Lady Eleanor

70 Foot Sailing Fifie

Circa 1900

Building Manual

VANGUARD MODELS

BY CHRIS WATTON

Designed, developed and produced in the UK

PART NUMBER – VM–04

Fifie Fishing Boat History

Written by James A Pottinger for the Vanguard Models Lady Eleanor kit

Fifies were characterised by a double ended hull with near upright stems and straight keel, and early boats of around 27ft keel and 36ft overall where builders were concentrated in the coastal areas of the River Forth, Fife and the borders, these characteristics could be retained despite a variation in overall size.

The much bigger Fifies were the ultimate development of the sailing Fifie, increasing length to around 70ft overall, with a length of waterline almost as great as the overall length. By the 1880's the larger boats reached an overall length of 70ft and 668ft to 68ft long keel, and by the end of the 19th century the boatyards at St Monance and Anstruther in Fife became the best known exponents in the construction of these craft, however they still built numerous examples of the small inshore Fifies.

The lowering foremast, normally the same length as the keel, was a single spar of over 20ins diameter at the deck and could weight up to 3 tons.

The sail rig was similar to the Zulu, the total area could reach 3650 sq.ft., the yard on the fore lug was 30ft, and before the advent of steam capstan the combined weight of the yard and sail could only be hoisted by means to twin or triple block tackles. A large Fifie could be built in about 3 months despite the substantial scantlings, as an example the keel being 12ins x 8ins and the frames being closely spaced at 12ins apart with 2in thick planking. The rail was kept low, at 12 ins, to facilitate hauling the herring nets aboard.

Fortunately we still have two examples of a Fifie fishing boat, the restored Reaper, based at Anstruther, and the smaller Swan of Shetland, both undertaking sailing trips around the UK coast including as far as Scandinavia.

REAPER

The Reaper was built by J & G Forbes of Sandhaven near Fraserburgh on the Moray coast in 1901 as a typical two masted lug sail herring drifter, being70.26 ft overall with a beam of 20.3ft. and first registered as FR958. When she moved to Shetland she took the port number LK707 when registered in 1908. Fishing until the outbreak of WWII in company with fishing boats she was requisitioned by the Admiralty after which she continued fishing from Shetland until 1957. Two years later she was bought by the local County Council and used as a general purpose cargo boat, being renamed Shetlander.

She was then bought by the Scottish Fisheries Museum in1975 and over the following years was restored to original rig, taking her original name and registry number. As one would expect a craft of this vintage she has had considerable repair work to maintain seaworthiness.

SWAN

The Swan was launched on 3 May 1900 by Hay & Co at their yard at Lerwick, Shetland as LK243 and fitted with twin dipping lugsail rig. Her dimensions were; 66.95ft overall and with beam of 19.74ft and the design and construction conformed to the traditional Fifie.

In 1908 she was converted to a gaff ketch, locally known as a smack rig, and fished under sail until 1935 when an engine was fitted. Finally in 1960 she was sold for conversion to a house boat and was moved to Grimsby. After a number of owners she was move to Hartlepool 1982, but being neglected she sank two or three times. Then a local business man bought her but realising the time and cost constraints precluding any restoration offered her for sale, and fortunately the Swan Trust was formed in Shetland and was able to purchase the boat and moved her back to Shetland in 1991

Following a complete restoration, requiring renewal of much planking, etc. she was re-launched on 11 May 1996, rigged as a Shetland smack, and since 1998 she has operated as a sail training and excursion vessel.

The Fifie Reaper, painted by James Pottinger

THE KIT

The Fifie was a very attractive and numerous fishing boat that was commonly seen around the waters off the east coast of Scotland from around 1850, and in operation for around a century. These were very popular and successful vessels and real workhorses for those Scottish fishing communities, particularly in landing herring. Unlike the Zulu (Vanguard Models kit #03), the Fifie had more of a traditional layout, with no steeply raked sternpost, and she was almost symmetrical in side view, with quite a wide beam for a relatively short vessel.

Interestingly, like the Zulu, the Fifie seems to have had no standing rigging on its fore and aft masts, instead relying on support entirely upon their sail halyards and a burton stay tackle, set up to windward. This did mean that any failure would have been catastrophic.

The model kit is designed to be as accurate as possible for a commercial kit in both scale and detail and has been developed with the beginner to intermediate modeller in mind, with some aspects simplified for ease of construction. More experienced modellers can modify the kit how they wish. This kit is an ideal introduction to the world of Plank on Bulkhead (POB) modelling, and the modeller will learn many valuable lessons through its construction.

Although the kit of Lady Eleanor is as easy to build as we can make it, very basic woodworking skills (and patience) are still required. A small workspace will have to be put aside for the assembly. Do not remove parts from the laser cut sheets until actually required for fitting, as they can be easily damaged or lost.

Take plenty of time to study this manual until you are confident enough to tackle each stage of construction. Patience is the key word when building any scale model. Treat each stage as a separate project and the overall effect of the completed subject will be much enhanced.

Care should be taken when cutting parts from the laser and brass etched sheets. The sheet from which you are going to cut the parts should be laid on a hard, flat surface. Use a heavy-duty craft knife (a Stanley Knife or Swann Morton scalpel are perfect) with a good strong blade to cut through the tabs holding the parts in place. It is easier to paint most of the photo-etched parts before removing them from their sheets. They can be touched up again once in place on the model. For the Lady Eleanor prototype model, some of the photo-etched brass was left unpainted to highlight some aspects of the vessels detail.

When painting parts in wood, use multiple coats with fine sanding in-between each coat to help minimise the grain visibility. Never settle on just a single coat but take your time with every single sub assembly.

Recommended tool list

(All items listed were used by the designer to build the Lady Eleanor prototype model)
1: Craft knife (or standard Stanley Knife, which is robust enough for most jobs)
2: A selection of needle files
3: Razor saw
4: Small wood plane (for rough tapering of masts and yards before sanding smooth)
5: Pin vice or small electric drill (the latter is the more recommended item)
6: Selection of drill bits from 0.7mm to 1mm
7: Selection of abrasive paper and sanding block (typically 120 – 240 grade)
8: Selection of good quality paint brushes
9: Pliers/wire cutters (Good quality side cutters are excellent for trimming rigging ends)
10: Good quality set of fine tweezers (For small parts and rigging)
11: Steel ruler (300mm - for providing a straight edge for tapering the planking)
12: Clothes pegs or small clamps
13: Good quality pencil or drawing pen
14: Masking tape (Tamiya or Tesa masking tape are highly recommended)
15: Waterline marking out tool, such as the one from Amati.
16: A Pin Pusher (Or you can just use a pair of pliers to push pins into the planking and bulkhead edges)
17: Cutting mat

Paints, stains and adhesives

1: White PVA wood glue or Titebond.
2: Cyanoacrylate (superglue) thick and medium viscosity 3: Natural colour wood filler
4: Matt polyurethane varnish (Not satin or gloss)
5: Green, Red, Black Red-Brown paints (recommend either Humbrol, Vallejo or Tamiya)
6: Red Oxide (Hull below waterline) (Recommend Plastikote Red Oxide Primer)
7: White Paint for ‘Boot Topping’ above waterline (Recommend Plastikote Super Matt Spray)

Warning!

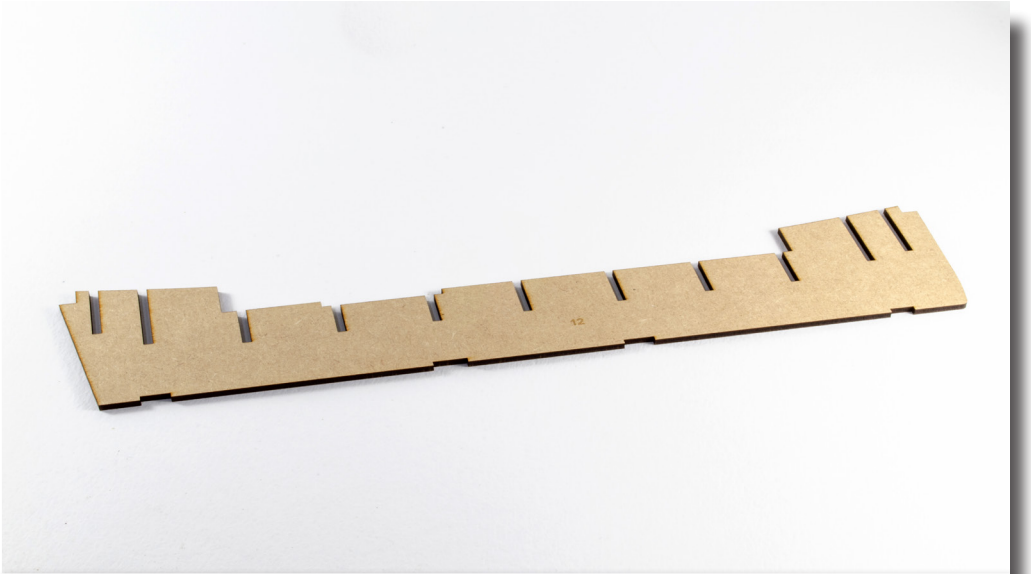
It is recommended that a facemask is used whilst sanding any timber and MDF, and also if spraying paint in a confined area. You get one set of lungs, so protect them! Safety glasses are also recommended if you are using a rotary sanding tool.

