightly. Next, file the ends to their proper shapes. If necessary, soak or steam the pieces and bend them to fit the main rail. Then fasten them down with glue and pins.

On top of the main rail aft, add the monkey board, monkey rail, and monkey log (see figure 21). Use some pins through these rails for alignment and to hold them in place.

FIG. 16

Deck planking at the waterway (with and without nibbing)

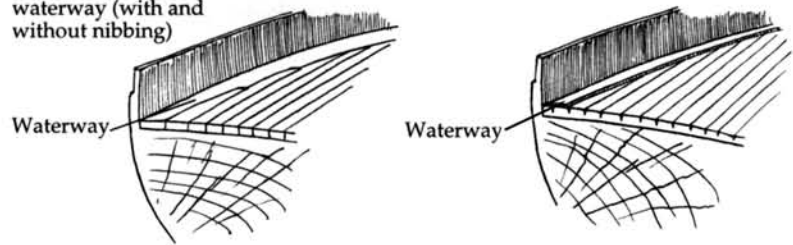


FIG. 17 – Break at Quarter Deck

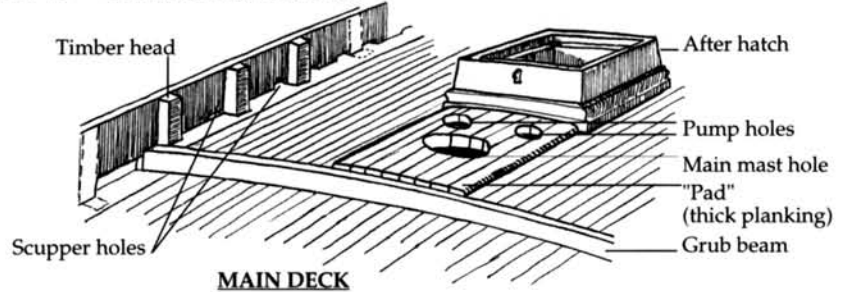


FIG. 18 – Fore Deck Showing Pads & Hawse Timbers (Cap Rails Omitted)

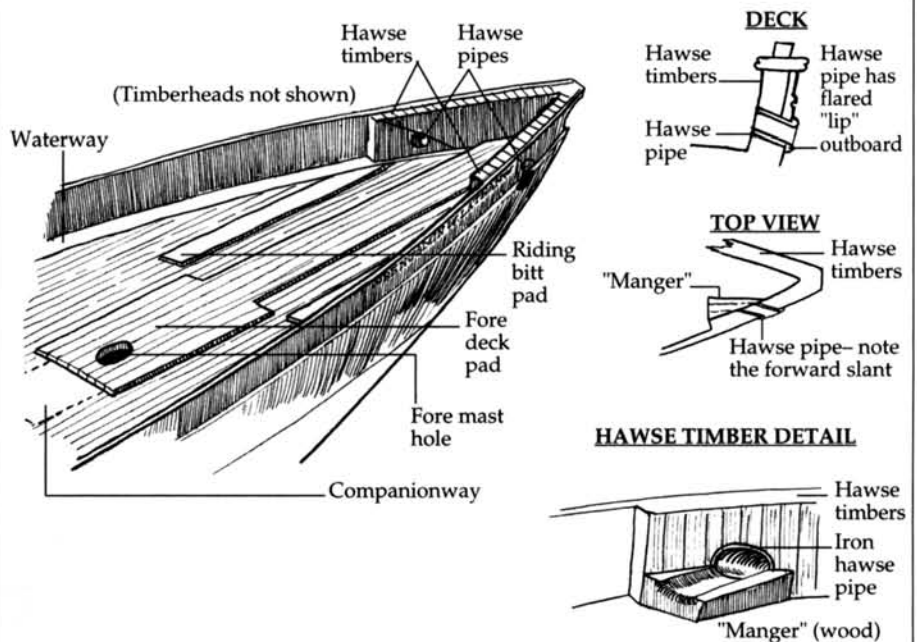
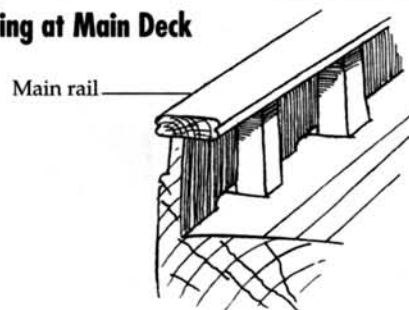


FIG.19 – Railing at Main Deck



The railing around the bow and stern must be cut from the sheet stock and very carefully joined. Simple scarf joints are recommended, together with careful gluing and pinning (see figure 22).

Boom Jiber Box: This is an extension of the taffrail (main rail at the stern) and should be blended smoothly with it.

7. Planking Options

The kit does not contain walnut strips for the hull. If you wish to cover the solid hull with hardwood planking, you must purchase the planking strips separately. This will provide you with practice for future plank-on-bulkhead type kits, or simply to give your model a realistic planked look. Also, you may wish to have a natural varnished hull instead of painting it. For whatever reason, here are a few tips for installing the planking.

Hull Planking: The planks must be tapered toward the bow in order to fit and match the hull's contour. Start the planking at the edge of the bulwarks and continue all the way to the keel. The planks at the end will be about half the width amidships. To taper the strips, use a steel ruler and cut the strips with a #11 hobby blade. The planks should sweep up in a nice smooth curve.

Glue the planks using carpenter's wood glue. At the ends, you can use a touch of super glue for fast setting of the plank.

At the stern where the planks meet the sternpost, they will tend to fan out rather than taper. In this area, you will need some stealers (wedges) fitted between several planks.

Near the stem, the planks will take a severe bend, so you will need to steam bend them, or use a commercial plank bending iron.

Deck Planking: The deck plank should follow the planking scheme shown on the plans. Use the basswood strips included with the kit to plank on the solid wood hull.

After the planking is completed, sand the surface smooth and apply a finish to your own liking. For a natural finish, you can use a protective clear coat (Model Expo item no. MS4972), or a tung oil resin (Model Expo item no. MS4978).

For more information on the planking process, we suggest that you refer the book "Planking the Built-up Ship Model" sold by Model Expo (item no. MSB113). Also, the Model Shipways plans and instruction book for the schooner *BENJAMIN W. LATHAM* shows a complete planking scheme for a fishing schooner, so you might want to make that one your next kit.

FIG. 20 – Some Common Railing & Superstructure Moldings

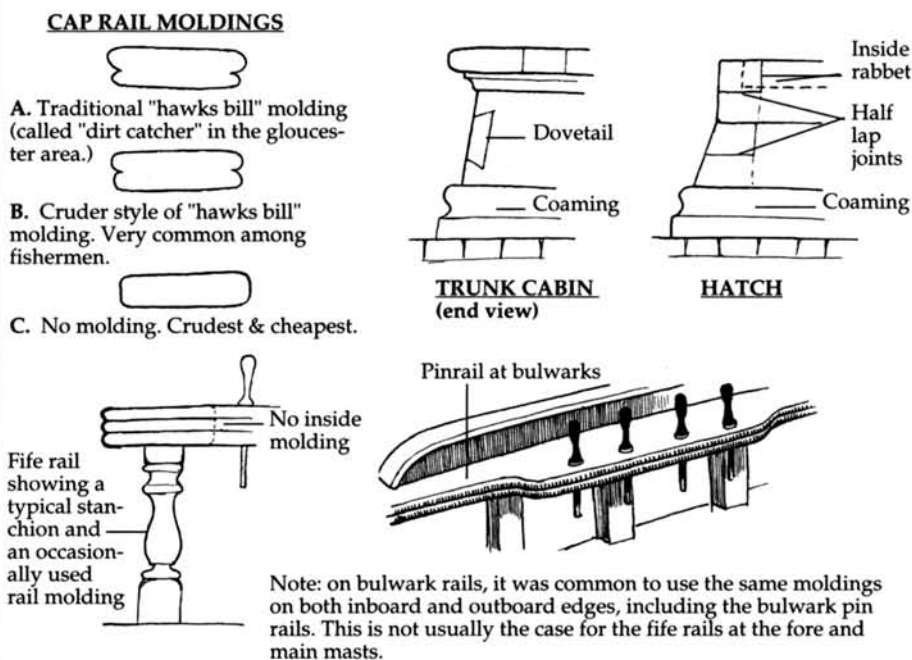


FIG. 21 – Railing at Quarter Deck

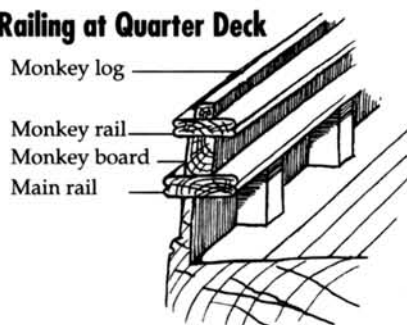


FIG. 22 – Railing Joiner Work

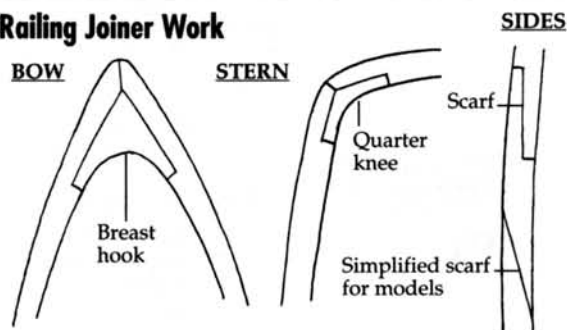
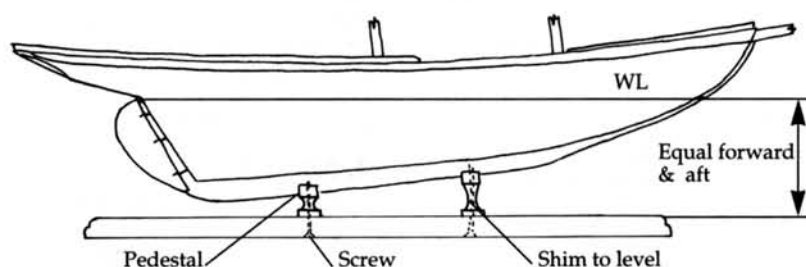


FIG. 23 – Mounting the Hull using Baseboard & Pedestals



STAGE C

MOUNTING THE HULL

Before going on, it is best to mount the hull to prevent details from becoming damaged during handling. Any alignments that require a true waterline will be easier to do. Any modeler may devise his own mounting or purchase mounting kits commercially. This kit contains two pedestals and a mounting board. A second mounting option is the launching ways.

1. Mounting Board with Two Pedestals

With baseboard in hand, round off the top edges or cut a simple chamfer (taking the edges off or beveling them). If you own a router, or can borrow one, you will be able to cut a nice fancy edge on the baseboard. Finish the base with a dark stain or paint.

Next, drill the pilot holes for the pedestals. Locate the pedestals for a pleasing look, and spaced so the model will sit with its load waterline parallel to the baseboard. If the balance is off slightly, you can add a brass shim under one pedestal to correct it (see figure 23).

2. Launching Ways

Launching ways are mostly suitable for models without sails. Make them from scratch or purchase a kit commercially. Drilling of the keel is still required to apply the rods that anchor the model to the ways. The launching ways are easily assembled and should be mounted on a minimal board size of 24" x 6". (Expanding the size of the board will allow you to create a mini diorama comprised of boat yard ground activity. Follow the directions supplied with the ways to achieve the proper waterline level.

Note: It is recommended that either choice mounting piece be finished before mounting the Hull Assembly into place.

STAGE D

ADDING THE HULL DETAILS

Before beginning with the details, outline all topside items on the deck by marking their locations with a pencil. Take all measurements from the plans using tick strips. Proper locations should be measured from some firm "bench mark" such as a mast hole or a station line marked on the deck. Add all equipment on or near the bulwarks first, before adding those near the centerline.

1. Rudder

Shape and taper the rudder according to the plans. Glue the rudder stock to the rudder. The stock can fit into a blind hole in the hull. Notch the hinge side of the rudder as shown on the plans and add the

FIG. 24 – Pintles & Gudgeons, Connecting Rudder & Sternpost

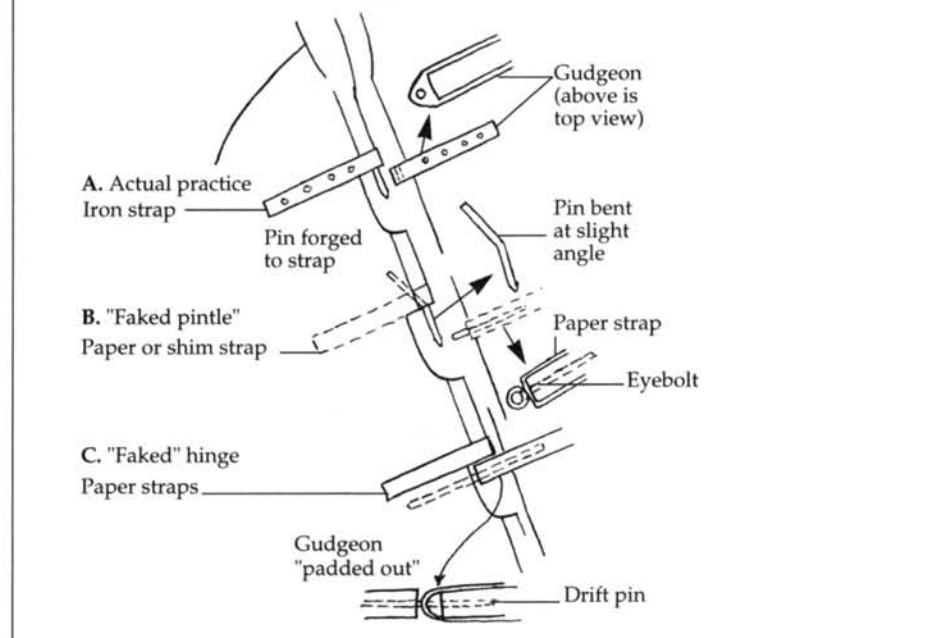
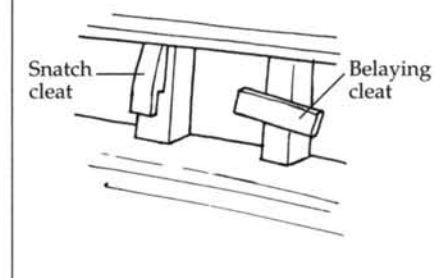


FIG. 25 – Bulwark Cleats



pintles (see figure 24). Mark the corresponding locations of the gudgeon straps on the sternpost and make, or "fake", the gudgeons to suit your preference. The rudder can now be installed, but it is advisable to prime and paint it, together with the sternpost, before final installation.

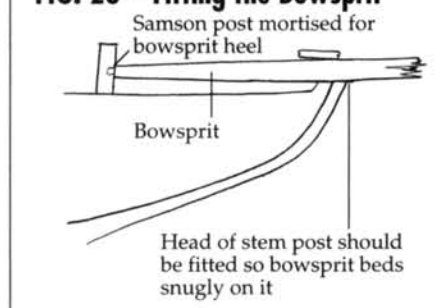
2. Cleats & Snatch Cleats

With the outboard woodwork of the hull done, the deck structures now may be made and fitted. First, finish up the bulwarks by making the numerous cleats and snatch cleats from strip wood leftovers. Then glue them to the timberheads as shown on the plans (see figure 25). Follow these locations as closely as possible. Next, paint the bulwarks very carefully. Apply two or three coats according to directions on the paint container. Leave no nook or cranny unpainted. Paint the rails, too. Then drill them with holes for the belaying pins and eyebolts which will be installed later.