The Fie Reaper

HULL CONSTRUCTION

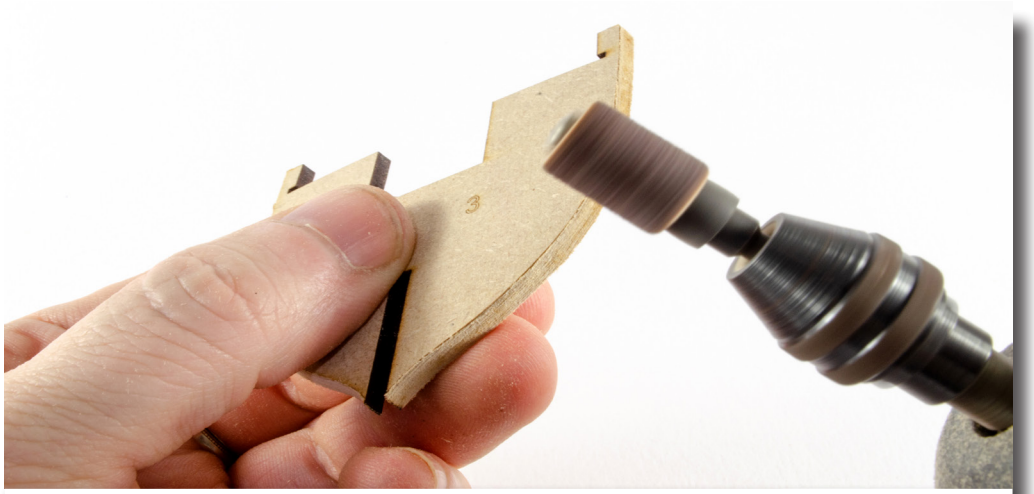
1. Two sheets of 3mm MDF are included in this Fifie kit, and they contain the parts to build the basic hull skeleton. We have used as few connecting tabs as possible and they are usually in places where you don't need to clean up the parts, such as the top of the bulkheads. To remove all of the hull frame parts, used a sharp knife and push down on the tap to cut through it.

2. There are eleven bulkheads in the Fifie hull, and as with all of the skeleton parts, they are all engraved with an identifying number. Also remove the false keel, part 12, from the MDF sheet. Note that parts 1, 2, 3, 10, and 11 have engraved lines around the outside edge. We will bevel the parts to these lines shortly.



3. Part 12 is what we call the 'false keel'. This is the profile part to the hull and contains the slots into which the bulkheads will later be fitted. The stern of this part is the one with the slightly steeper angle, with the bow at the opposite end.

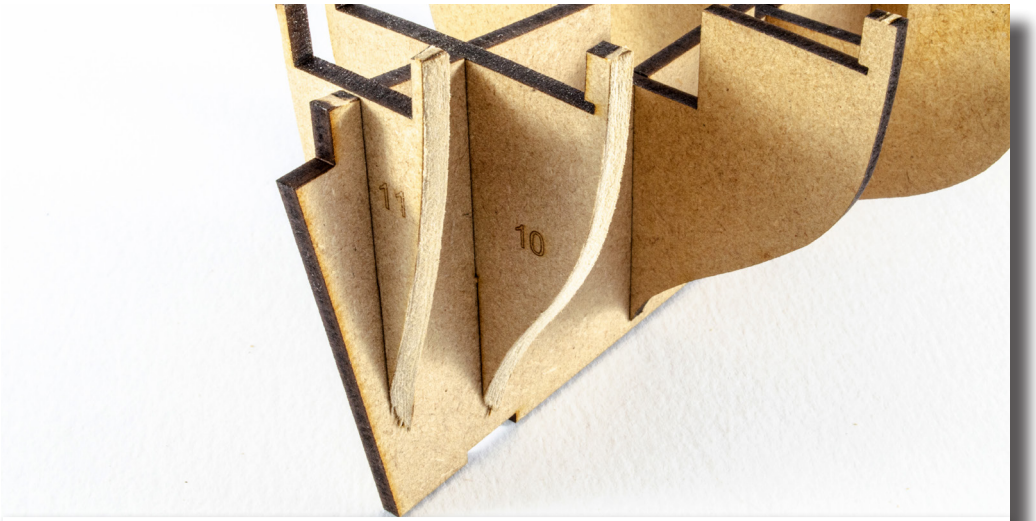
4. Whilst you don't need to clean up the tabs on the bulkheads, we do recommend that you trim away the two tabs on the false keel, Part 12. A knife or a piece of sandpaper will quickly do this.



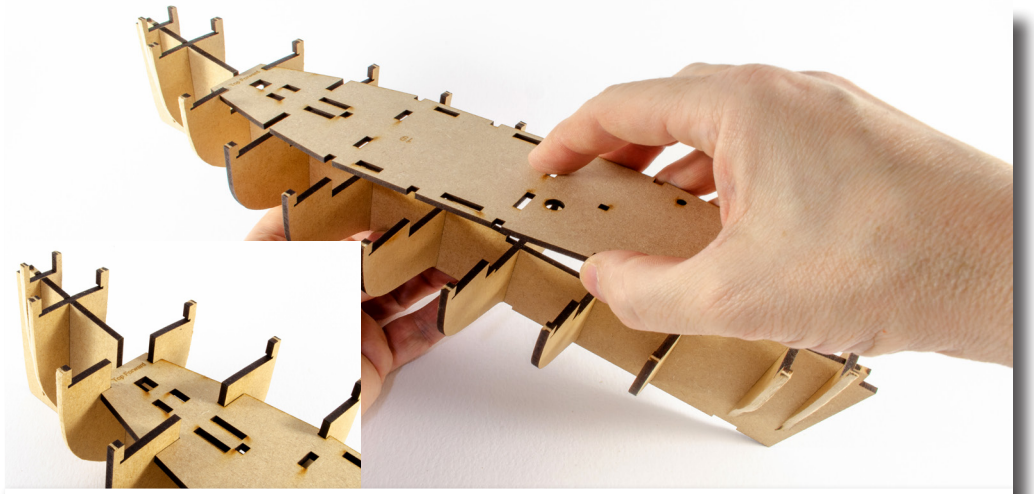
5. Bulkheads No's 1, 2, 3, 10, and 11 now need to be bevelled from the engraved line to the outside edge. You can do this either with a piece of sanding paper or with a rotary tool such as the Dremel shown in this photo. If you use the latter, we recommend a speed of no more than about 9000rpm. It's also important that you don't breathe in the MDF dust, so please wear a face mask to reduce/eliminate inhalation.

6. As well as bevelling the bulkheads you also need to bevel the infill parts that fit between the stern and bow bulkheads. These are pieces 13, 14, 15, 16, and 17. Please try to bevel them to the best of your ability, but they will be properly finished when we start to shape the hull.

7. Take bulkheads 1 through to 9, and slot them into position like this, with No.1 being at the bow. Remember that the bevelled sides of bulkheads 1, 2, and 3 must face the bow (front of the boat). The rest of these can be fitted either way. Make sure all bulkheads are pushed fully into position.

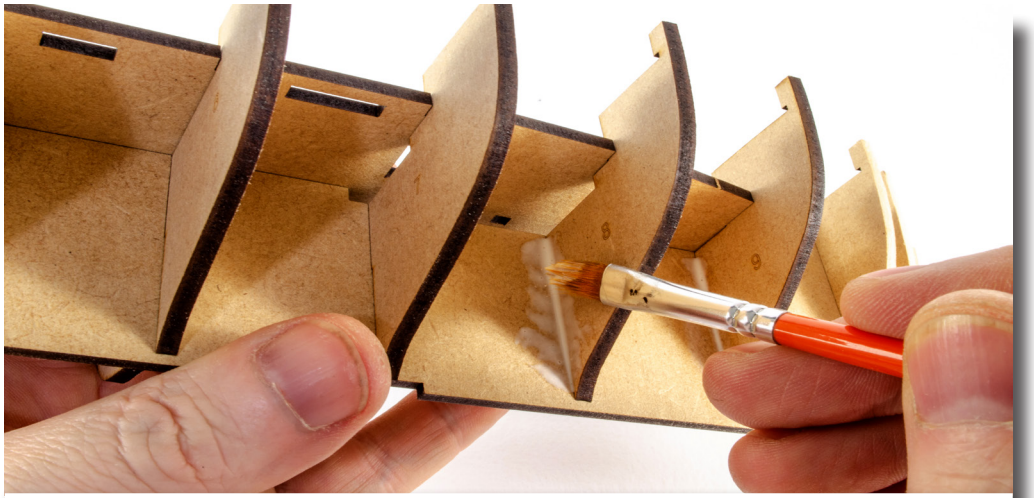


8. Now take bulkheads 10 and 11 and slot them into the last two stern slots. This time ensure that the bevelled sides face the stern (back of the boat).

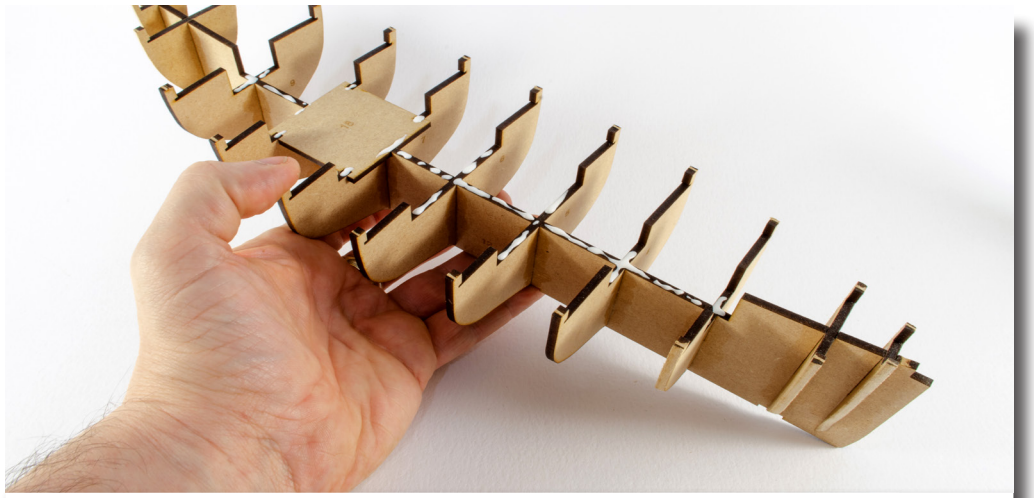


9&10. Part 19 can now be TEMPORARILY sat in position to ensure the bulkheads sit squarely. This part is only to be dry fitted to the hull at this stage. Please note that forward side of this is engraved with ‘TOP FORWARD’ (Inset picture).