3. Bowsprit

At this point, the bowsprit should be made. See the section on spar making for various construction methods. Next,

FIG. 26 – Fitting the Bowsprit



make the samson post and fit it very snugly into the deck. After this is done, the bowsprit heel socket should be carefully located on the post's forward side. Take the post out and mortise the socket into position. Then cut a tenon into the bowsprit heel. Next, replace the post and test fit the bowsprit. Check the bowsprit for the proper steeve (the angle that a bowsprit makes with the horizon or the keel). If the angle is off, make a new samson post, correcting the position of the heel socket (see figure 26).

4. Hatches, Companionway, Trunk Cabin & Wheelbox

This kit provides solid blocks to construct these furnishings. Follow the plans for the various shapes and moldings shown on the plans. See figure 27 for some modeling ideas. Each modeler is pretty much on his own as to how he wishes to make these deck furnishings. Let ingenuity and a desire for detail be your guides. When the individual items have been completed, prime and paint them, and then set them aside to dry.

5. Skid Battens

The narrow wood battens on the deck next to the wheel box and forecabin companionway are rather small at 1/8" scale, so they could be omitted, or you could paint narrow dark lines on the deck to represent them.

6. Deck & Rail Fittings

Some of the deck fittings are Britannia castings and a few items must be made. Sort out and identify the various castings for the deck and rails. After assembly, priming and painting, set them in their proper locations. Drill and socket where necessary (see plans for locations). A description of the various fittings are as follows:

Cat Head: The cathead can be made from a brass rod (see figure 28). Flatten the end and file a groove for the chain. The anchor itself is a Britannia casting. Install and rig as shown in figure 29.

Windlass: The windlass barrel is a Britannia casting. Figures 30, 31, & 32 shows all the components. Notice that plan sheet 3 shows details of a power hoist that was added around 1920. This is very interesting, but need not be added to the model. However, if small parts is your bag, by all means give it a try.

For the small 1/8" scale model, many of the windlass details can be simplified. The quadrant links can be a simple wire glued between the quadrant and rocker arm.

Pumps: The two pumps at the main fife rail are Britannia castings. See figure 33 and plan sheet 3 for details.

Main Sheet Boom Buffer: Figure 34 and plan sheet 3 shows details of the boom buffer. For the model, you can use a simple rod with a ring attached, or simply an eyebolt fitted into the top of the jiber box. At 1/8" scale, the buffer bar is only about 1/4" long, so it is small for detailing.

Steering Wheel: The steering wheel is also supplied as a Britannia casting. Set the wheel into the wheel box (see figure 35). Plan sheet 3 shows complete detail of the steering mechanism. Obviously, this is purely for historical record or for a larger scale model. You cannot expect to include these details at 1/8" scale, or even 1/4" for that matter.

Cowl Vent: The cowl vent forward of the foremast appears to be a portable unit or something added later in the ship's life. Photos show the vent pipe without the cowl, so it could be modeled that way. If included, carve the vent from a scrap of wood, or file down a brass rod.

Fife Rails: The fife rails are supplied as Britannia castings. Clean out the holes with a small drill and insert the belaying pins. Make sure you glue the fife rails securely in deck holes. When you rig, you don't want the rails to come loose.

FIG. 27 – Deck & Bulwarks Features

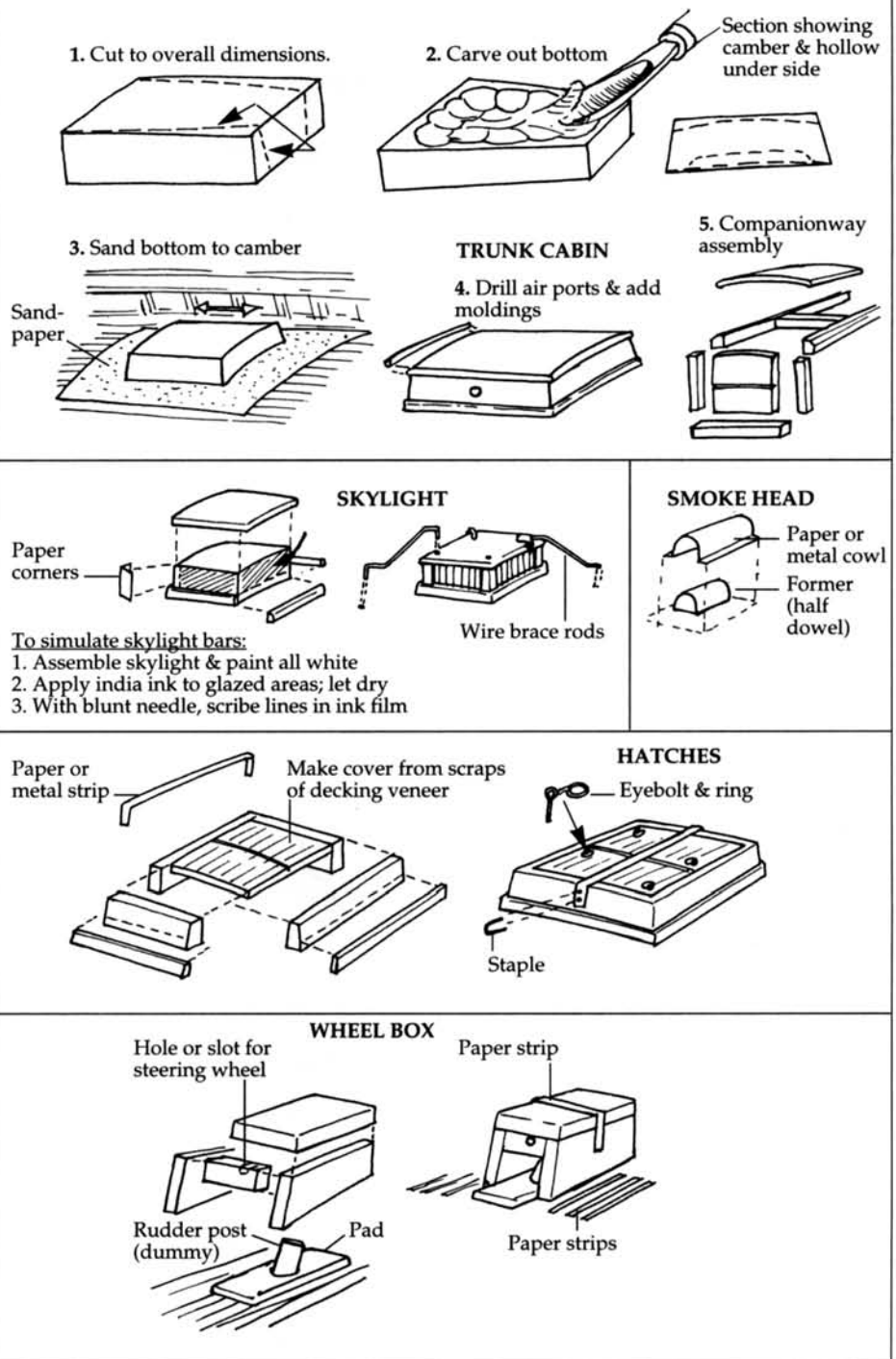


FIG. 28 – Iron Cathead

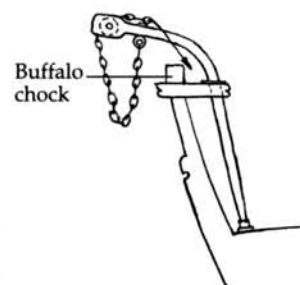
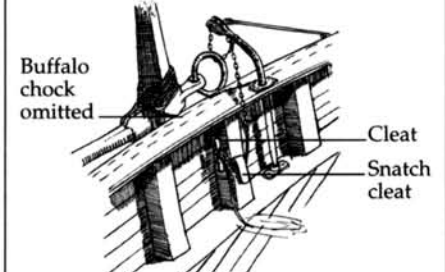


FIG. 29 – Anchor Catted



Boom Crutches: The boom crutches are simple wooden crutches. Shape from strip wood and glue in place.

Quarter Bitts: The quarter bitts are Britannia castings. Again, glue these securely. Lines are attached to them.

Lead Block Eyebolt Plate for Main Sheet: The plate can be a paper circle or ignore it altogether. Insert an eyebolt in the deck for securing the main sheet.

Smoke Head: This fitting, to the starboard side of the forecastle companionway, is supplied as a Britannia casting.

Chain Box: The chain box on the port side of the companionway is a simple wooden box. Make it from strip wood.

Dories: Britannia casting dories are provided in the kit. Nest a set on each side of the main hatch on wooden strips and lash them to eyebolts in the deck. Thwarts and oars for the lower nested dories were removed and thrown in the top dory.

Check the plans to make sure you have included all the fittings. It is easy to miss some small detail. Is everything painted? It is a good idea to have everything complete before starting the rigging process.

STAGE E

MAST & SPAR CONSTRUCTION

1. General Information

Carefully study the details of masts and spars which appear on plan sheet 2 and 3. Likewise, the leads and belaying points for the running rigging must be given careful attention. When you feel certain that you understand what goes where (and hopefully why), you should next take out the dowels supplied in the kit and match them to the spars of equivalent lengths and diameters as shown in the plans.

Note that virtually all spars on this vessel are tapered and that proportions of the tapers differ somewhat:

- 1) On gaffs and booms, the point of greatest diameter lies about 1/3 of the spar length from the jaws (or gooseneck).
- 2) The bowsprit's maximum diameter is at the knightheads where it passes rough the vessel's bow.
- 3) Lower masts are thickest at about deck level and taper upward to the tops, where there is a more pronounced taper from crosstrees to caps.
- 4) Topmasts have very little taper at the doublings where they overlap the lower masts. Above these, they taper in a fashion similar to the lower masts, but are surmounted by poles, to which the trucks and flag halliards are fastened.

FIG. 30 – Assembling the Windlass & Bitt Support Mechanism

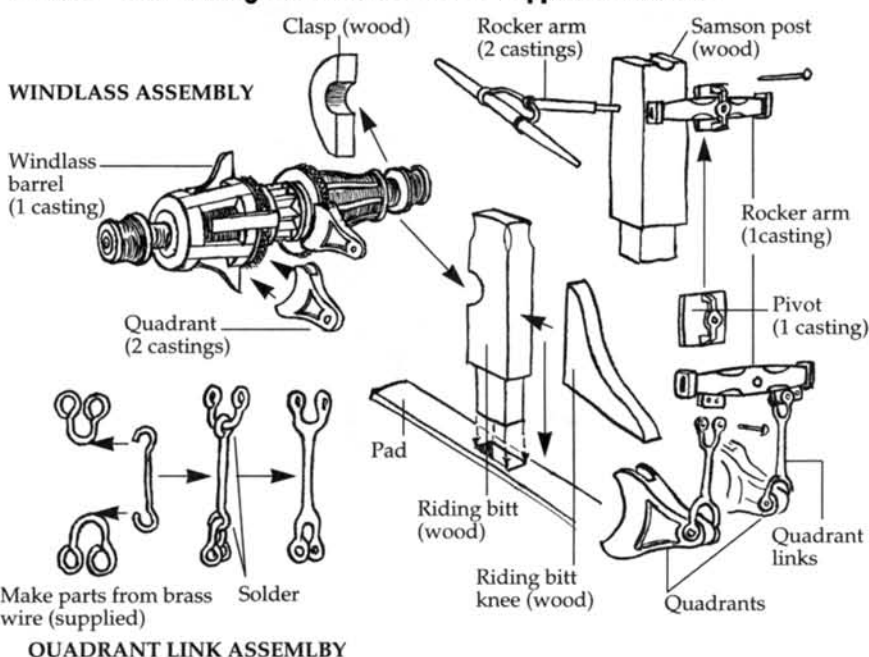


FIG. 31 – Windlass, Aft View

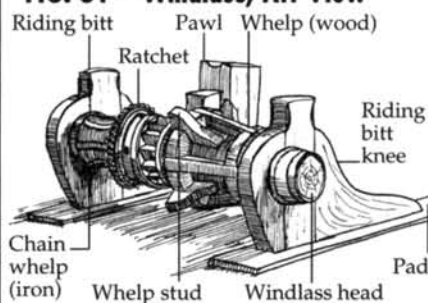


FIG. 32 – Windlass Pump, Fwd View

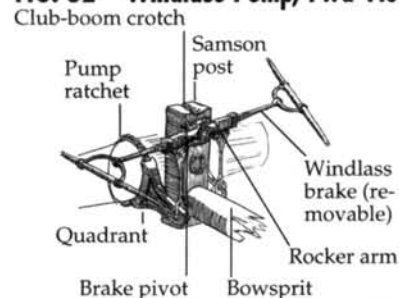


FIG. 33 – Pump Assembly

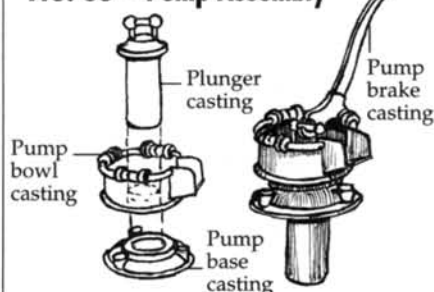


FIG. 34 – Boom Buffer

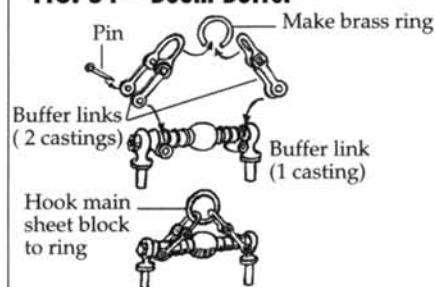
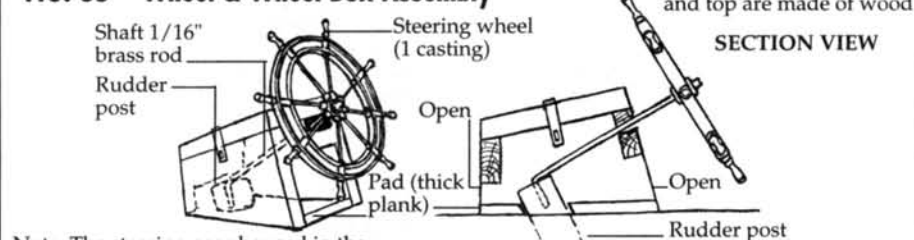


FIG. 35 – Wheel & Wheel Box Assembly



Note: The steering gear housed in the wheel box is a rather complex device which is best substituted by the rig shown above.

The wheel shaft is bent 90° at its aft end and fitted into a hole centered on the top of the rudderpost

2. The Importance of Scale

While the scale of masts is important, the booms and gaffs are probably the most critical spars to consider in regard to proper scale. Stubby, fat ended booms and gaffs stick out like sore thumbs, giving a model that unprofessional look. Care should be taken to assure that they are tapered properly and to correct scale.

3. Tapering Masts & Spars

All spars have a parabolic (curved), not straight taper. Sighting down the spar, you would find that the sides bulge like the sides of a barrel, but in a much less distended fashion. The kit provides either round or slightly tapered birch dowels for masts and spars, but final tapering to plan dimensions is still required. A dowel is difficult to taper since it is already round. The best approach is to slice the dowel from a round shape at maximum diameter to a square shape at the ends, then to an eight sided shape, then sixteen sided shape. Final rounding is achieved by sanding. This approach prevents a round dowel from becoming an oval (see figure 36).

In finishing the tapered dowels, which are generally supplied too long, cut off the excess from each end so that the point of maximum diameter lies as indicated in the plans. To cut off ends, make a nick with a knife at the end mark and roll the dowel back and forth under the blade until it cuts through. It is advisable to sand the spars prior to cutting them, otherwise you may round the ends off excessively, or produce some strange taper that was never seen on any sailing vessel.