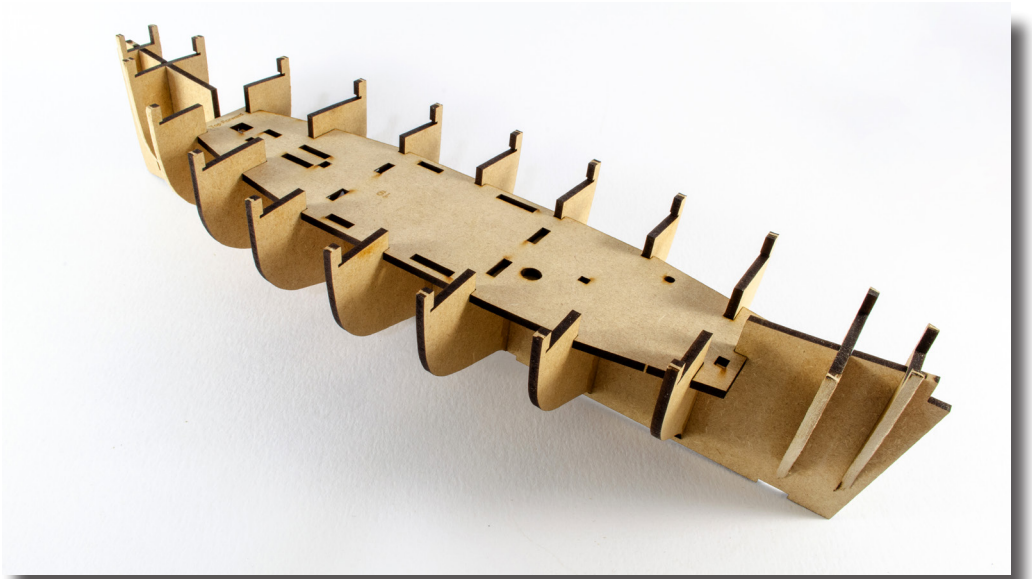
12&13 Once the bulkheads are set, remove Part 19, and glue into place Part 18, as shown in these two photos.



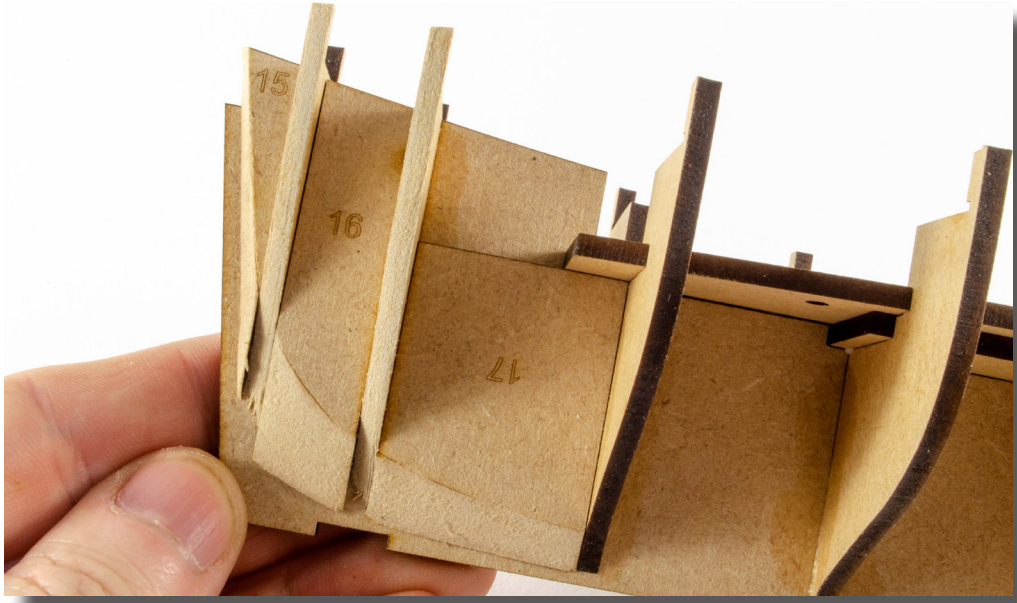
11. With Part 19 in place, brush your chosen wood glue (PVA, Titebond etc.) into the joints. This will absorb and penetrate into the joint fix it permanently. Do dot brush it near the temporary Part 19 as you will need to remove this when the bulkheads have dried. You can, of course, glue each bulkhead into their slots first, but as some modern glues dry very quickly, this option prevents and problems with alignment.



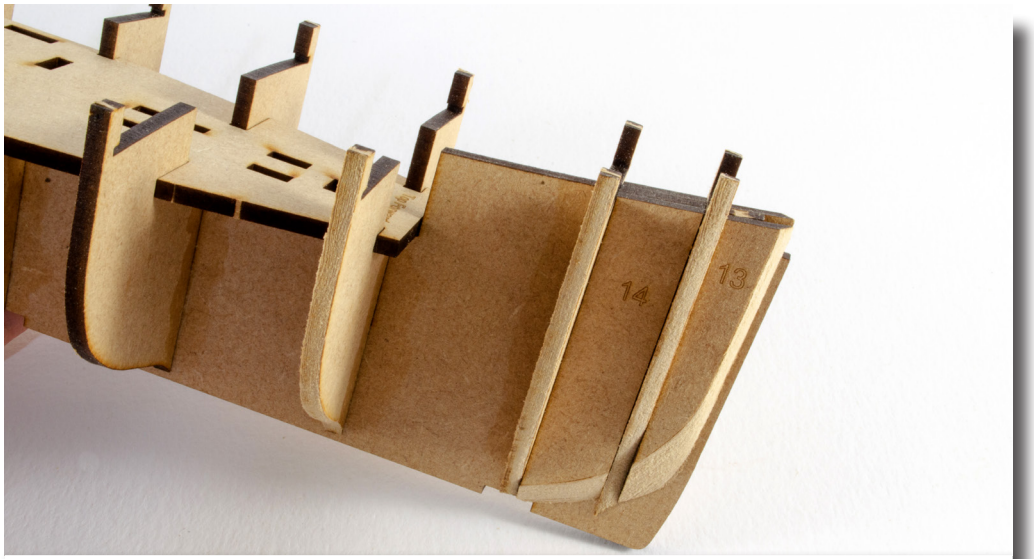
14. Run beads of wood glue along the top of the false keel and across the flat area of each bulkhead. This doesn't need to be neat as it's all hidden. Don't run glue over the middle of the square Part 18.



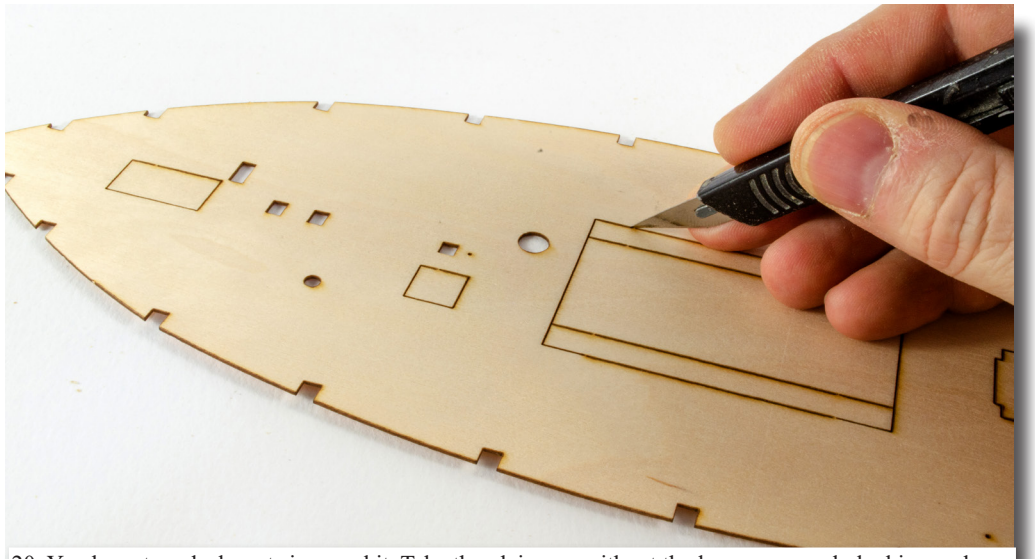
15&16 .Now take Part 19 again and slot into position as before, making sure that the words 'TOP FORWARD' on the part are facing upwards. This part can only fit one way, but just remember that bulkhead #1 is at the bow (Forward) for reference. Set aside the model until the glue has fully cured.