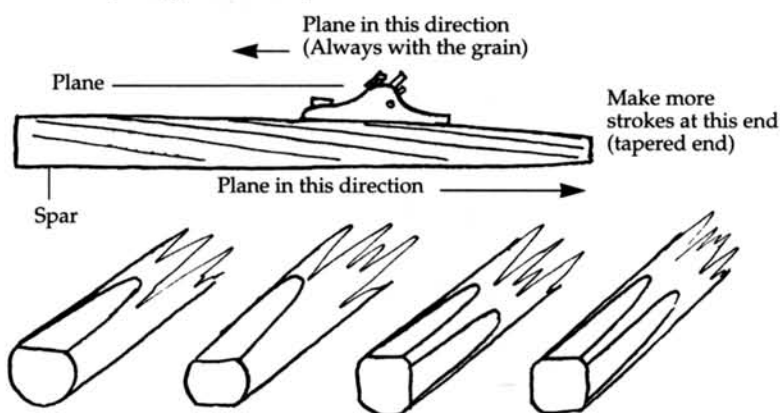
To taper a straight dowel, use a small hobby plane (see figure 36 for planing sequence). The plane blade must be very sharp and adjusted to remove only a thin curl of wood at a time. The taper of the lower masts from deck to hounds should be very slight. Above the crossrees, the mast heads should taper more noticeably, but the "flats," which accommodate the cheeks and trestletrees, make planing tricky. It is probably safer to file the mastheads down to size. Remember that on fishermen, mastheads are round in section, not square (see figure 37). Mark carefully where the cheeks and trestletrees are to go, and carefully file "flats" into the sides for them.

4. Curved Spars

If you have been doing your homework and have been eagerly poring over photographs of fishermen in the books previously recommended, it should become readily apparent that there was hardly ever a straight spar on a Gloucester rigged vessel.

From the day the early riggers went aboard a new vessel to "dance in her rigging and weave their spell on her," the masts would be sprung forward and the bowsprit "hogged down." All was done in the interest of keeping the stays "tight as fiddle strings," so the vessel would sail

FIG. 36 – Tapering masts & Spars



TAPERING A DOWEL

When the taper has been "4-sided", as shown above, it may then be "8-sided", "16-sided", then rounded with a file, and sanded smooth. (Dotted lines indicate wood to be removed)

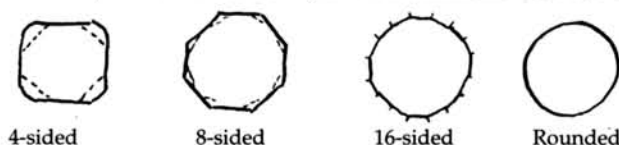


FIG. 37– Lower Mast Head

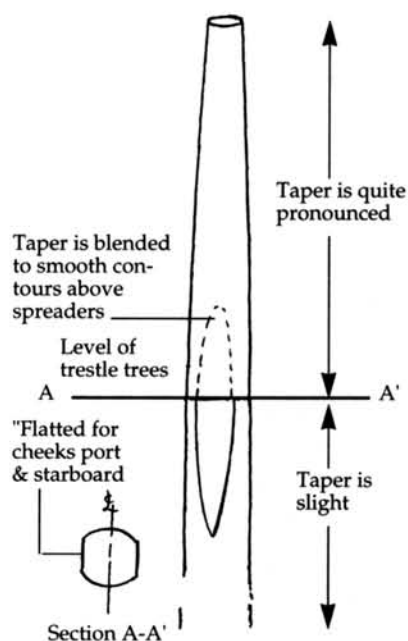
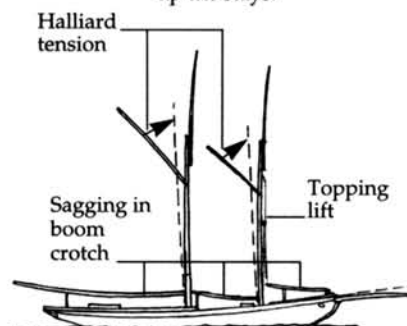


FIG. 38 – Mast & Spar Curvature

Dashed lines indicate rake of masts and steeve of bowsprit prior to setting up the stays.



This shows with some exaggeration (but not much) the degrees of directions of warpage of spars induced by rigging, sagging, and tension from running and sails.

FIG. 39 – Mast Head Bands & Eyes

Actual Practice:
Ring bolt goes through band; sets up on forward side of mast head

For Models:
Wire eyebolt goes through paper or shim band, is bent over on forward side

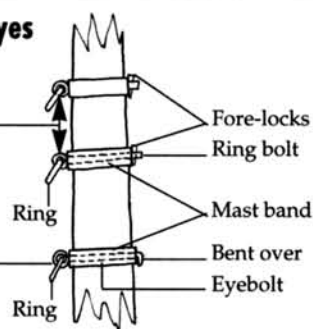
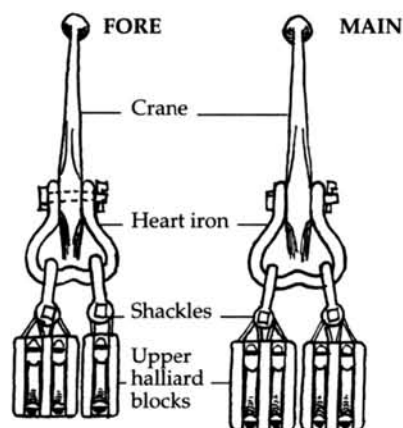
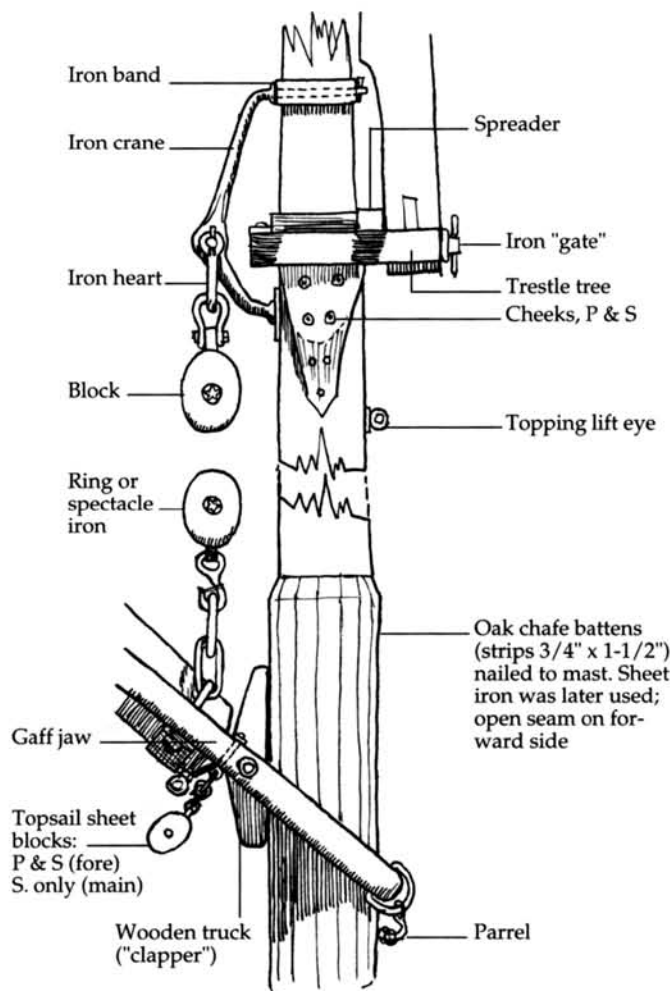
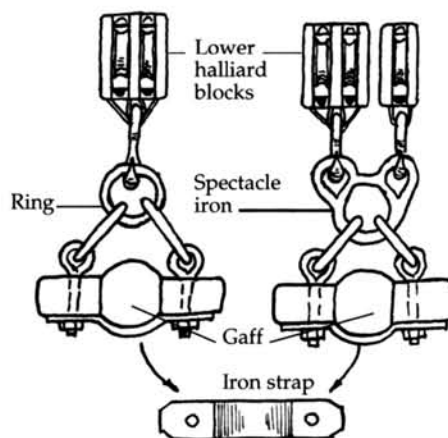


FIG. 40 – Throat Halliard Fittings



(These views looking forward)



Note: vessels 90-120 tons carried two double blocks at the fore cranes and a triple block at the gaff jaws (fore only), but this rig may have been more than necessary for a small vessel.

well and close to the wind. The lower masts would always be stepped and wedged with a slight 2 to 3 rake aft. The lengths of the fore and spring stays were carefully calculated to be a little short. Then, with the aid of a special tackle and a large gang pulling at the hauling end, the masts would be sprung forward, and the stays shackled to their respective straps or eyes.

A new mast would have had a very slight forward rake which became more pronounced with the change in seasons as adjustments were made to keep the stays tight. The topmasts, being of lighter stuff, were sprung more easily and required more frequent adjustment; therefore, they usually had a more pronounced forward curve than the lower masts. After two or three years, these sticks became so badly warped, they had to be replaced. The bowsprit was similarly treated, but here turnbuckles were used to get the necessary tension and resultant curvature.

Other spars such as the gaffs and booms were not induced to take unnatural shapes on purpose, but stresses caused by the sails could warp them (see figure 38).

The booms were usually so heavy and poorly supported when idle, that they sagged considerably, particularly when resting on the boom crotches.

The previous information is mentioned for the sake of the perfectionists and the uninformed who may now be looking disconsolately at a warped dowel, wondering whether he should attempt to straighten it or replace it. Unless the warpage is really bad, take advantage of the situation and shape the dowel so the bend will simulate the condition of the actual spar. This will spare the rigging on the model from the severe strains imposed by trying to duplicate the tense rigging of the actual vessel.

It is a source of great pride for the skilled modeler to be able to produce perfectly straight, symmetrical spars thus representing a vessel perfectly constructed and fitted out Bristol fashion. But, we are dealing with a vessel that should be fitted out in Gloucester fashion meaning that the end results are expected to be less than perfect! By nature, the rigs of these early fishermen flirted precariously with the laws of mechanics. Principles of rigging predicated spars distorted by high ten-

sion. In other words, a working fisherman with perfectly straight spars probably never existed. So, if realism is your preference, your model should carry sprung spars. More follows on this subject.

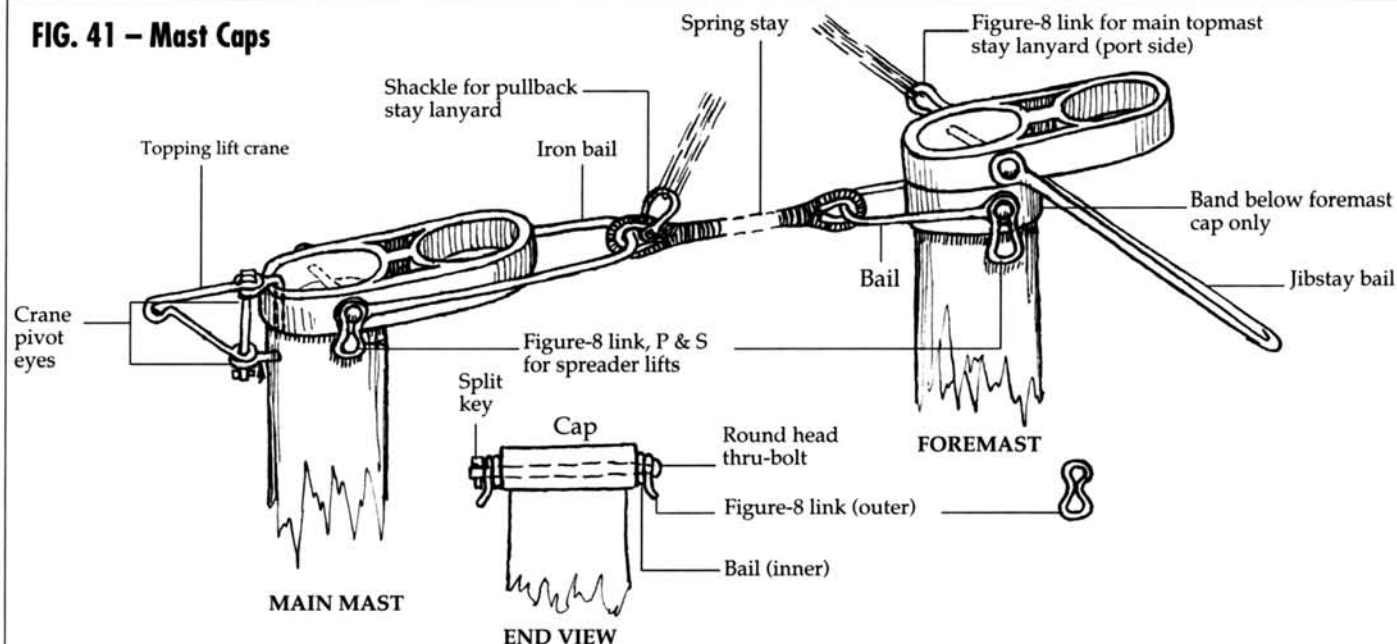
5. Lower Mast Fittings

After shaping the fore and main masts, mark the forward and aft sides at both ends where they will be easily readable. Next, mark the levels of the lower sides of the trestletrees and file "flats" for these and the cheeks on the port and starboard sides. Now make and fit these members to the mast, securing them firmly with glue and pins. Allow them to dry firmly.

Meanwhile, fashion the spreaders from stripwood, tapered as directed on Sheet 2 of the plans. Make end notchings and add any prescribed eyebolts, but do not glue the spreaders to the trestletrees until the masts are ready to rig. If installed now, they will surely break.

Bands for the halliards: These may be added now. It was common practice with Essex built craft to drive the halliard ringbolts through the masts and the bands, then secure them with fore locks (see figure 39).

FIG. 41 – Mast Caps



One simple method to simulate this is to glue a strip of rag paper around the mast, drill a hole through it and the mast, and drive in a ringbolt, bending it over at the far side. When painted, the paper band can look very convincingly like metal.

Throat halliard cranes: These should be fitted next. But, **DO NOT GLUE** the throat halliard cranes in place until after the spreaders are installed at rigging time. If you wish, make the heart irons and linkages for the throat halliard blocks, paint them, hook them to the cranes, and set these assemblies aside until they are needed (see figure 40).

Mast caps: Originally of iron, these are supplied as Britannia castings in the kit. But if you prefer to make your own, it is suggested that you make them of brass strips or short lengths of tubing, soldered together. You can also drill and file them out of brass or aluminum flat stock. The caps must be drilled through to accommodate bolts and links which support the spreader lifts and also serve as pivots for the bails (supporting half hoops) used for the stays (see figure 41). In addition, an eyebolt must be fitted to the aft side of the main cap for the topping lift crane. A lower crane pivot must also be made and fitted. All of this construction must be well made. It is desirable to solder all eyes in the bails for extra strength.

Fore mast: The foresail boom requires that a gooseneck be fitted to the fore mast. This will allow the fore boom to clear dories, and any other main deck clutter (see figure 42). It can be made of paper strips, pins and eyebolts in a manner similar to the peak halliard bands.