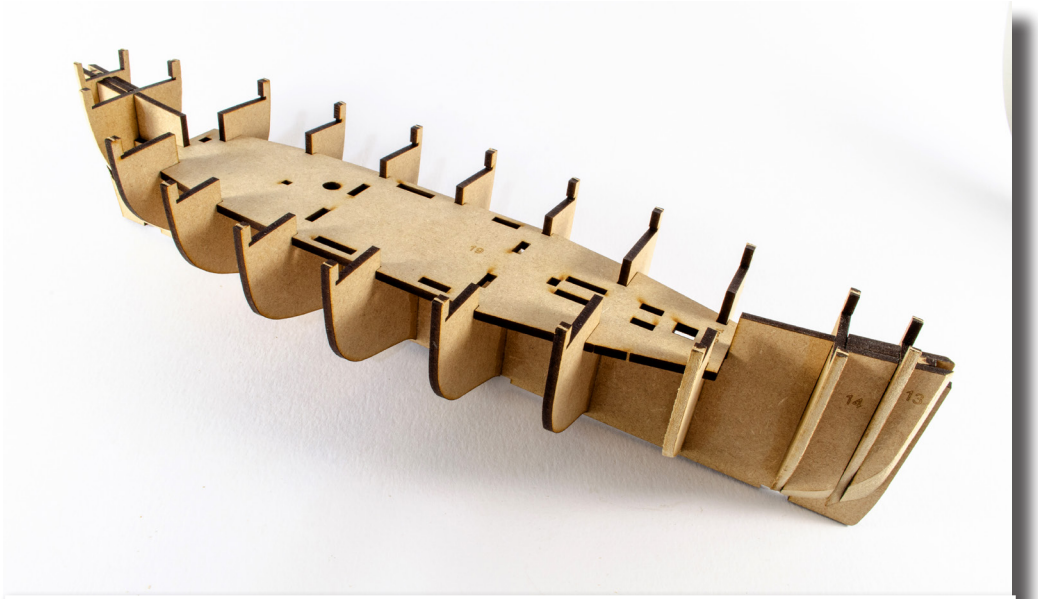
17. Take parts 15, 16, and 17 that you bevelled earlier and glue them at the stern as shown here. Ensure that the top of parts 15 and 16 are flush with the top of the false keel. Part 17 sits snugly underneath the platform you just installed. Repeat this on the opposite side of the stern.



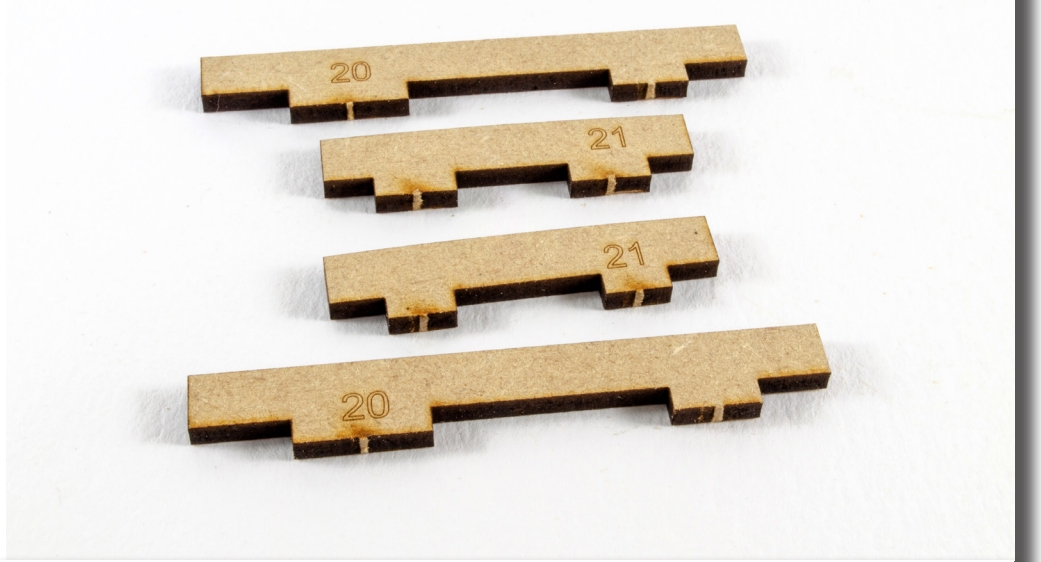
18. You must now do the same for the bow by gluing parts 13 and 14 into place. As before, make sure that the top of these sit flush with the top of the false keel. Repeat on both sides of the bow.



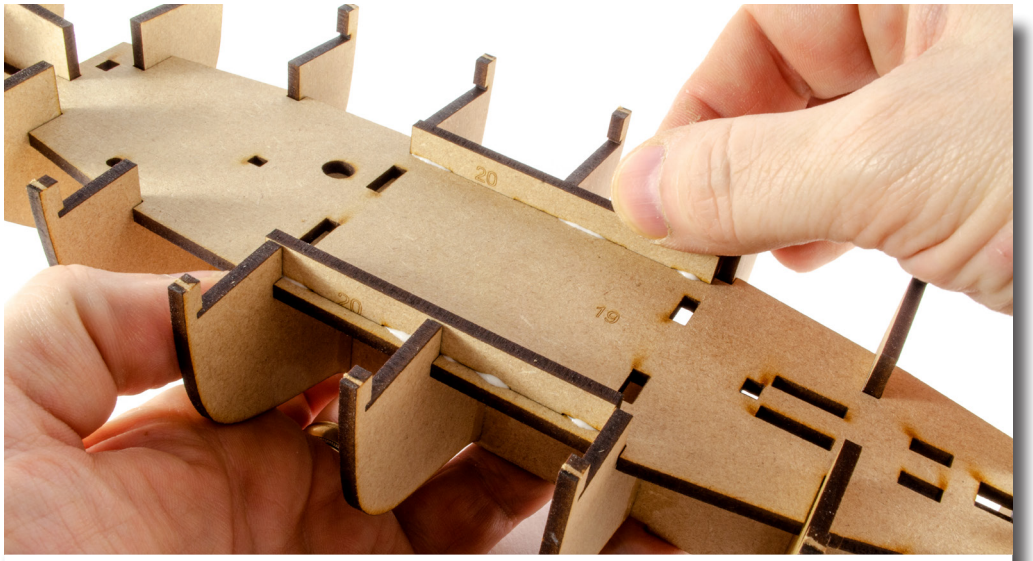
20. You have two deck parts in your kit. Take the plain one without the laser-engraved planking and using a sharp knife, remove the square and rectangular sections from it by cutting through the tabs. Please retain the larger rectangular section for later in the build.



19. Your hull skeleton should now look like this. Again, leave the glue to set before continuing.

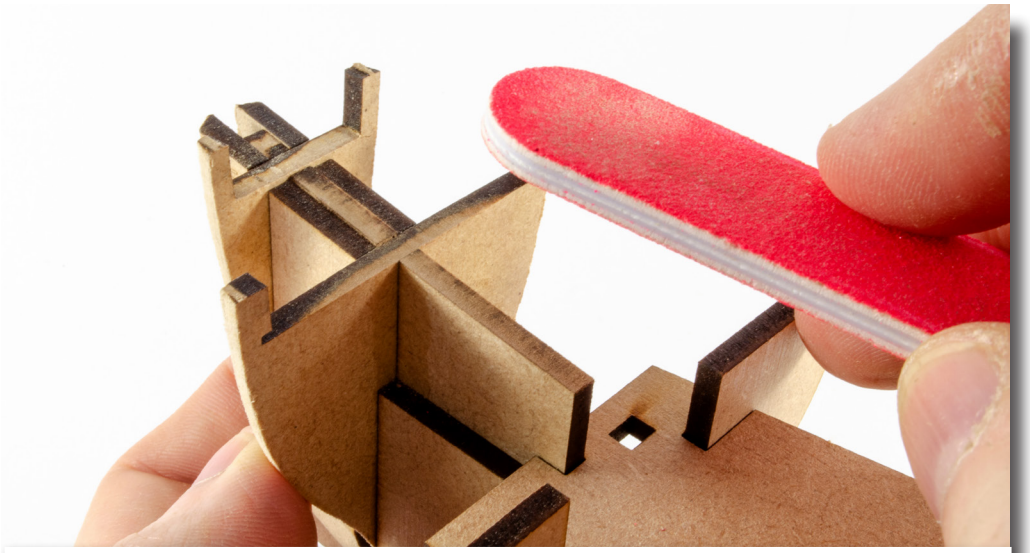


21. Cut parts 20 (x2) and 21 (x2) from the 3mm MDF sheet. Note that parts 21 actually have different length tabs and are curved on top. The curve forms part of the deck's curve (camber) when installed.

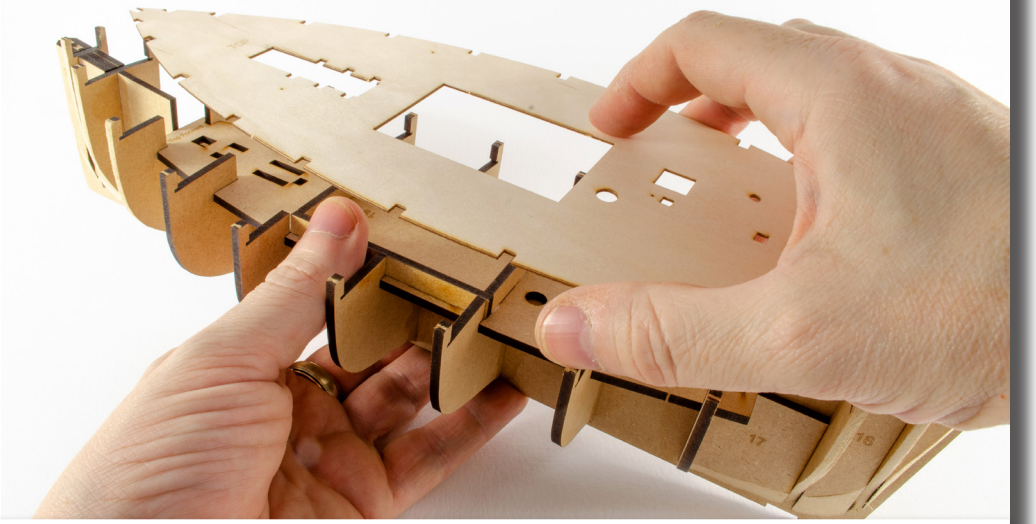


22. Glue the two part 20 pieces into position. Each has tabs of different lengths and they will fit into the model only a certain way. This photo shows you how these will look when fitted.

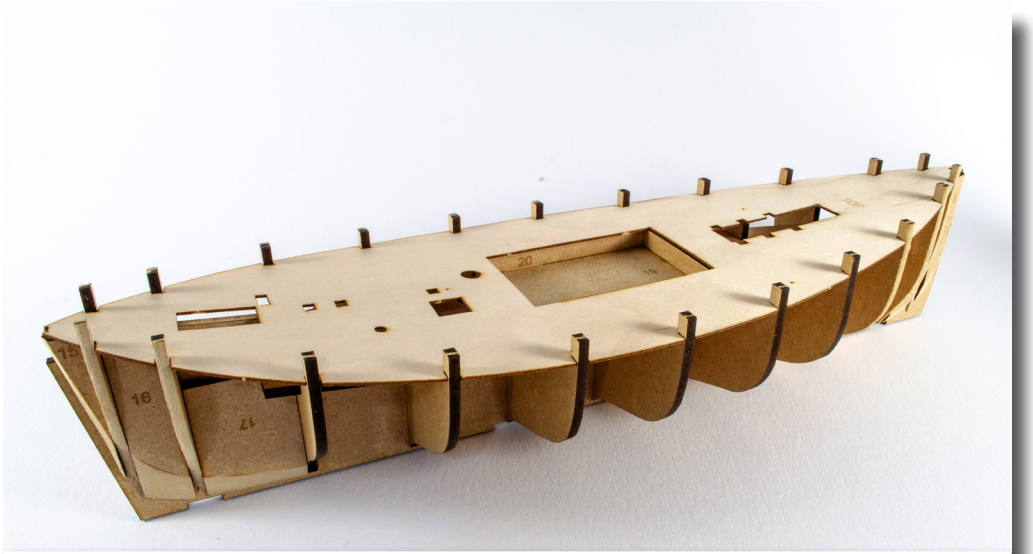
23. Both part 21 pieces must now also be glued into place. As we mentioned before, these also have different tab lengths, so check this before gluing in position. When installed, leave the glue to thoroughly set.



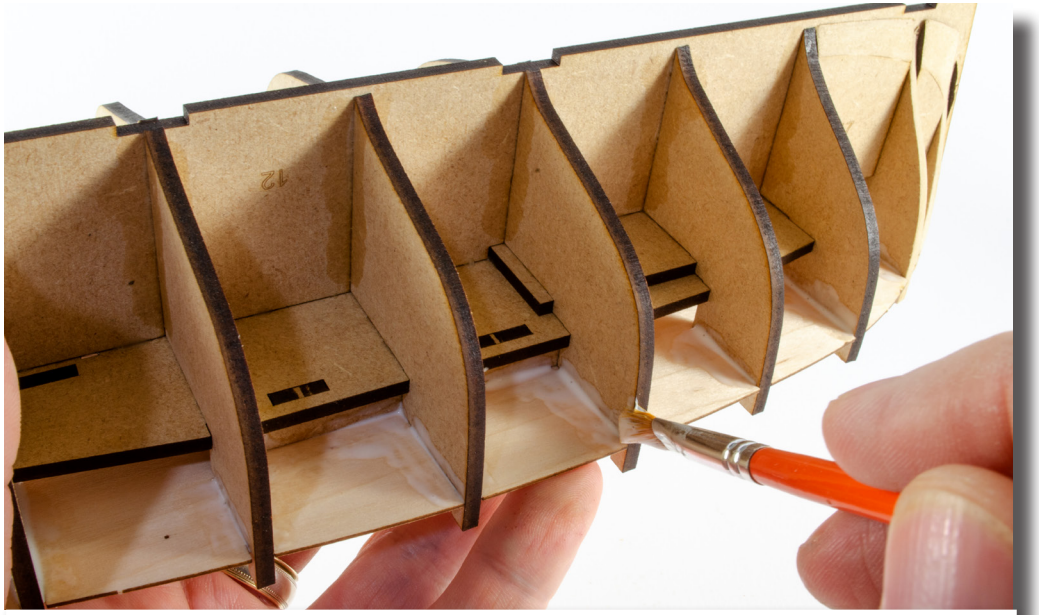
24. The line of the deck sweeps down from the stern and then upwards towards the bow. This is called the ‘sheer’. Take a piece of sandpaper or a sanding stick and make the top of bulkheads 10 and 11, flush with the false keel.



25. The deck has been designed so that it clicks perfectly into place, being held at the edge of the bulkheads by a small recess that means you don’t need to pin it whilst it dries. Our experience has shown that once you fit the deck, it takes some effort to remove. At this point, you can, if you wish, run glue over the bulkheads in readiness to fit the deck. However, we choose to fit it without glue at this stage.



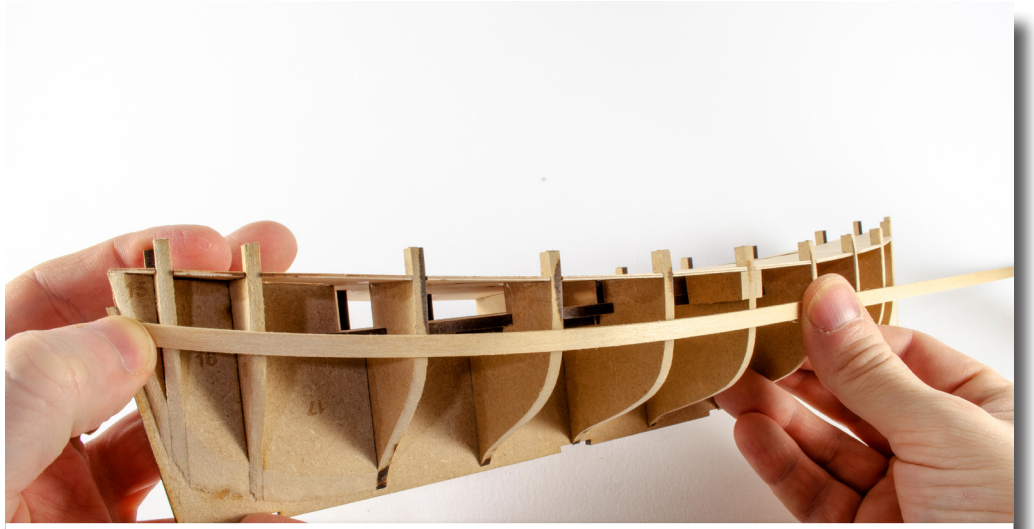
26. Push the deck down flat over all of the bulkheads, making sure that it locks into the edges of each one. This can take a few minutes to do, so just take your time to make sure the fit is perfect.



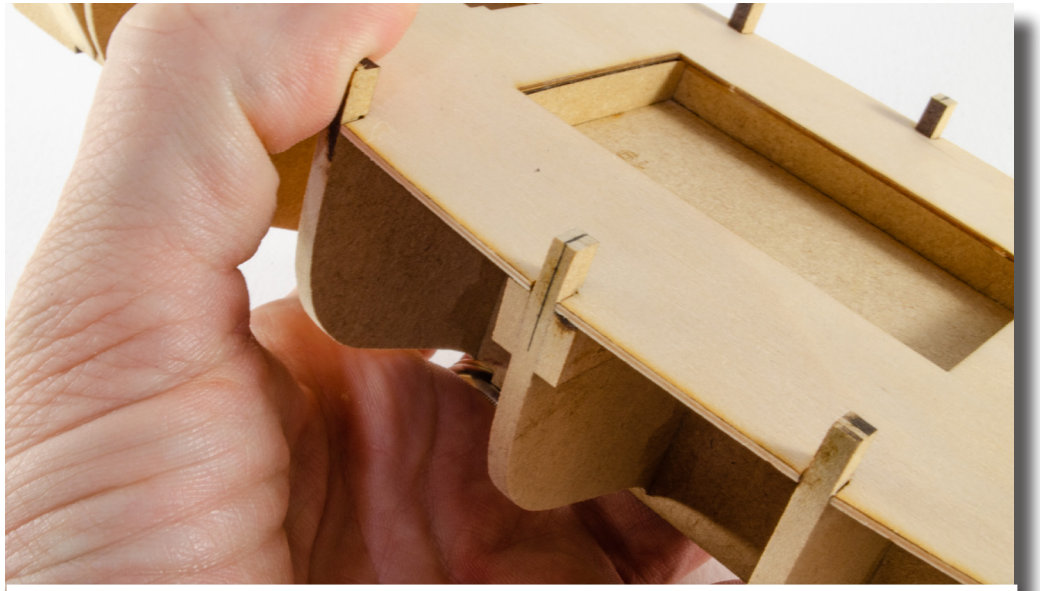
27. As I didn't add glue before the deck was fitted, I now brush PVA into the joints from below the deck and leave it to thoroughly set.

28. There are four identical parts labelled 6A. Remove these from the 3mm MDF sheet Note that one side is curved. These parts butt up against bulkhead 6, underneath the deck. Not that the curved edge is the one that will go against the underside of the deck. These parts provide an extra surface where the pearwood bulkheads will meet.

29. Use a sanding block with medium grade paper, and fair the hull. By fairing, we mean sand the bulkheads so that a plank will flat across all of the bulkheads. This means that you will now have some extra bevelling to do, and especially at the bow and stern. This isn't a difficult job to do and it should only take about an hour.