Main mast: This gets fitted with a wooden boom rest. It is furnished as a Britannia casting in the kit, but may be substituted

FIG. 42 – Foremast

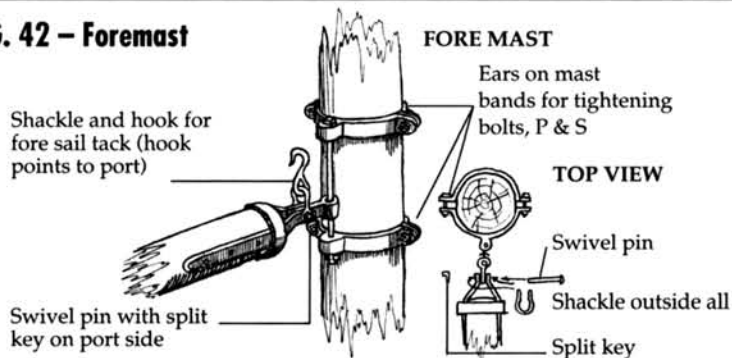


FIG. 43 – Trestle Trees

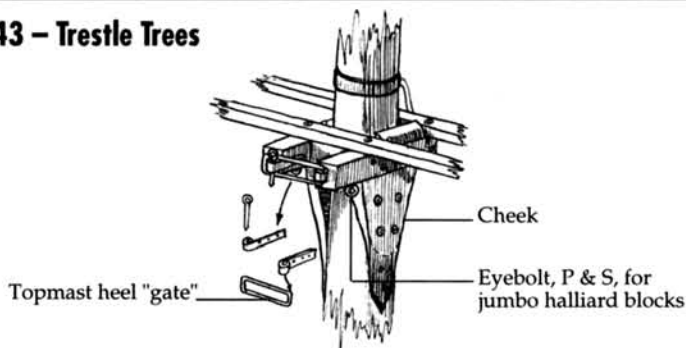
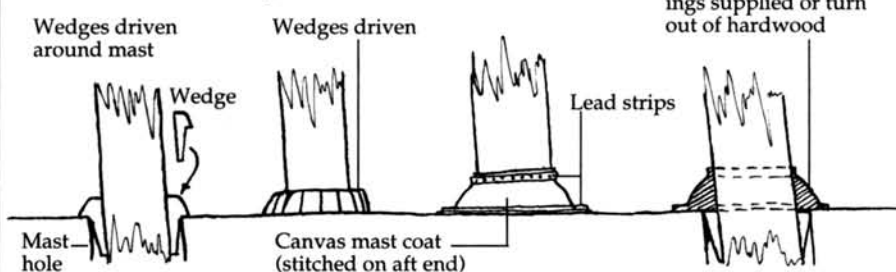


FIG. 44 – Mast Wedges & Coats



with a wooden piece of the modeler's own fabrication, if desired.

6. Topmast Fittings

The hardware for topmast heads is quite simple: one band at the foremast head; two at the main.

Topmast Heels: These must be "fitted" and wedged into the trestletrees very carefully. This is a good time to make a trial fit and install the "gates" for the trestletrees at the same time (see figure 43).

7. Stepping the Masts

Finish up the masts by adding any forgotten eyebolts and hardware. Fit the spreaders and throat halliard cranes. Then add the chafe collars to the lower masts (refer back to figure 40). Stain and paint these according to earlier directions. Next, slide on the mast hoops and mast coats (see figure 44). The masts may now be stepped into the mast holes and wedged tight with slivers of wood which should be cut off at deck level. Add a touch of contact cement around the wedges and slide the mast coats down until they rest snugly on the deck. You may now proceed with the standing rigging or go on to the other spars.

8. Gaffs & Booms

Methods of tapering and shaping these spars are the same as for the masts. But, you must adapt their lengths and the position of their fittings to suit the rigging and clear any fixed obstructions. For example, if you made an error, however slight, in spacing the fore and main masts so that the gaff and boom of the foresail strikes the main mast if swung from port to starboard, you must shorten the gaffs and booms to allow adequate clearance. Likewise, check to see if the jumbo boom will clear the fore mast when it is hauled full back on its gooseneck.

Fittings on booms should coincide with mating deck fittings. Is the main sheet band on the boom centered over the boom jiber? Check the other booms, too! Anyone can make small errors of this nature; it happened on full size vessels, too. But, if you do not make allowances for these little mistakes now, your errors will be compounded in later work, making them far more obvious.

9. Jaws & Goosenecks

These are the most conspicuous fittings on the masts. So, they should be strongly and neatly made. Jaws may be rough cut and glued to the spars prior to finishing touches (see figure 45). They are perhaps easiest to do on the assembled units. Small, hinged shoes, or clappers must be set in the jaws of the gaffs and main boom (see the plans and figure 46).

10. Ironwork

Ironwork is somewhat more difficult to make for the gaffs and booms than for the masts and bowsprit. The bands are smaller, more complicated, and drilling a thin dowel

FIG. 45 – Gaff & Boom Jaws

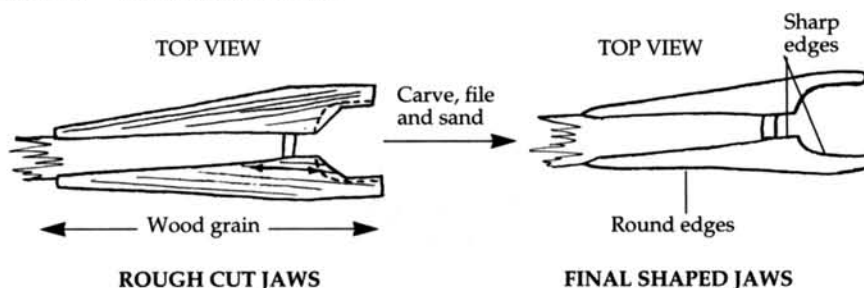


FIG. 46 – Main Boom Jaws

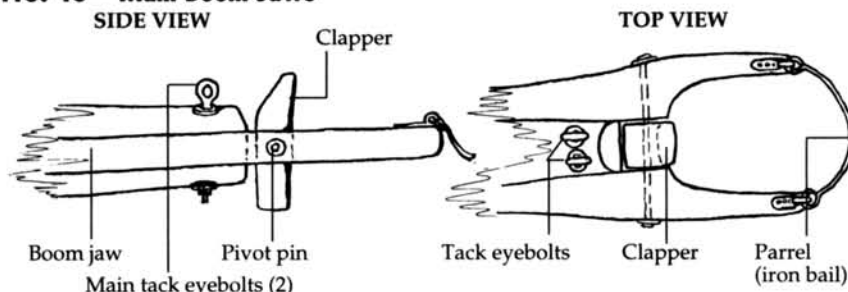


FIG. 47 – Bands for the Booms

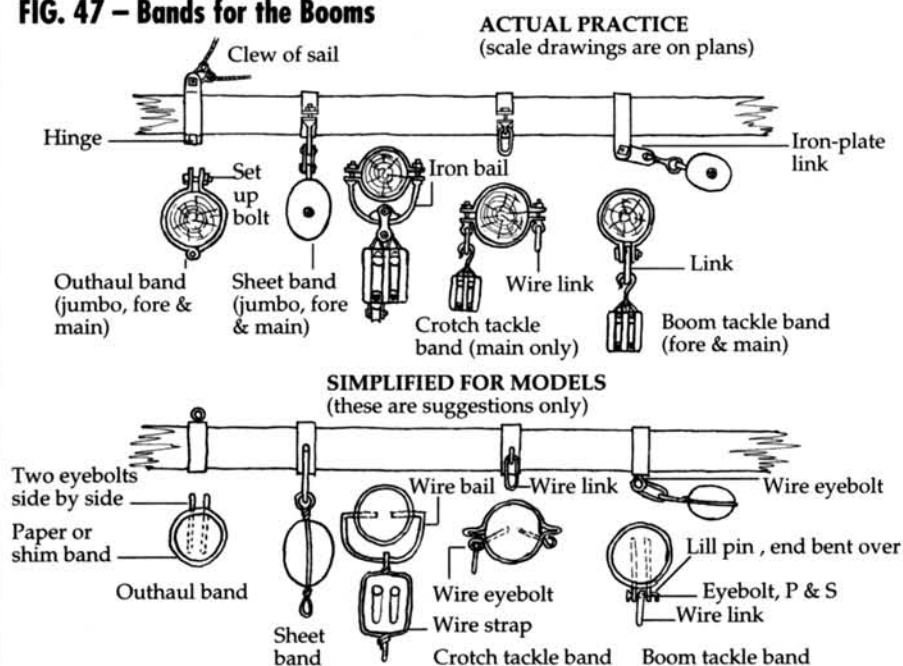


FIG. 48 – Jumbo Boom

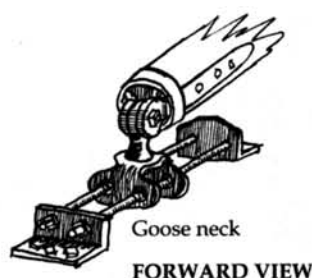


FIG. 49 – Peak Halliard Straps & Bridles

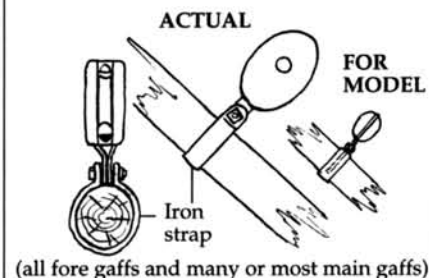


FIG. 50 – Bridle for Main Peak Halliard Blocks

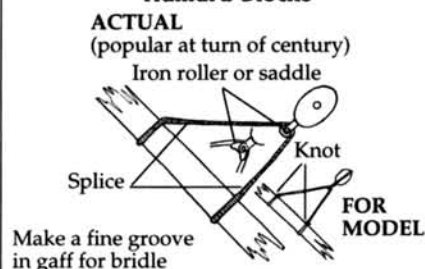


FIG. 51 – Gaff Ends

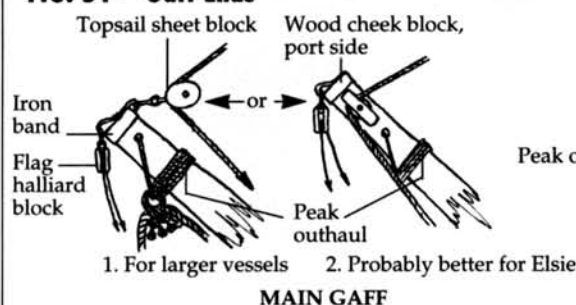


FIG. 52 – Bobstay Irons

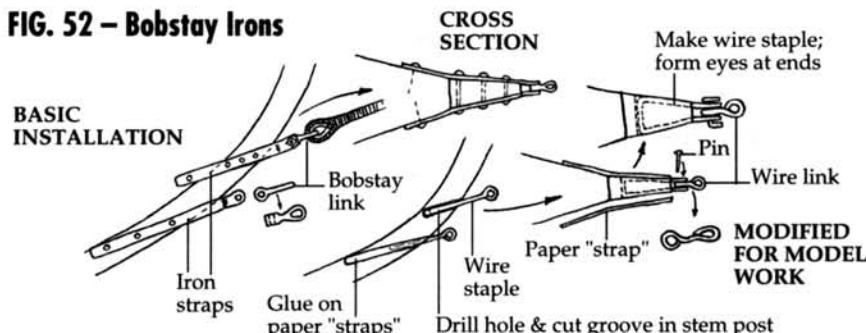
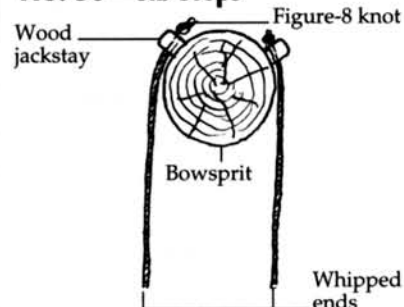


FIG. 53 – Jib Stops



for the eyebolts and sheave holes is a tricky job at times (see figure 47 for the different types of bands required for these spars).

Booms: The fore boom gooseneck has been illustrated in figure 42 and the jumbo boom gooseneck appears in figure 49. If you wish to fake the ironwork with paper and wire, simplified assembly methods are shown in figure 47.

Gaffs: The ironwork for the gaffs is not as demanding. Throat halliard blocks and hardware have been shown in figure 40. This should be a thoroughly enjoyable project for the modeler who finds fine metalwork an interesting challenge, which it should be. The fore peak halliard blocks are fixed to bands on the gaff (see figure 49). The main peak halliard blocks are similar, but originally they were run on wire bridles which are seated in shallow grooves in the gaff (see figure 50). You can use either method and be correct.

The ends of the gaffs are fitted with blocks for the topsail sheets. The main gaff also must have a band with an eye strap for the flag halliard (see figure 51).

Bowsprit: There is much ironwork to be fitted for this spar which includes the bobstay irons and gammon irons (See figures 52 and 54). First, fit the wooden jackstays onto both sides of the bowsprit along its upper outboard edges (see figure 53). Drill them out for the jib stops (for locations see Rigging Plan Sheet 2. Near the end of the bowsprit is a withe (four eyes) to which the outer bobstay, the jibstay and the bowsprit guys are shackled (see figure 55). Just inside of this withe is fitted a brace band (no eyes) which supports the former by helping to distribute some of the compression loads. The brace

FIG. 54 – Gammoning

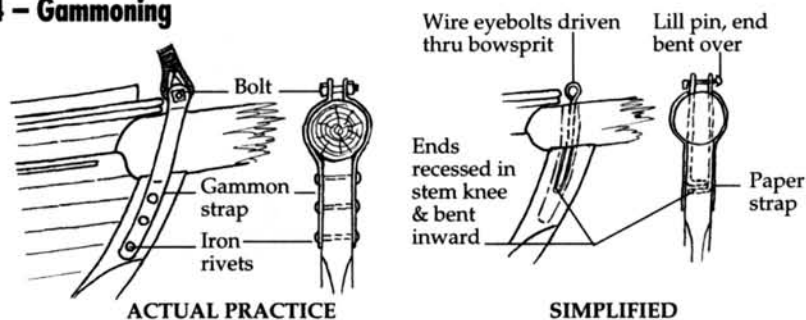
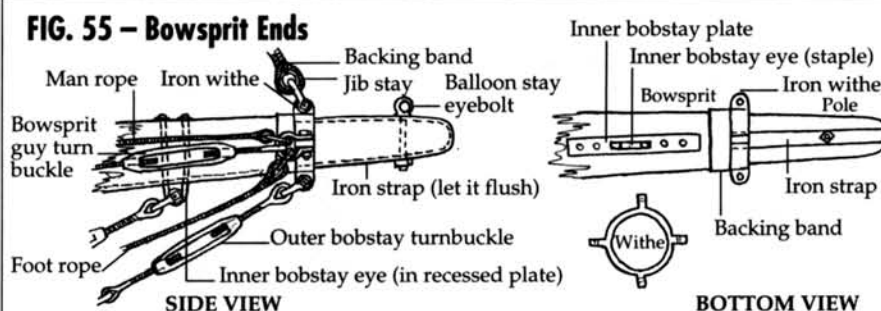


FIG. 55 – Bowsprit Ends



band may be faked with paper, but the withe might be better made with metal.

On the underside of the bowsprit, abaft the bands of the lifesize ELSIE was a long plate for the inner bobstay. Passing through that plate was a heavy metal staple which formed the bobstay eye. The ends of this staple were headed over clinch rings on the upper side of the bowsprit (see figure 55). On the model, the metal plate can be simulated with heavy paper, but the eye must be very secure. Form a small staple from a common

pin. Next, drill a hole in the bowsprit for it. Then drive the pin up through the hole and bend the ends over neatly.

Outboard of the bands projects the pole of the bowsprit, from which the balloon stay is shackled. This pole has a longitudinal band running its whole length, above and below, and is recessed into the wood. A strip of rag paper will represent that fitting nicely. An eyebolt can be driven through the pole and headed over underneath to accommodate the jibstay.

STAGE F

GENERAL RIGGING & SAILMAKING INFORMATION

Rigging plans are often confusing because of the numerous lines involved, and the fact that overlapping and concealing of some of the detail occurs. The sketches herein should clear up some of these details. Modelers should have little trouble, if the plans are reviewed thoroughly and the instructions are followed.

1. Cordage

Standing rigging is black and running rigging is white. The nylon rigging line supplied in this kit will be adequate for most modelers. To rig as accurately as possible, however, search out and buy different line sizes to match the table sizes. Seasoned veterans will probably want to make substitutions, using linen, which comes in a wider variety of sizes. Rigging diameters, block lengths and a conversion table are given on page 29.

Generally speaking, when selecting the size of thread for a given line, it is better to err on the small side. Many beautifully crafted hulls have lost their look of realism because of a heavy, clumsy looking rigging job. Look at photographs of these fishermen and note how delicate the rigging appears, then strive to attain the same visual effect.

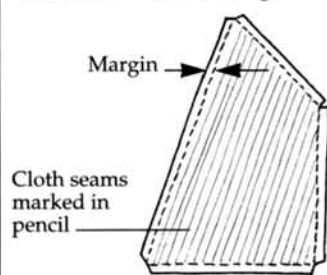
The use of wire for standing rigging: By ELSIE's time, using wire for the standing rigging on fishermen was an accepted practice. From the visual standpoint, the diameters of shrouds, stays, etc. were considerably reduced, and not much larger, if ever, than the heaviest running rigging. Some of these lines, such as the stays, stood bare to the elements. But, a lot of them were completely covered with serving (see next paragraph) and well tarred, thus prolonging their life considerably. In addition, the eyes, ends and splices in all pieces of wire rigging were served. Shrouds, bobstays, bowsprit guys and footropes were served over their entire lengths. The main boom topping lift was served wherever chafe gear is shown in the rigging plan, then covered with baggy wrinkle (scruffy looking padding used on shrouds to prevent chafing).

For this model, the nylon lines will represent the wire rigging.

2. Treating the Lines

Worming, Parcelling & Serving: Lines on ships were wormed, parcelled and served (a method of protecting parts of a rope) where they are likely to be chafed, such as the shrouds, especially at the mast heads and ends of lines fitted with thimbles. For models, worming (laying thin pieces of line (the worms) between the strands), and parcelling (winding strips of canvas saturated with tar over the part wormed) is unnecessary. Only serving (tightly binding the wormed and parcelled area in

FIG. 56 – Sail Tablings



the other direction with spun yarn) of the lines is required on the model.

Because of the small scale of this kit, serving is not recommended. The result would probably be excess bulk.

3. Differentiating Between the Lines

Standing rigging: Stockholm tar was the usual preservative for standing rigging on the lifesize fishermen. It was dark brown and almost black in color. Black line has been provided in the kit.

Running rigging: This consisted mainly of manila rope for the fishermen of this period. It was a very supple fibered cordage that ran smoothly through the blocks and was easy to handle. New manila rope was a golden straw color which tended to bleach on exposure to sun and salt water. Manila running rigging was seldom, if ever, tarred. It would rot out quickly if oiled.

The white nylon cordage supplied in the kit is light so you may want to dye it. Depending on your tastes, the rigging can be tinted to resemble new stuff or old, and can vary from a rich tan to a silvery weathered gray.

To dye the cordage, you may use any one of the commercial dyes for fabrics available from stores dealing with yard goods. Paint will stiffen thread. However, Flo Stains made by Floquil Paints will work. But, they must be thinned, or the line will be tinted too dark. Maple Flo Stain is about the right color.

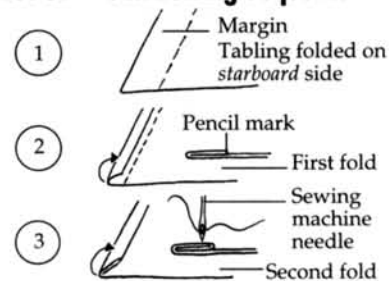
Staining the lines with shoe polish: Perhaps the best tinting for thread is liquid wax shoe polish. There are several different brands offering brown polish in varying shades and tones which can be mixed with neutral polish to obtain a lighter shade. In using these polishes, you are not only tinting the thread, but you are also coating it with a preservative which will extend its life. When dry, draw the thread through your fingers. Doing so will lay down any surface fuzz and add a mild sheen which adds life to the line's appearance.

Staining can be done before or after you've rigged the lines, and depends strongly on whether you choose to use beeswax or not.

4. Using Beeswax

Beeswax protects the lines against moisture and helps to eliminate fuzz. If you

FIG. 57 – Sail Folding Sequence



plan to use it, lines must be stained and dried first before running over a block of beeswax. Only then should they be rigged to the model.

5. Sails: To be or Not To be

This subject is indeed a controversial one for modelers, for there are as many who will argue against putting sails on the model as there are advocates of the practice. In any case, model sailmaking is an art which is difficult to master. A model-maker's first attempts seldom bring satisfaction. Trial and error, constant practice, triumph and heartbreak all are attendant with this facet of ship modeling.

Working in 1/8" scale, one must first admit that no cloth may be had that will provide the proportional equivalents needed for absolute realism. This is true also of sewing and roping techniques; the effect is visual and fine tolerances are out of the question. With this in mind, you should decide whether you wish to risk the investment of time and energy on sails when the outcome is uncertain. If you do, materials are your next problem.

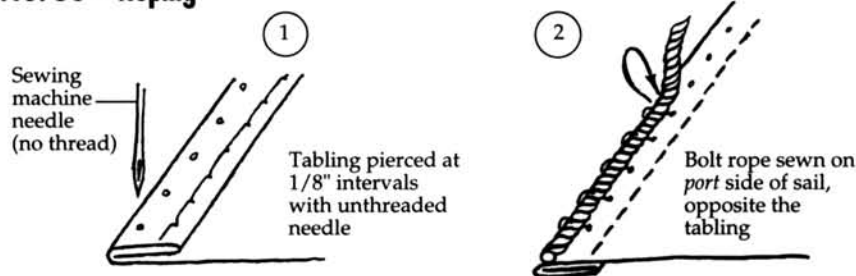
Choosing the right sailcloth material: The best sailcloth for models is Egyptian cotton spinnaker cloth, sometimes called balloon cloth. Model Expo carries a 100% unbleached fine weave cotton muslin which is a good substitute.

The cloth must be pre shrunk first. Soak it in distilled water, and then let it dry, followed by very careful ironing. If the cloth you use is pure white, it may be tanned very slightly by adding brown dye to the distilled water. Tint the cloth a shade or two lighter than manila rope, please.

6. Making the Sails

Laying out the patterns: For layout work, tack the cloth down to a clean drawing board or smooth sheet of plywood. With a soft pencil, lightly mark the sail outline and the cloth seams (see figure 56). Next, cut out the sails, leaving a uniform margin around the marked outline.

Folding and Stitching: With the aid of patience, clean hands, tweezers and a little white glue, fold the margins over so the edges touch the pencil outlines of the sails. Glue will hold this crease and permit a second folding along the pencil outline (see figure 57). Having made the tablings,

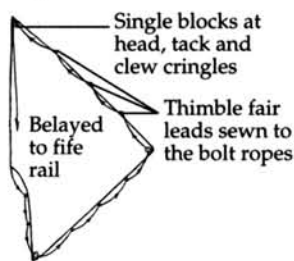
FIG. 58 – Roping

which is what sailmakers call hems, sew them down on a sewing machine (or by hand, if you have a lot of patience and iron fingers!). The stitches should be very fine, no more than 1/32" in spacing. When using a sewing machine, you must go very slowly to avoid running off the hem.

Next, run a line of machine stitches along the pencil lines scribed for the individual cloth panels. A double line is shown on the sail plan, indicating the selvages, or overlaps of adjacent cloths. It is not recommended to attempt a double line of fine stitches on sails this small. If you notice that the cloth is puckering around the stitches, reduce the machine's thread tension, or the sails will be a wrinkled mess when you are done, and no amount of ironing will flatten them out again.

Stretching the Sails: This step will assure that the sail shape is correct, since it may have been altered during sewing. Using the original pattern, draw the outline of the sail's shape on a piece of paper. Place the piece of paper down on a solid, but penetrable backing, such as a wooden board or cork. Now wash the entire sail again and lay it over the outline you've just drawn. Stretching the wet sail to the outline's shape, stick pins through its outer edges and into the backing to hold it in place. When the sail is dry, it will have the proper shape. Iron it flat.

Sewing the boltropes to the tablings: Boltropes make the sails look very realistic on larger scale models. However, for the 1/8" scale ELSIE, it is not very practical. However, here's what you do. After sewing down the cloth seams and stretching the sails, you may proceed to stitch the boltropes to the tablings. In the Gloucester sail lofts, the tablings were always sewn on the starboard side of a fore and aft sail; the boltropes to port. A lot of time can be saved in this operation by removing the thread from your sewing machine needle. With the needle empty, continue "sewing" by putting the outside edge of the tabling through a "dry run." This will leave a series of neatly spaced (1/8 to 3/16") punctures through which you can easily push a needle (see figure 58). When sewing on the boltrope, drive the needle through the roping. This will hold it in place better than stitching around it. Make loops in the boltropes at the sail corners for outhauls, tacks, throat and head cringles, reef cringles, etc.

FIG. 60 – Topsail Clew Line

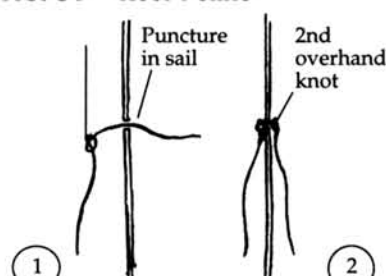
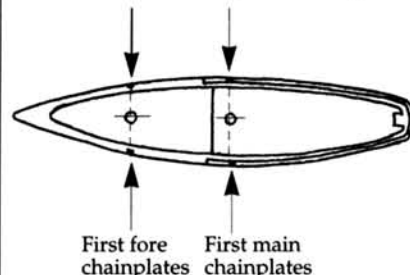
Punching holes for reef points & other elements: The sides of the sails which are laced to the gaffs and booms, or seized to mast hoops or staysail hanks, must be punctured at regular intervals to accommodate these elements. Check the sail plan. Also, you will want to install the reef points. Puncture the sails along the reef bands where they intersect the selvages. Next, tie an overhand knot in a short length of fine white cordage. Pass the thread through the puncture hole until the knot fetches up. Then, tie another overhand knot snug to the sail so the reef point won't slip out (see figure 59). All reef points should be cut over size and trimmed back after installation.

7. Rigging the Model With Sails

The sails should be laced to the gaffs and booms and seized to the hoops and hanks after the halliards have been rove off, but before they are belayed. Use fine thread for hoop and hank seizings and slightly heavier cordage for the lacings.

Last to rig are the topsail clew lines (see the plans and figure 60). These are intended to gather the topsail into a loose ball to facilitate furling.

Furled Sails: It is impossible to furl a sail made from the same material and of the same size used for the fully set sail. The cloth is usually too heavy, causing the sail to become too bulky looking. There are two solutions to this problem. First, you may use a lighter material such as Silkspar, which is a model airplane covering tissue; or second, you may elect to use the same cloth, but cut it to a proportion one third the size of the original to reduce bulk. You must still add some seams and hems, though, since even with the sail furled, the detailing will show.

FIG. 59 – Reef Points**FIG. 61 – Locating the Chainplates**

8. Rigging the Model Without Sails

Even without sails, some of the rigging lines such as sheets, halliards and downhauls should remain on ELSIE, along with their lead blocks. Some of the lines will need to be hooked together, such as the jib halliards and downhauls. The running ends of these lines should be belayed at their proper locations.

Mounting the sail rigging lines on ELSIE will add tremendously to the look of the model, especially at the forward stays where the contrasting black stay and light running lines, along with their blocks, create interesting visual detail. On the plans, you will see that the belaying arrangement also indicates the inclusion of cleats or belaying pins for rigging lines such as the jib sheets and topsail tacks. And though without sails these cleats and pins are unused, they still should be fitted on the model.

9. Flags

Naturally, if you set the sails, you will want to have the vessel's flags flying. If one were to follow modern flag etiquette, the Stars & Stripes should be flown from the main gaff. In the early 1900's, there were 45 stars in alternating rows of 7 and 8 stars with an 8 star row on top. Occasionally, a new vessel on her maiden trip would fly Old Glory from the main truck (wooden cap at the top of a pole or topmast for attaching flag or signal halliards) with a huge christening pennant bearing her name from the fore truck. Some topmast trucks, particularly the spherical style, had no halliard sheaves, so a small thimble and grommet were rigged around the poles to take the halliards. The various flags are shown on the plans. Flags can be made from paper or cloth and painted with acrylic paints.

STAGE G

STANDING RIGGING

As mentioned in the discussion under General Rigging Information, all lines for the standing rigging should be blackened in color.

1. Chainplates

These fittings are one of the foundations for the standing rigging and should be considered carefully for this reason. The chainplates for this vessel are tricky and probably the toughest job on the whole model. They can be fitted well only once; any mistakes will show badly and will be almost impossible to correct without leaving tell tale marks. Consider yourself forewarned!

Locating the Chainplates: First, find the precise locations of the chainplates at the rails. The forward port and starboard chainplates for the fore shrouds lay athwart the center of the fore mast at the deck. This applies to the forward main shroud chainplates, too (see figure 61 and the rigging plans). Mark these positions with a pencil, then measure and mark the positions of the chainplates which lay abaft their respective leaders. See the rigging and deck plans for spacing intervals and transfer these spacings carefully using a pair of dividers.

There are three lower shrouds on both sides of each mast. The chainplates of each group should be evenly spaced. Equally spaced between the second and third chainplates of each triplet lays a fourth and smaller chainplate for the topmast shrouds. Be sure that all of these positions are marked clearly and exactly.

Achieving the Proper Angle: Each chainplate should be mounted at an angle relative to the rake of the mast. First, step the masts so they stand nearly vertical (see the rigging plan, and for the moment, disregard the previous sermon on sprung masts). Take a length of cordage and loop and tie it at a point on the mast where the shrouds will eventually be placed. Then extend the line of cordage down to the rail where a chainplate should be fitted (see figure 62). Pull the cord to the waterline, holding it taut, and strike a line from the reference mark at the rail to the lowest limit of the chainplate. Such a line should be created for each chainplate in order to determine its proper individual angle.

Making the Chainplates: Included in the kit are sixteen prefabricated chainplates that will allow for a simplified installation (see Figure 63). This method requires a minimum of tools and is recommended for the beginner. Normally, the chainplate is recessed into the hull planking with its upper end "buried" in the cap rail, as will be described in the next paragraph. But, if you adopt the simplified installation, you will be able to forego these maneuvers.