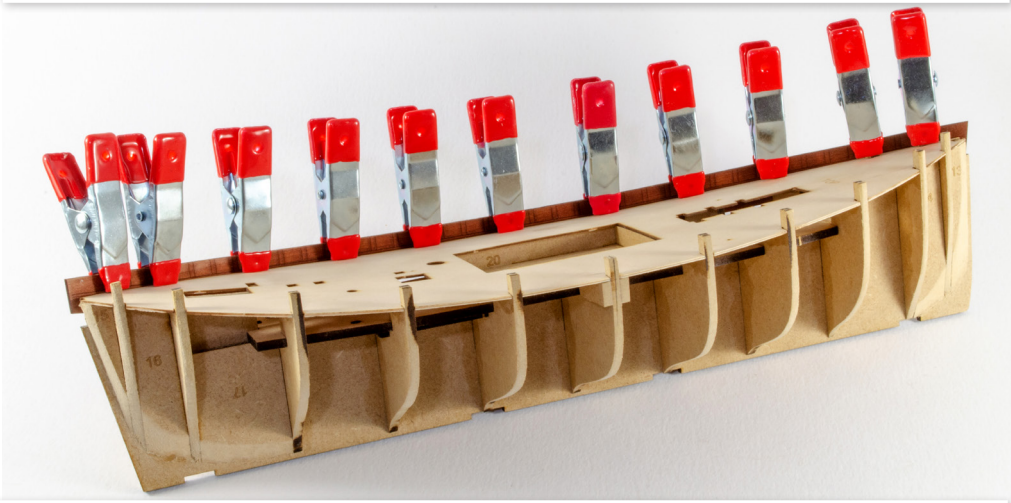


30. As you are fairing the hull, use one of the limewood planking strips (the pale ones) and run it along the hull and bend around the bow and stern. There should be as much contact along the bulkhead edges as possible, and they should flow nicely to the bow and stern with no tight bends.



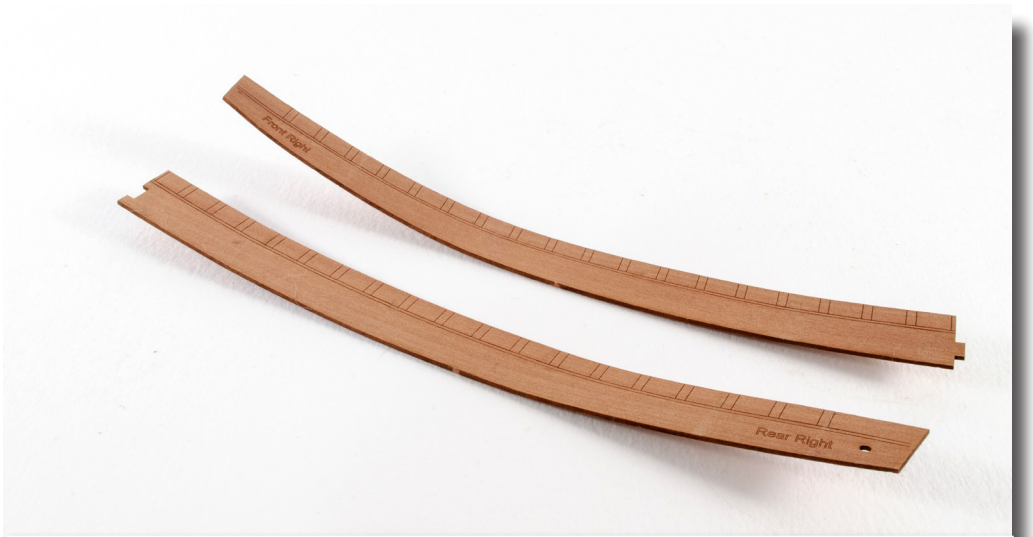
31. On the edge of bulkhead 6, use a pencil to mark a line down the ear which stands above the deck, and down between parts 6A. This is where the two bulwark halves will meet, and this is a useful reference point to make sure both sides are even.

32. Take the 1mm Pear Sheet 2 and remove both the ‘Front Right’ and ‘Rear Right’ bulwark parts, using a sharp knife. Trim away the remnants of the small tab on the undersides of these parts.

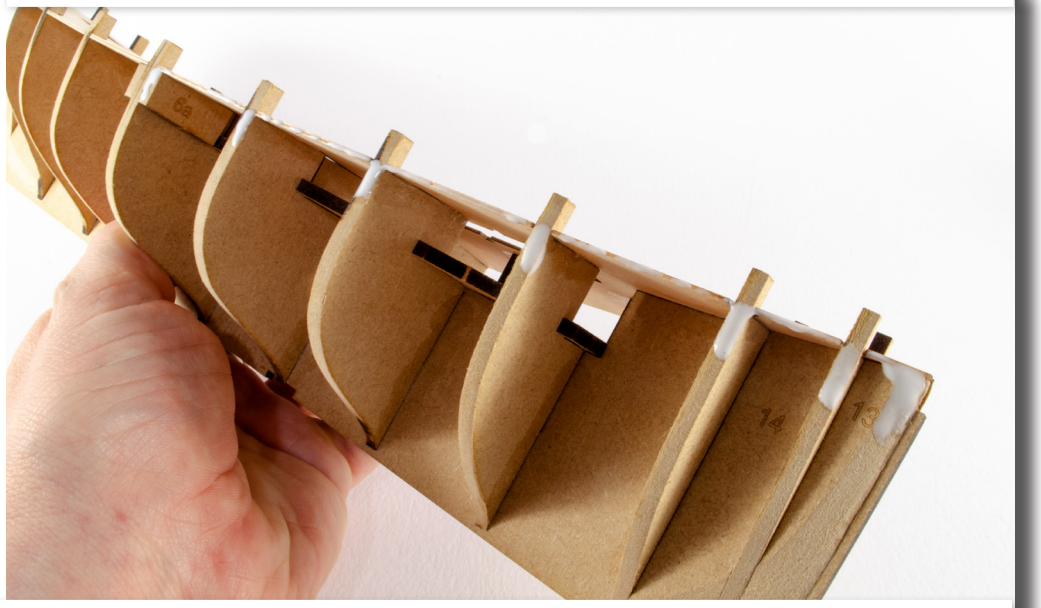


33&34 You won’t be able to properly bend the 1mm pear bulwarks unless you make them more pliable. To do this, take both halves of that bulwark and soak in a sink of hot (not boiling) water for 15 minutes. The wood is very resilient, so don’t worry about damaging it. Take the parts from the water and pat them dry. Now, form each part around the hull as shown, with the join between them being on the pencil line you marked early. Align the bulwark so the bottom line that runs along the parts, is level with the plywood deck. Remember, DO NOT use glue at this stage. Clamp the bulwark parts until thoroughly dry. When dry, remove the parts and do the same for the other side.

35. If you have a clamp like the Amati one shown, then these are ideal for temporarily pinning down the bulwark at the bottom edge until the parts have dried out.

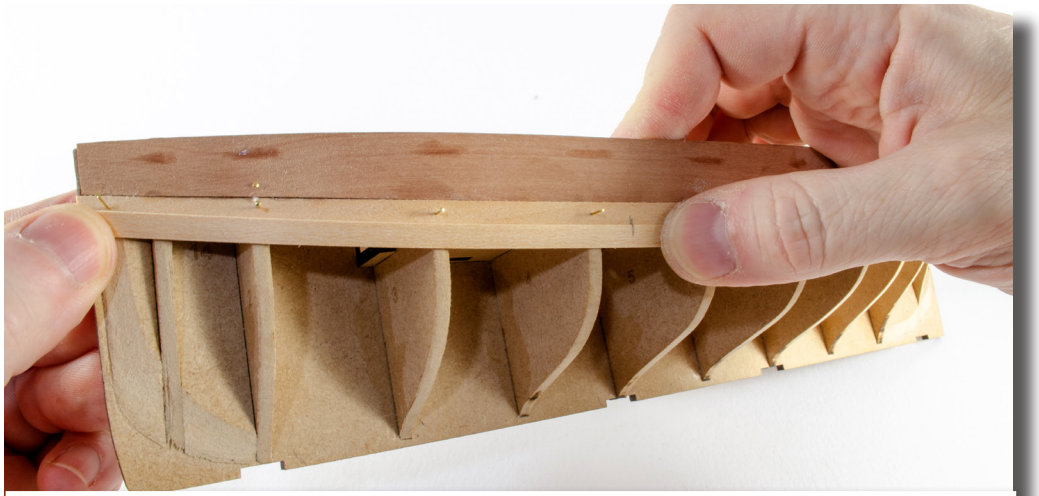


36. Once the parts are thoroughly dry, you can remove them from the hull. It's best to leave them for several hours to ensure this. The parts will spring back a little, but the majority of the curve will remain.



37. We can now fit those bulwark parts. Using wood glue (PVA, Titebond etc.), add glue along the edge of the deck and the bulwark, but NOT above deck height as we don't want those ears to be glued to the bulwarks.

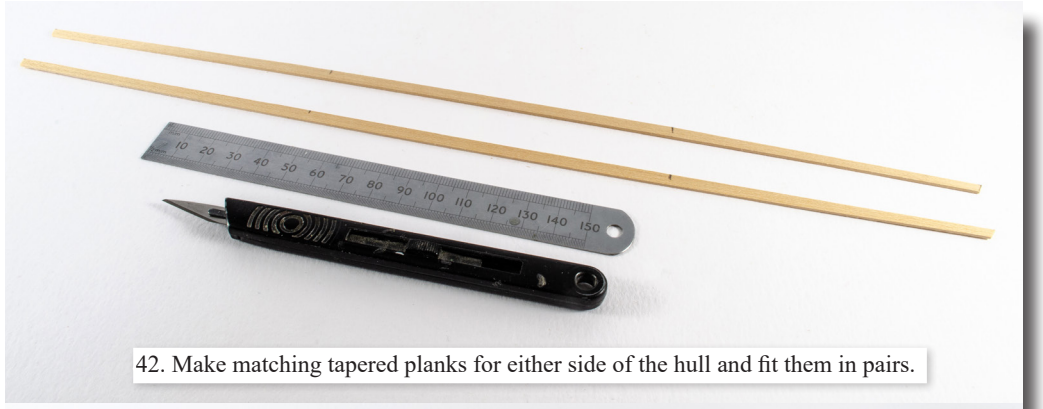
38. Align the bulwark parts so the lower inside engraved deck line is at the height of the deck. Use a series of small clamps to hold the bulwark to the MDF bulwark ears that protrude above deck. You may also want to use a clamp to hold the end of bulwark in shape at the box and stern. Notice the smaller Amati clamps fastened to the bulwarks again. These will hold the bulwark flat against the bulkhead, although you can now use nails at this point.



39. With the bulwarks dry, you can now start to use the 1 x 5mm limewood planking strips to add the first planking layer. Add the first plank immediately beneath the bulwarks and use pins to hold in place. You only need to push the pins about halfway, as it's easier to remove them later. Alternate sides when you fit the planks, to stop any possible twist in the hull. As you work your way down with the planks, you will find that they'll stop lying under the previous one. Where they start to overlap, make a pencil mark on the plank.

40. Now make a small pencil mark about 25% down the end of the plank.

41. Use a steel rule to join the two points together and gently cut the plank, creating a taper.



42. Make matching tapered planks for either side of the hull and fit them in pairs.

43&44 When you have laid half a dozen or so planks, it's then time to fit what we call the garboard plank. This is the one that runs straight, along the keel edge. This is glued and pinned as shown. The edge of the plank runs along the bottom tips of the bulwark.

45. It won't be long before you notice that it becomes difficult to add the next plank along the edge of the previous. Here you must run the planks in the most natural way you can, as this picture shows. There will be gaps which we will fill a little later on.

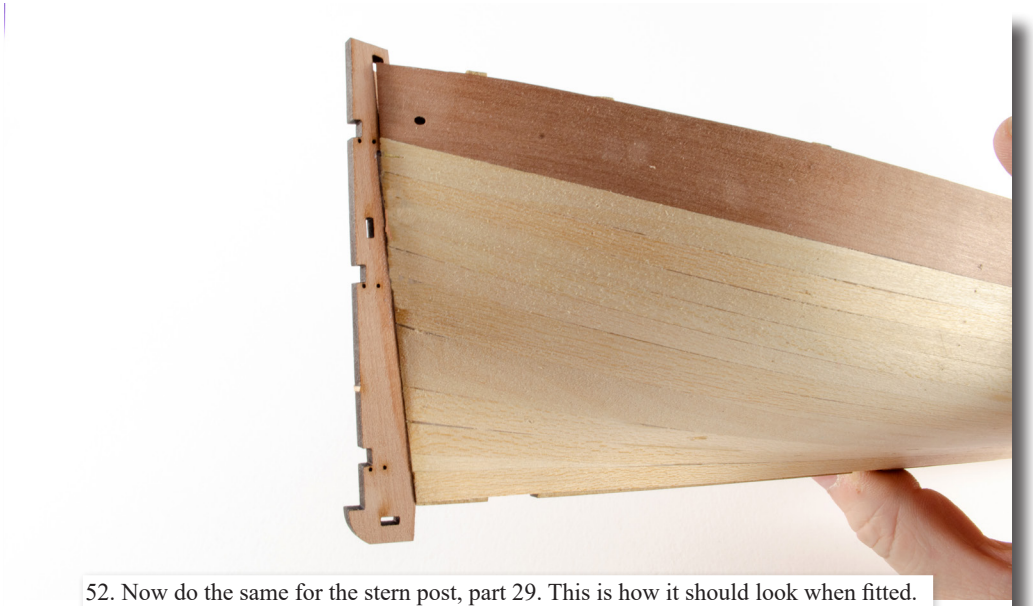
46. Don't be worried about those gaps. The infill pieces are what are known as 'stealers'. The pencil marks you see on the hull give an indication of the extent of the plank tapering.

47. Using a piece of 80 or 120 grit abrasive paper, sand the hull smooth. Don't sand all the way through the planks though as this will be your base for the next layer.

48. Ensure you finish the planks neatly at both stern and bow. This is how those edges should look

49. Remove the keel sections 26, 27, 28 and 29 from the 3mm wood sheet.

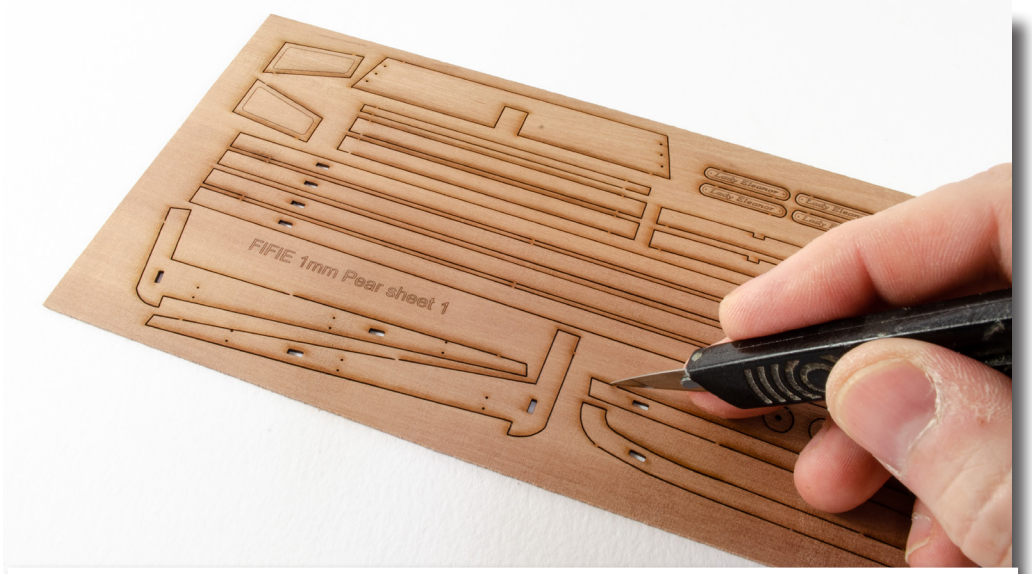
50&51 Make sure that the slot between the bulwark ends is wide enough to accept the Prow, part 26. If not, slightly open it up with a file or a knife. You shouldn't need to remove much material. Take the Prow and glue it firmly in position.



52. Now do the same for the stern post, part 29. This is how it should look when fitted.

53. Take the front keel, part 27 and glue into position. This will only fit one way, and that is with the engraved ‘Front’ text next to the Prow. Now fit the rear keel, part 28, into position. Again, the ‘Rear’ engraved text will sit next to the stern post.

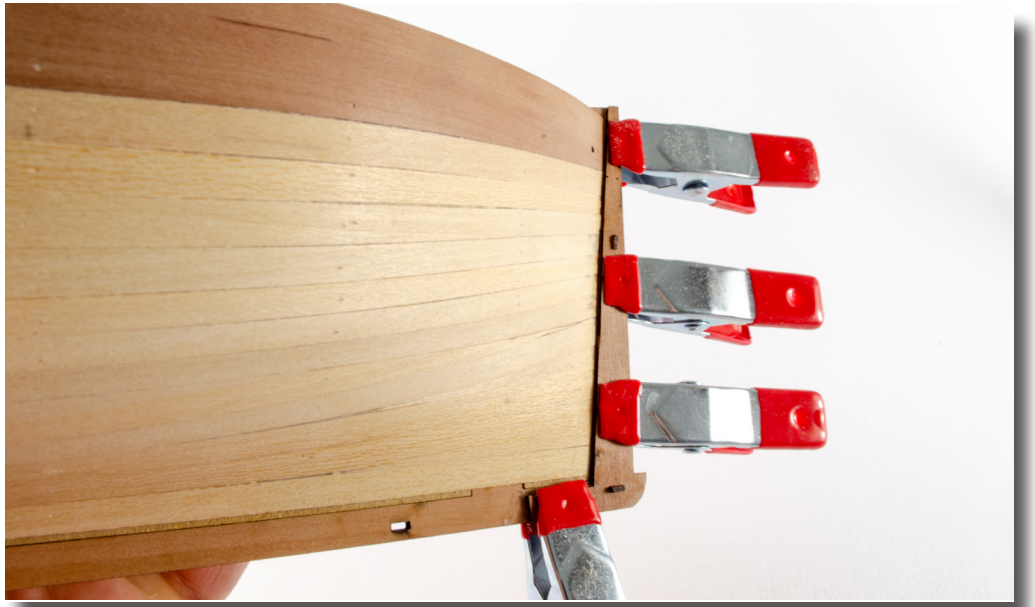
54&55 Using keel alignment clamps, part 25, clip the various keel sections to each other to help keep the various parts upright and square.