FIG. 62 – Achieving the Proper Angle

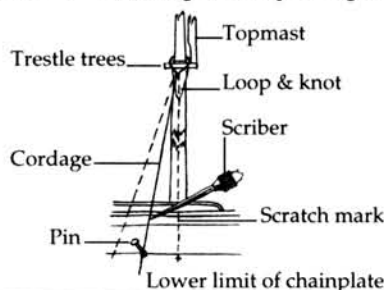


FIG. 63 – Simplified Chainplates FOR LOWER SHROUDS

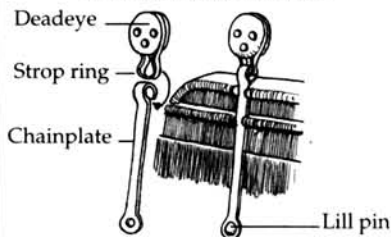


FIG. 64 – Chainplates of Essex-Built Schooners

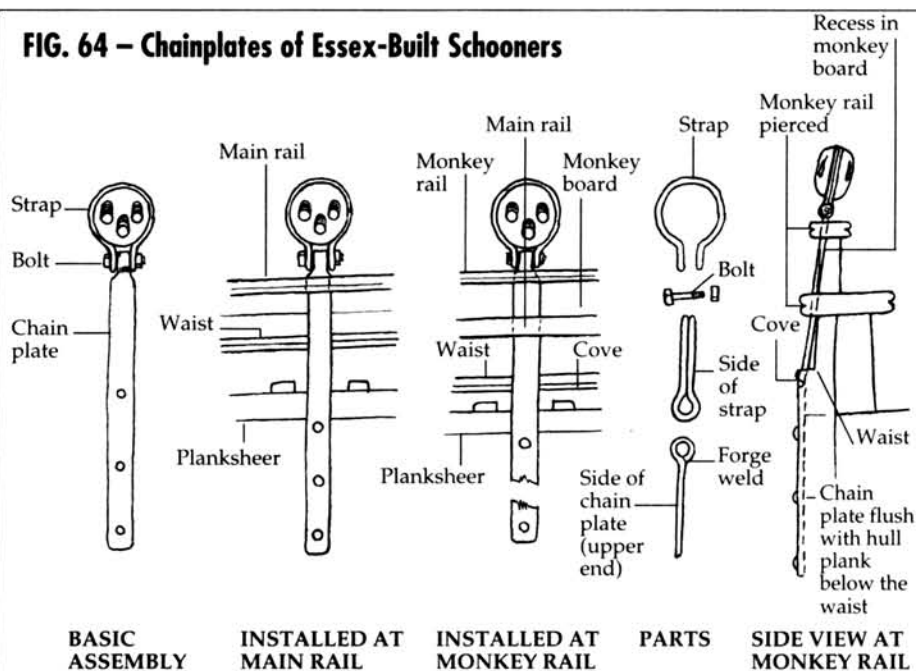
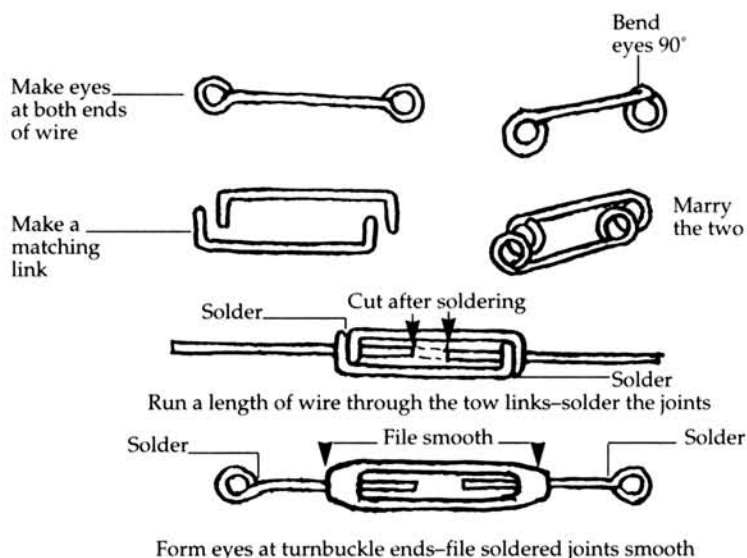


FIG. 65 – Turnbuckles (simplified)



For those interested in building precisely detailed Essex chainplates, one method is shown in figure 64. You will need to buy some brass strips to make them.

If done properly, the chainplates should be recessed into the hull so they are flush with the hull planking. Their heads should poke up through the rails (see figure 64). This will entail some fancy drilling and cutting, not to mention giving your layout work very careful attention. Nails for fastening the plates in true scale fashion are no longer available. So, drill the chainplates to accept lill pins. Hold the pins in place on the hull and drive them in with a driver tool. If you prefer smaller heads on the pins, they may be filed smaller and flatter, using a pin vise to hold them during the process.

2. Rigging the Bowsprit

Inner & Outer Bobstays: Make and set up the inner and outer bobstays (see plan sheets 2 & 3). The lower ends should be eyespliced and shackled into the bobstay irons. The upper ends should be eyespliced, shackled to turnbuckles and set up taut. The lower ends of the bobstays on the lifesize vessel were often given an extra heavy serving. In addition, the outer received a covering of rawhide or heavy leather called a stradden, which was laced on the topside of the stay. This was done to prevent chafing from the ground tackle while lying at anchor.

Bowsprit Guys: Next to be fitted are the bowsprit guys. They should be spliced in similar fashion to the bobstays.

3. Turnbuckles

Dummy turnbuckles can be fabricated with wire and solder (see figure 65). If you cannot get them to scale, better forget them and just secure the bobstays to the eyebolt.

4. Footropes & Manropes

These are finer secondary elements of the bowsprit rigging. They should be rigged very slack as shown on the rigging plan. The bowsprit guys and footropes should be linked together by tarred manila "stirrups" which should be done similar to ratlines (see figure 66).

5. Fore & Main Shrouds

Pairing & Seating of Shroud Lines: Shroud lines must be put on before the stays and before the topmasts can be fitted. Each of the lines will extend from the mast heads to the chainplates (see plans). You may work on one or both masts at the same time. Begin with the first pair of shroud lines at starboard and then the second pair at port (see figures 67). Each pair is comprised of a single length of cordage that should be doubled over and seized together to form a loop that will fit loosely around each mast head (see figure 68).

FIG. 66 – Bowsprit Rigging

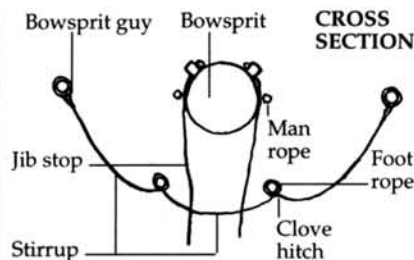


FIG. 67 – Shroud Sequence

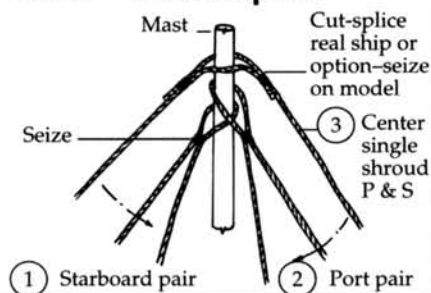


FIG. 68 – Seating the Shrouds

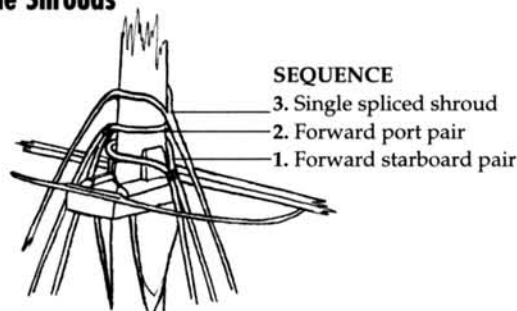


FIG. 69 – Shroud Deadeyes

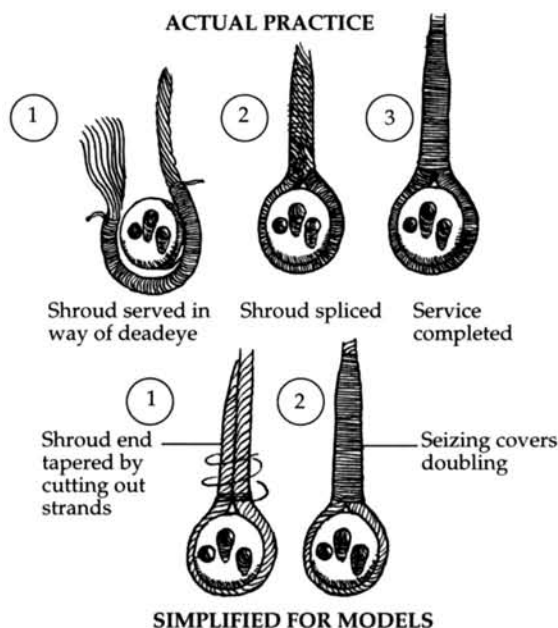


FIG. 70 – Line-up of Deadeyes

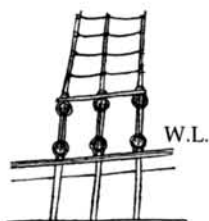
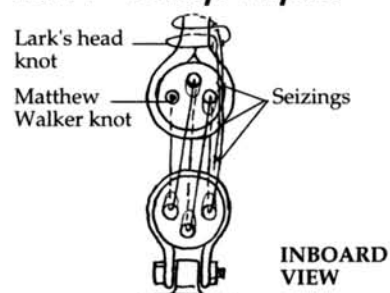


FIG. 71 – Deadeye Lanyards



Next, you may begin the "single" shroud line. To create this "single" shroud line you will need two lengths of cordage for joining at each mast head. One end of each of these two lengths should be wrapped around the mast head to meet the other. Draw just enough excess length, so that you can cut splice them together (see also figure 67). This joining will form a single continuous line that you can extend downward both port and starboard.

Shroud Line Deadeyes: The lower ends of the shroud lines were, in actual practice, spliced around the deadeyes. Each shroud end should be first served where the deadeye should be fitted. An eye-splice then should be made and covered with serving in the same fashion as was done on the main lengths of the shroud lines. The deadeye splice may be substituted with a very neat job of seizing and tapering of the shroud end along its doubling (see figure 69).

Setting Up the Deadeyes: Generally, the upper deadeyes should be set up to the shrouds so they line up parallel with the main rail (see figure 70). To set up each shroud line, first tie a stop knot in the lanyard of each deadeye. A Matthew Walker knot is most proper, but in this scale, a figure eight knot makes a neat substitute. Next, reeve off the lanyards (see figure 71). You will need to finish them off in a lark's head knot at the shroud lines and seize the lanyard end to its last leg. But before making the lark's head, make the sheer poles and seize them to the shrouds (see figure 72).

6. Belaying Pin Racks

Following installation of the sheer poles and the setting up of the deadeyes, the pin racks should be cut out, stained, and their belaying pins installed. Seize the racks between the lanyards (see also figure 72).

7. Ratlines

These may be rigged as soon as all shroud line units are set up. Or, if you prefer, you may do them after the fore and main lower standing rigging is finished. There are various ways to do this job. They can be sewn in place, glued on, or hitched to the shrouds as in actual practice. Hitching is the most tedious method, but it always looks the best when done carefully and honestly (see figure 73). Whatever method you prefer, use the finest thread available. Assuming that the real ratlines had a diameter of $1/2$ " a .005" diameter thread should do the job on the model at $1/8$ " scale. It is possible to find silk and some synthetics to this degree of fineness.

Draw A Ratline Diagram: Proper spacing and levelness of ratlines are vital to achieving a pleasing appearance. To aid you in your work, draw fine rulings for spacing the ratlines on an index card. Place the card with the finished diagram between the shroud lines and mast, parallel to the waterline. Your taking the time to create

FIG. 72 – Pin Rack Details

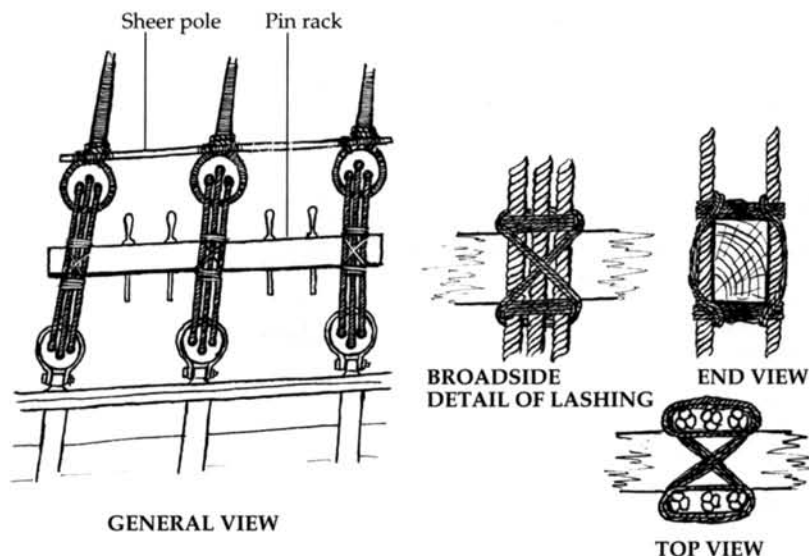
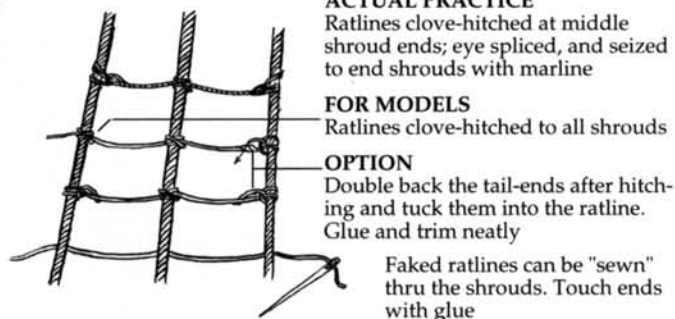


FIG. 73 – Ratlines



this guide will make the work easier to see and do. If your ratlines resemble a spider's handiwork rather than that of clumsy fingers when you are finished, then you've achieved the right effect!

8. Lantern Boards

These lantern boards (see figure 74) are provided as Britannia castings. The boards would generally be inserted into iron holders that are seized to the shroud lines. For the model you could just glue them to the shrouds.

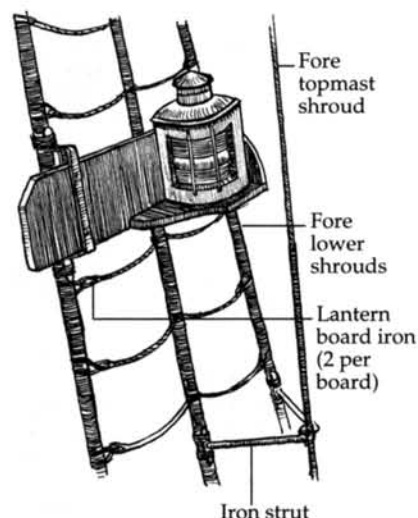
9. Spring Stay

This stay is eyespliced at both ends (see figure 75). This requires removal of the masthead bails so they can be passed through the eyes. Simple seizings are perhaps a better alternative.

10. Jumbo Stay

First make the bridle that goes around the fore masthead and over the spreader (see figure 76). This bridle should have its ends eyespliced. It can be made of wire, but thread will be more manageable. The head of the jumbo stay should be eyespliced, and shackled to the bridle ends. It

FIG. 74 – Lantern Boards



can be made of wire which should be bare over most of its length, except for the addition of rigging tar. The lower end should be doubled over, and seized with wire to form an eye which gets bolted into the gammon strap. In the case of the actual vessel, fitting the jumbo stay and its bridle was not so simple a matter. As you may recall from earlier reading, the masts were raked aft slightly and sprung forward, making the procedure difficult.

For the Curious: Here is an explanation of how the rigging of the jumbo stay and its bridle was done on the actual vessel. The fore stays were made somewhat short and then pulled down to the straps or eyes. This meant that the riggers, and any other hands available, would drop what work they were doing and go forward to assist while the boss rigger presided over this serious (and also dangerous) job. A heavy gin tackle would be hitched to the stay, and the lower end made fast to the bowsprit. Next, the hauling end would be taken around the windlass a few times. While the windlass gang pumped away, the hauling gang pulled and grunted as the stayeye was pulled down to the gammon strap and bolted quickly into place. As tension was applied, it would properly settle. Heaven help the poor soul who handled the gin tackle. If it slipped or broke, he would be thrown from the masthead as from a slingshot—and how these fishermen loved to have their stays tight!

11. Jib Stay

This stay should be spliced at its upper end and shackled to an iron bail at the fore mast cap. The lower end should be served, doubled over and seized, then shackled to the iron withe at the end of the bowsprit. There should be a lot of tension on the jib stay, but not quite as much as on the jumbo stay. Do not slacken the latter when setting up the former.

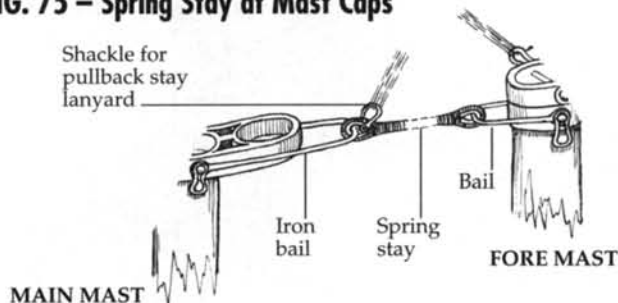
12. Spreader Lifts

These short wire lengths support the spreaders at points where they must bear the strains of the dory tackles and the tramlings of the masthead men and lookouts. On each side, the wire should be doubled over to form an eye, and then seized and shackled to a figure eight link at the cap. The lower ends should be eye-spliced around thimbles, and then set up to eyebolts in the spreaders with lanyards.

13. Fore & Main Topmast Shrouds

These are single wire leads on each side of the topmasts (see plan sheet 2). They should be cut spliced to each other, served and then seated over the topmasts. The lower ends should be spliced around dead-eyes, as in the lower shrouds, and set up with lanyards in like fashion. The topmast shroud lanyards should pass outboard of the sheer poles and should not be involved in any way with these or the pin racks.

FIG. 75 – Spring Stay at Mast Caps



14. Main Topmast Stay

This line should be eye spliced and served at its upper end and seated snugly around the main topmast head, over the topmast shrouds. The lower end should terminate in a small eye that is spliced and served. Reeve a lanyard between the eye and a figure eight link on the port side of the fore mast cap. Set up the line, springing the main topmast forward (see rigging plan sheet 2).

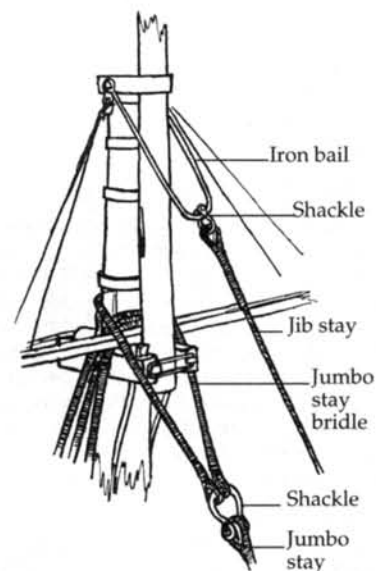
15. Pullback Stay

The ends and fittings are identical to the main topmast stay, but this is somewhat shorter, as can be measured from the rigging plan. It should be set up with a lanyard to a shackle in the aft eye of the spring stay. Apply only enough tension to keep the stay from kinking; the forward rake of the fore topmast must not be affected.

16. Main Boom Footropes

Located both port and starboard, each footrope should be eye spliced at both ends. The aft ends should be shackled to ringbolts at the end of the boom on both sides. Shackle the forward ends into the set up bolts in the main sheet band (see rigging plan sheet 2).

FIG. 76 – Head of Jib & Jumbo Stays



STAGE H

RUNNING RIGGING

The running rigging lines are all tan or grey in color, depending on what dye you selected. If you are going to apply beeswax to the lines, it is best to do it before rigging them. Especially in the case of the standing ends of running lines and those attached to blocks. Again, it is important to think about procedures well in advance of installing any parts.

Where to Begin: If you plan to rig your model with sails, they should be made now and bent to the rigging and spars as pertinent running rigging is rove off. A discussion of sailmaking is in Stage F. If you haven't read that section yet, do so now.

Before you start the running rigging, all blocks must be hooked or shackled to their appropriate bands on the spars or designated hull fittings. Bridles and pendants also must be rigged where indicated.

1. Blocks

The blocks supplied in the kit should be allocated according to the rigging table. You may want to make some smaller blocks to get even closer to scale as possible. Clean the blocks a bit by reaming out the sheave holes and filing out the grooves for the sheaves and strops (or straps). Then strop them (see figure 77). Note from the plans and sketches that most fisherman blocks of this period were internally stropped. To follow such practice on the model would mean resorting to actual block making techniques in miniature. Only advanced modelmakers should attempt to do this. Your safest bet is to fit external strops as snugly in the strop grooves as possible, then carefully file the sides of the blocks so they blend with the strops. Paint all blocks just as they were on the working fishermen. Use either white or buff to match the booms and gaffs.

2. Jumbo, Fore & Main Boom Rigging

Study the rigging plan carefully and observe the leads and belaying points of boom tackles, topping lifts, sheets and crotch tackles (see also figures 78 and 79). Start with the topping lifts and get them set up so the booms "peak" at about the angles shown on the plans. Fit the fore and jumbo booms to their goosenecks, the main boom to its saddle, and rig the main boom parrel strap.

Fore & Main Boom Tackles: Rig these next and belay them as directed (see plans and refer to figure 47). The Sheets can now be made fast to the block buckets and rove off and belayed (see the plans and figures 80 and 81). Unless the model is to be rigged with sails, the booms should be sheeted home snug. Figure 80 shows the proper rigging of the crotch tackles as they would be if the sails were furled or omitted. The figure also demonstrates how the tackle would be properly stowed away if the vessel was under sail (unless the vessel was jogging under reduced sail).

3. Fore & Main Gaff Rigging

Throat Halliard Blocks: By now, these blocks should have been hooked into the crane irons (refer to figure 40). Bolt the fore peak halliard blocks to their bands on the gaffs. Run the gaff blocks of the main peak halliard on wire bridles whose ends have been spliced around the gaff. Note: as noted earlier, the main halliards could be like the fore without the bridle. All mast-head blocks for the peak halliards should be hooked to their respective ringbolts.

Peak & Throat Halliards: These halliards can be hauled from both of their ends. The hauling ends are used to lift the gaffs up. The whip ends are used to make final adjustments in the set of the gaffs (see figures 82 and 83). These ends alternate. This means that the throat halliard whip will be opposite the peak halliard whip, and the throat and peak hauling ends will be opposite each other. Note the gill guys (wooden poles) that are rigged to the upper whip blocks and run to the topmast shrouds (see figure 84). The use of gill guys was to prevent the whip falls from twisting and fouling. Note the small halliard fairleaders mounted to the iron spreader struts; the hauling ends of throat and peak halliards are passed through these in their travels to the fife rails (see the masthead details on sheet 3).

It should be anticipated that some topsail gear will lead to the gaffs. Precise leads are described in a later paragraph. There is also a flag halliard to rig from the peak of the main gaff (refer to figure 51). Don't forget to rig the parrels (wire) and trucks (glass beads) to the gaff jaws (refer to figure 40).

4. Head Sail Rigging

Even if you don't rig sails, perhaps you ought to rig all of the halliards, sheets and downhauls for the jumbo, jib and balloon to show evidence of their existence, if nothing more. In actuality, when sails

FIG. 77 – Stropping the Blocks

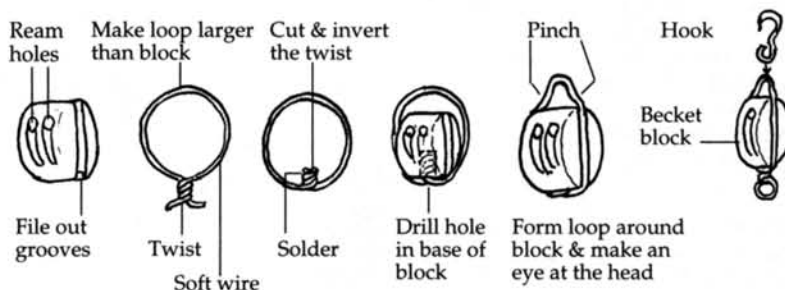
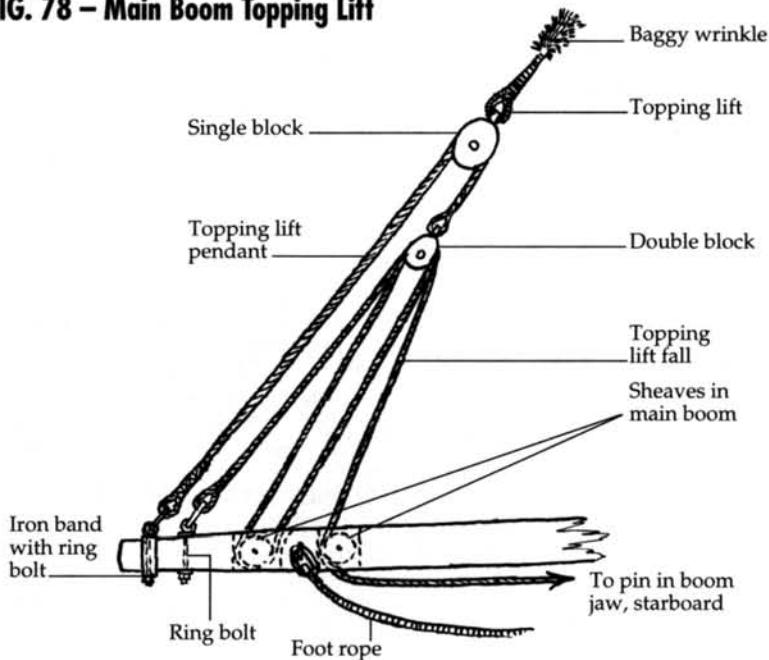


FIG. 78 – Main Boom Topping Lift



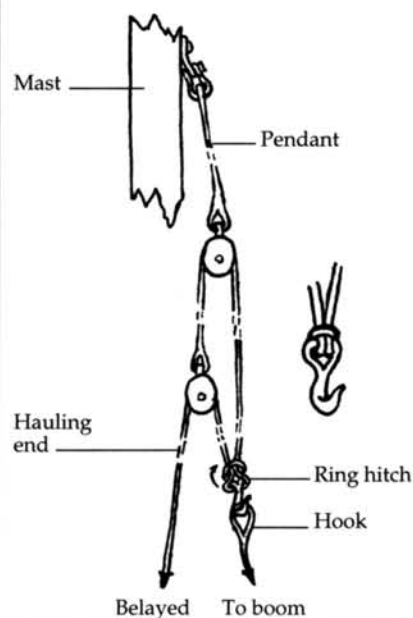
were taken off the vessel, all downhauls, the jib and balloon sheets, and the balloon tack line would have been unrigged, too. But, to do this on the model would leave it looking rather bare. It is your choice, so rig it accordingly.

Jumbo & Jib Halliards: These should be rigged with hauling and whip ends, but they are simpler than those of the gaff halliards (see figure 86). As can be seen, gill guys are not needed for the whips. If you're not going to show sails, hook the halliard blocks to the tack hooks at the stay eyes, or hook them to the downhauls, if the latter are rigged.

Balloon Halliard: This halliard is much simpler and requires little additional explanation (see rigging plan sheet 2). It may be hooked to the tack line when in lowered position without sails.

Jib Sheet: Run this line through bullseyes spliced into the ends of a wire sheet pendant. On the real vessel, the standing end of the sheet was spliced to a bullseye mounted atop the buffalo chock, but it can be seized on the model. Next, it should be rove through the sheet pen-

FIG. 79 – Fore & Jumbo Boom Tackles



dant, and aft to another bullseye fairlead mounted inside the buffalo chock, then on to a cleat in the bulwarks (see hull and rigging plans).

Balloon Sheet: This line consists of single leads, port and starboard, which should be hooked to the clew of the sail and led aft to adjustable fairlead thimbles which should be rigged to the main topmast shrouds. From the leaders, they should be taken to belaying pins in the main rail (see figure 87).

With the sails omitted, the jib and balloon sheets may still be rigged by hooking their clew ends into the hooks of the lower halliard blocks. In addition, the jumbo sheet leader should be lowered to main rail level.

5. Fore & Main Topsail Rigging

Topsail Halliards: These are very simple lines (see the rigging plans). The topsail sheets should be led out to blocks at the gaff ends, and down through lead blocks at the gaff jaws, then on to their belaying points (refer to figures 51 and 40, respectively). The rigging of the fore topsail sheet is more complicated than this and requires a double lead. On the real ship, it was a necessity to allow getting the topsail over the spring stay and main topmast stay when tacking the line. Under sail, the lee sheet was taken up. The weather sheet was slack and led up over the main topmast stay and down to the weather cheek block at the head of the gaff.

Main Topsail Tack: This is a single lead which should be hooked into the tack of the main topsail and led down to a pin in the fife rail on the port side. The fore topsail tack again should have two leads. Make the weather tack taut and the lee slack. The weather tack is for hauling the

FIG. 80 – Main Sheet & Crotch Tackle

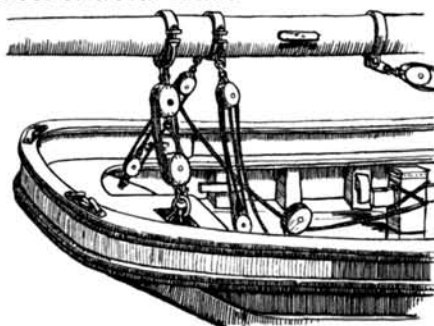


FIG. 81 – Fore & Jumbo Sheets

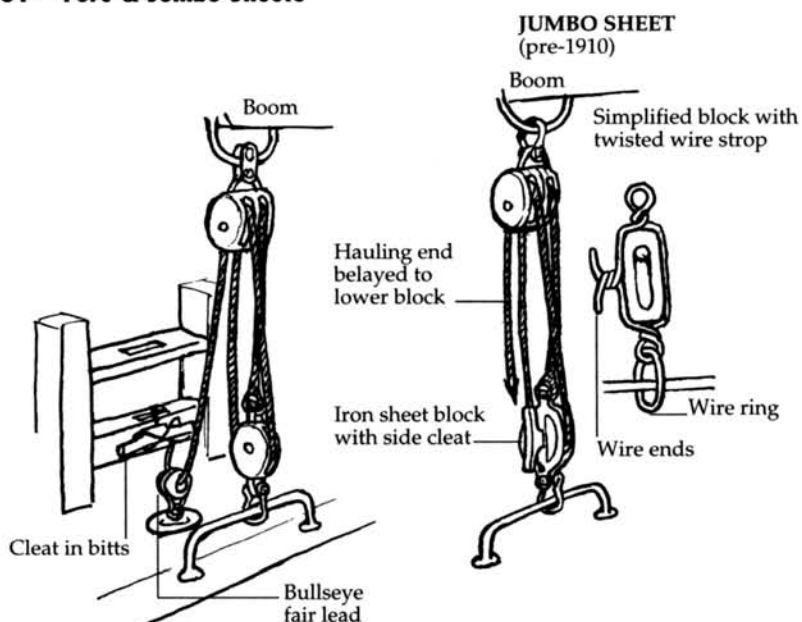


FIG. 82 – Throat & Peak Halliards

(Gaffs and masts omitted for clarity)

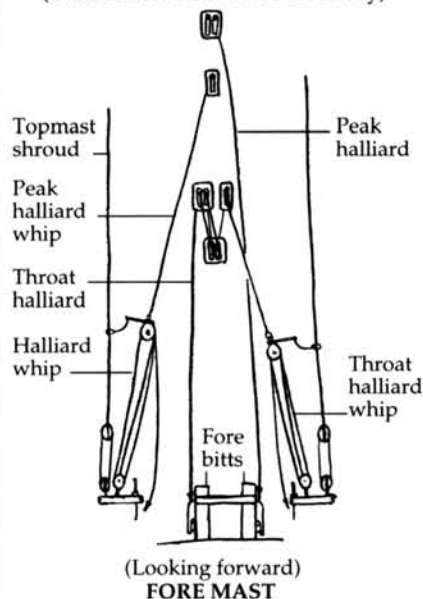


FIG. 83 – Main Mast

(Gaffs and masts omitted for clarity)

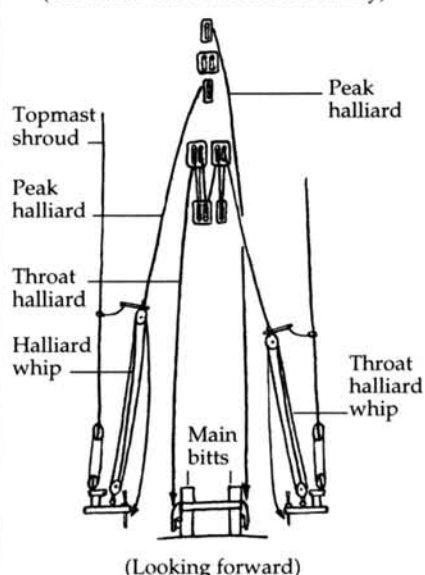


FIG. 84 – Gill-Guy

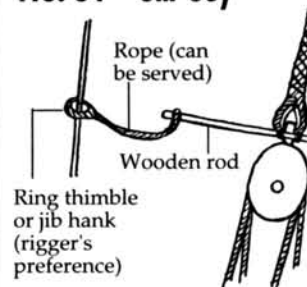
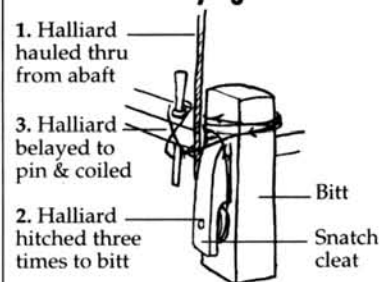


FIG. 85 – Belaying Halliard at Bitt



foot of the topsail over the gaff. It should be taken down to the fife rail and belayed. The lee tack should be led up from the foot of the sail, then over the spring and main topmast stays from the lee side. Next, take it down the weather side of the stays and the fore peak halliard, then over the gaff, and down the lee side of the fore sail to the fife rail (see figure 88).

If you're rigging the model to include no sails, the topsail sheets and tacks may be omitted. For the sake of visual interest, however, the sheets may be rigged. Hook their clew ends to the topsail halliard blocks, and then hook the halliard blocks to the mast caps.

6. Staysail Rigging

Because the staysail on ELSIE had both peak and throat halliards, it had to be lowered to deck when tacking, and then reset on the opposite legs of the same double halliards. This, of course, differed from the staysail halliards of the later "racing" fishermen which had only to dip their staysails under their springstays to reset them on the opposite tack.

The peak halliard was actually an endless rig, so there were no bitter ends to come loose. The lee part of the halliard was hooked to the head of the sail and hoisted aloft by hauling on the weather part which was then belayed to the main rail (see figure 89).

The throat halliard was a single lead with hooks at each end; the lee hook went into the throat cringle of the staysail which was sent aloft by hauling on the weather part of the halliard. In tacking, the sail was lowered to the deck and the halliard ends switched duties.

When idle, both ends of the peak halliard were hooked to the sheer poles, the slack taken to a belaying pin; and both ends of the throat halliard were taken to their respective belaying points.

The staysail tack was a simple lead from sail to fife rail and requires no further elaboration. The staysail sheets were single leads, port and starboard, as shown on the plans. Their hauling ends first went through snatch cleats in the bulwarks, then aft to the bulwark cleats.

7. Mooring & Other Lines

For that "salty" look, add a few coils of line at various locations on deck. Coil them loosely and secure them with a touch of white glue (see figure 90). Lengths of line that remain after tying them off at belaying pins may be coiled around the pins (see figure 91).

Congratulations !

Your model is complete! Don't hesitate to call Model Expo when you are ready to begin your next modeling endeavor.

FIG. 86 – Jumbo & Jib Halliards

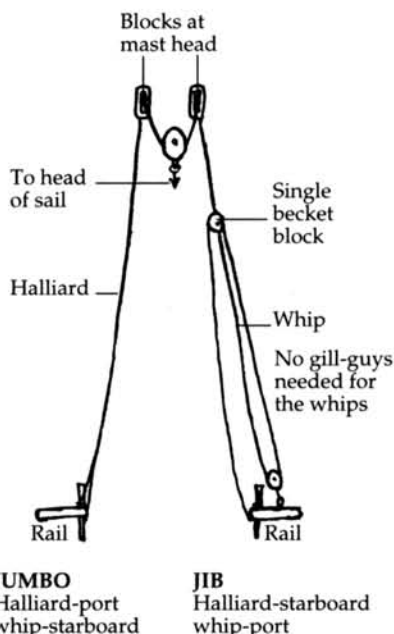


FIG. 87 – Balloon Sheet Leader

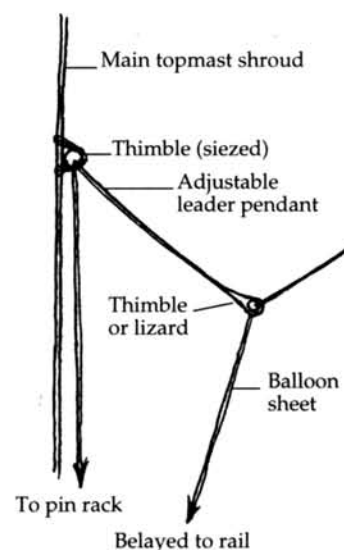


FIG. 88 – Lead of Fore Topsail Tack

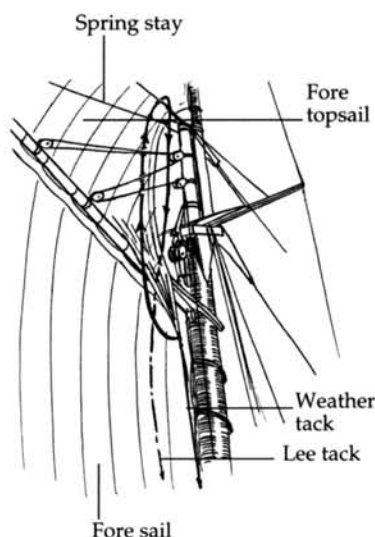


FIG. 89 – Staysail Halliards (idle)

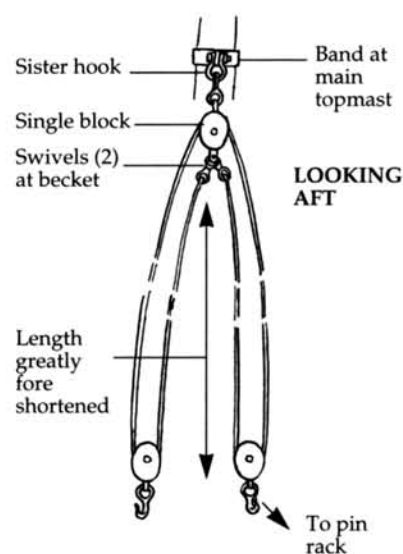


FIG. 90 – Coiling the Ropes

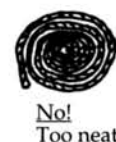
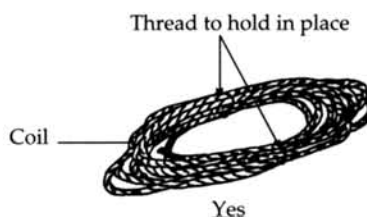
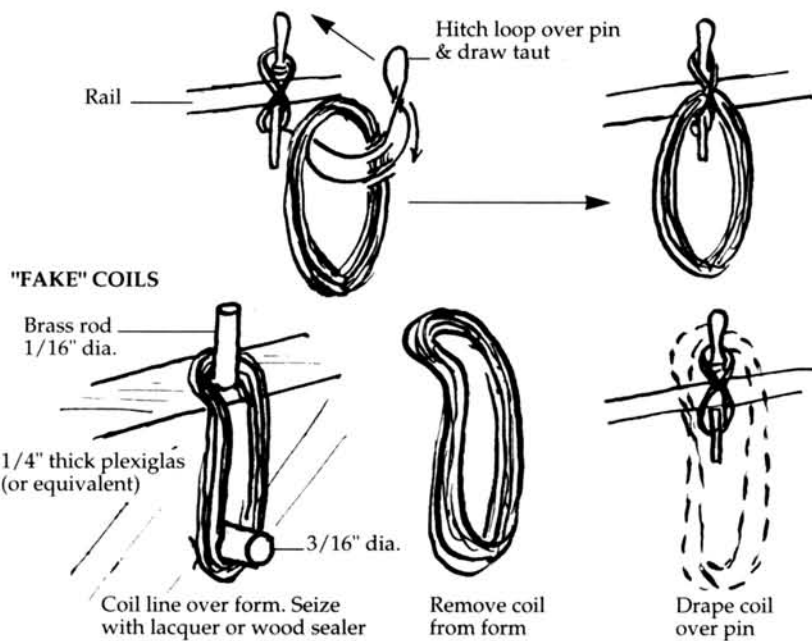


FIG. 91 – Rope Coils



RIGGING LINE DIAMETERS

.10mm (.004")

.20mm (.008")

.25mm (.010")

.40mm (.016")

.50mm (.020")

.60mm (.024")

.75mm (.030")

.80mm (.032")

.90mm (.035")

.95mm (.037")

1.00mm (.039")

1.20mm (.047")

1.25mm (.049")

1.30mm (.051")

1.50mm (.059")

1.60mm (.063")

1.70mm (.067")

1.75mm (.069")

2.00mm (.079")

2.50mm (.098")

CONVERSION TABLE FOR 1/8" SCALE

RIGGING

Diameters for Lifesize Vessel	Diameters in Tenths of an Inch	Diameters Converted to 1/8" Scale
5/16"	.3125"	1/96 x Inches in 10ths:
3/8"	.375"	.003" (.08mm)
1/2"	.5"	.004" (.10mm)
5/8"	.625"	.005" (.13mm)
3/4"	.75"	.006" (.15mm)
7/8"	.875"	.008" (.20mm)
1"	1"	.009" (.23mm)
1-1/4"	1.25"	.010" (.25mm)
		.013" (.33mm)

BLOCKS

Lengths for Lifesize Vessel	Lengths Converted to 1/8" Scale
4"	.04" (1.02mm or 1/32")
5"	.05" (1.27mm or 3/64")
6"	.06" (1.52mm or 1/16")
7"	.07" (1.78mm or 5/64")
8"	.08" (2.03mm or 5/64")
10"	.09" (2.28mm or 3/32")
12"	.13" (3.30mm or 1/8")

FORMULAS FOR CONVERTING MILLIMETERS AND INCHES

1 mm = .03937 of an inch

To find tenths of an inch:

.03937" x mms = tenths of an inch

To find mms from tenths of an inch:

Tenths of an inch ÷ .03937" = mms

RIGGING & BLOCK SIZES FOR ACTUAL VESSEL

(To convert sizes to 1/8" scale see Diameter Conversion Table)

Standing Rigging (All wire except as noted)

Item	Diameter
Bobstays (2)	1-1/16"
Bowsprit guys	1"
Footropes	5/8"
Backropes	5/8"
Stirrups (rope)	5/8"
Lower shrouds	1-1/8"
Lower shroud lanyards (rope)	1-1/4"
Ratlines (rope)	1/2"
Jumbo stay	1-1/8"
Jib stay	1-1/16"
Spring stay	1-1/4"
Spreader lifts	1/2"
Fore and main topmast shrouds	3/4"
Topmast shroud lanyards (rope)	7/8"
Balloon stay	5/8"
Pullback stay	3/4"
Main topmast stay	5/8"
Main topmast flying backstays	1/2"
Main boom topping lift pendant	1-3/4"
Main boom footropes	5/8"

Running Rigging (All rope except as noted)

Item	Diameter	Block Length
Jumbo halliard	1"	12"
Jumbo halliard whip	3/4"	8"
Jumbo topping lift pendant (wire)	5/8"	-
Jumbo topping lift fall	3/4"	8"
Fish hook pendant (wire)	1-1/4"	-
Jumbo boom outhaul	5/8"	6"
Jumbo sheet	1"	10"
Jumbo downhaul	3/4"	2" thimble
Jumbo tail rope	1"	2" thimble (fore)
shrouds)		
Jib halliard	1"	12"
Jib halliard whip	3/4"	8"
Jib sheets	1"	5"
Jib downhaul	5/8"	6"
Balloon halliard	3/4"	8"
Balloon downhaul	1/2"	5"
Balloon sheets	3/4"	-
Fore throat halliard	1-1/16"	14"
Fore throat halliard whip	3/4"	8"
Fore peak halliard	1-1/8"	14"
Fore peak halliard whip	3/4"	8"
Fore sheet	1-1/8"	14"
Fore topping lift pendant (wire)	5/8"	-
Fore topping lift fall	3/4"	8"
Fore boom tackle	3/4"	8"
Fore topsail halliard	3/4"	8"
Fore topsail sheets	3/4"	8"
Fore topsail tacks	3/4"	-
Fore topsail clewline	5/8"	5"
Main throat halliard	1-1/16"	14"
Main throat halliard whip	3/4"	8"
Main peak halliard	1-1/8"	14"
Main peak halliard whip	7/8"	9"
Main sheet	1-1/4"	14"
Main boom crotch tackle	3/4"	8"
Main boom topping lift runner	1-1/4"	12"
Main boom topping lift fall	3/4"	8"
Main boom tackle	7/8"	10"
Main topsail halliard	3/4"	8"
Main topsail sheet	3/4"	8"
Main topsail tacks	3/4"	-
Main topsail clewline	5/8"	5"
Staysail peak halliard	3/4"	8"
Staysail throat halliard	7/8"	9"
Staysail tack	3/4"	-
Staysail sheet	7/8"	-
Flag halliard	1/2"	4"
Pennant halliards	3/8"	trucks
Dory tackle pendants (wire)	7/8"	-
Cat stopper (chain leader)	1-1/4"	sheaves
Main topmast flying backstay tackles	3/4"	8"



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3. Campbell, G. F., *The Neophyte Shipmodeller's Jackstay*, Model Shipways, 1962. Describes modelwork of a general nature, drawing examples from many types of sailing ships. Contains some good hints on crafts techniques. For the beginner.

Museums with Important Collections Relative to the New England Fishing Industry:

1. Cape Ann Historical Association, 27 Pleasant Street, Gloucester, Massachusetts 01930. Models, paintings, photographs, news clippings, artifact material on exhibit. Comprehensive library on Gloucester maritime history.

2. The Mariners Museum, Newport News, Virginia 23606. Models, paintings, photographs and artifact material on exhibit. Excellent library.

3. The Marine Historical Association, Mystic Seaport, Mystic, Connecticut 06355. Fishing schooner L.A. Dunton; also fishing dories and related exhibits. Excellent library and archival centers

4. Peabody & Essex Museum, 161 Essex Street, Salem, Massachusetts 01970. Fine contemporary models of fishing schooners, paintings, artifact material on exhibit; also a splendid collection of builders' half models and sail plans, mostly in storage and available for study by appointment. Extensive photo files; superb library.

5. Smithsonian Institution, The Museum of American History on Constitution Avenue, Washington, D.C. 20560. Superb collection of rigged models of American fishing craft. Photo files, plans files, artifact material in storage with varying accessibility.

6. South Street Seaport Museum, 16 Fulton Street, New York, New York 10038. Fishing schooner and fishing gear.

7. Whaling Museum, 18 Johnny Cake Hill, New Bedford, Massachusetts 02740. An important collection of photographs of fishing taken by Albert Cook Church is available for study by arrangement with the museum staff.



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