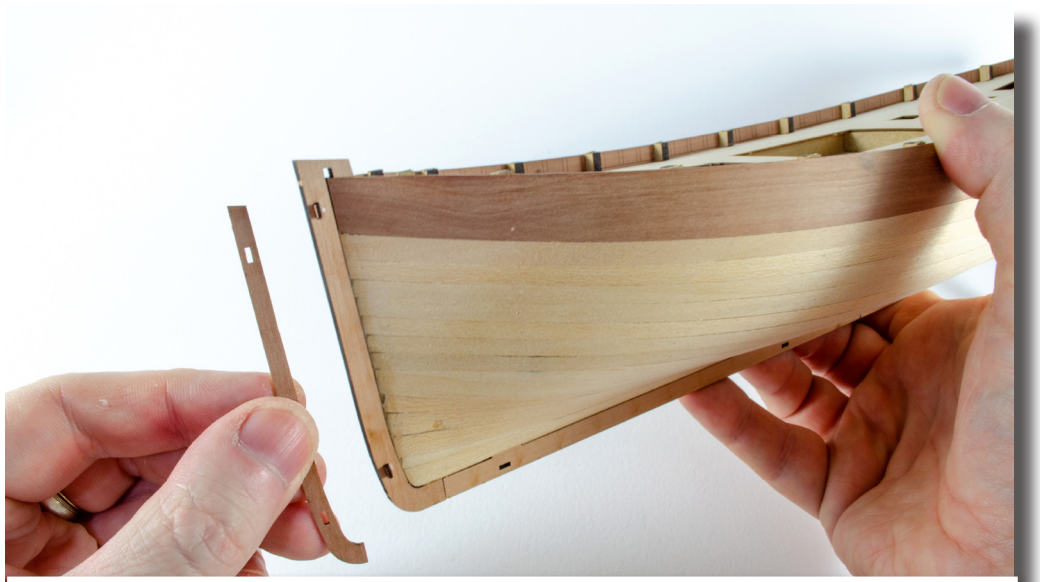


56&57 Taking the 1mm Pear Sheet 1, remove the prow rabbet patterns (parts 52), stern post rabbet patterns (parts 53), and the keel rabbet patterns (part 54), using a sharp knife clean up the tags that held them to the sheet. Also remove the small Alignment Pins (parts 75).

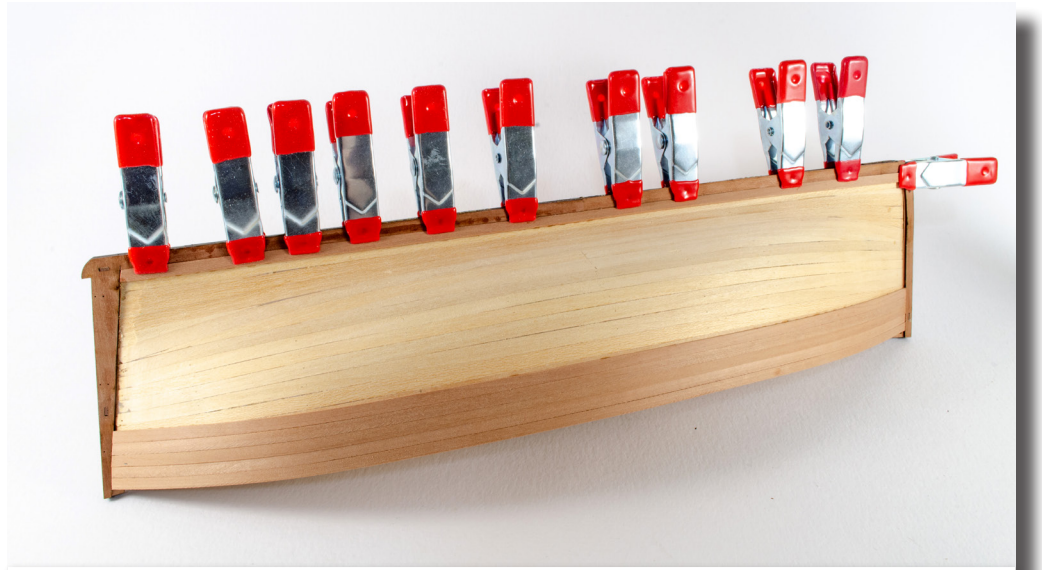
58. Take each of the Alignment Pins and push them into position in the eight holes from the prow, to the keel and the stern post.

59&60 Glue a stern post rabbet pattern (part 53) into position over the stern post, using the Alignment Pins to help you locate it properly. The outer edges of 53 should match the stern post outer edge, exactly. Use clamps until the glue has set.





61&62 Now glue the prow rabbet pattern (part 52) to the prow, and clamp until the glue has set.



63. Take two keel rabbet patterns (parts 54) and fit along the keel, ensuring the outer edges fit flush with the keel itself. Clamp into place until set. Once everything is dry, fit the same parts into position on the opposite side of the keel.

64. It's now time to fit the pear planking over the first limewood layer. Each end of the plank will sit into the rebate that has been created by fitting the rabbet patterns. Take a 1 x 4mm pear plank and test fit along the top of the bulwark. Cut this carefully so it sits neatly in those rebates. Always better to be a little too long and then gradually trim until you have a good fit. Don't rush this. For our prototype, we used small spots of CA gel as you have a few seconds to make adjustments. Work your way along the length of the plan until it sits more or less flush with the top of the bulwark. With this build, I managed to fit five pear planks without tapering them. Your model may or may not be different. IMPORTANT: As you fit the first few planks, mark with a pencil the position of the rudder cable holes in the stern bulwark. Make sure the planks are pushed up tight next to each other and lay a couple before alternating sides. You can also now fit the garboard plank next to the keel. Shape each edge to fit the recess. With the lower planks, don't be afraid to fit them as halves as this area will be hidden beneath paint.

65. When I started to fit the sixth plank, it was noticed that it didn't lie easily under the previous. This is normal due to the shape of the hull changing. We now have to start tapering the planks. Where the new plank starts to naturally lie over the previous, mark that position with a pencil.

66. After angling the plank end to fit the rebate, make a pencil mark about 20-25% down the end, from the top edge.

67&68 Take a steel rule and connect the two pencil marks together before using a sharp knife to cut a taper into the plank.

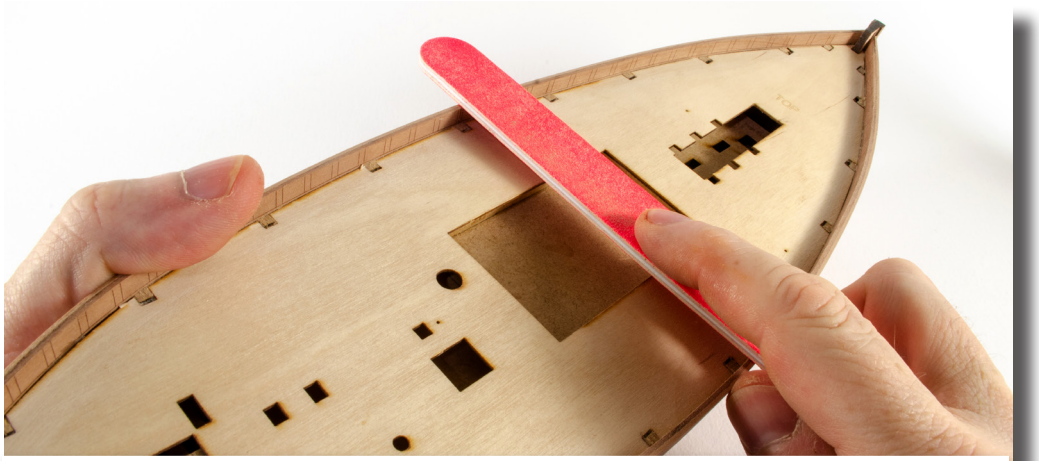
69. Test fit the plank. You should notice that it now fits much more easily. For your information, I found that I could lay several planks by only tapering one side. As you progress further down the hull sides, you'll find the planks need to be tapered at bow and stern.

70. As you work your way around the hull curves and those curves become a little more severe, you will notice that the planks won't butt up tight next to each other. To fix that problem, bevel the upper edge of each new plank after you've bevelled it.

71. You can now work your around the rest of the hull, as you did with the first planking. Remember, that some planks will need to be laid naturally, meaning you will need to fit 'stealers' again. All this area will be under paint, so fear not!

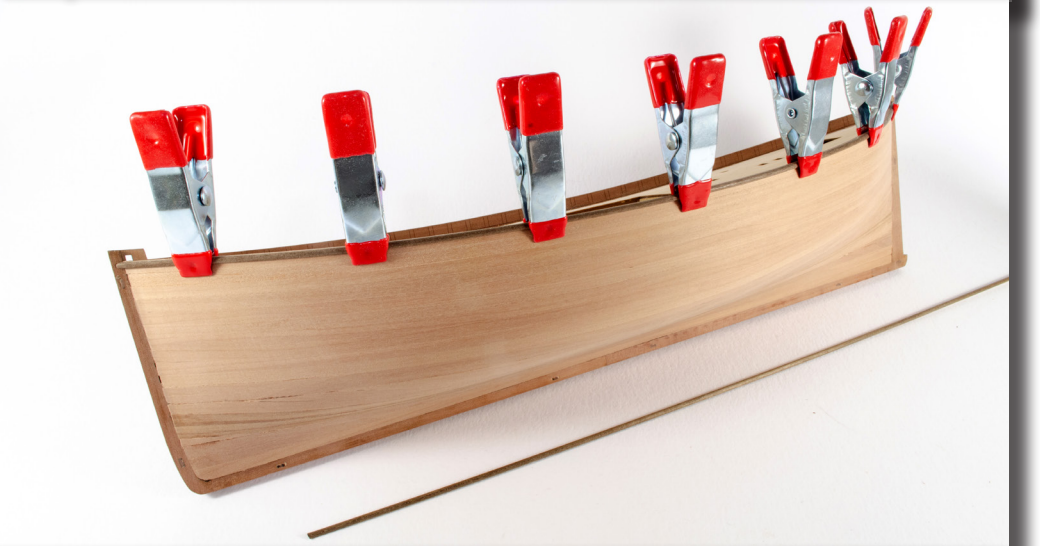
72. Once you have completely planked the hull, sand it to a smooth finish using 80 – 120 grit abrasive paper to start, and finishing using a finer grade, such as 180 – 240 grade. Unlike the lime, the pear wood will take considerably longer, with this prototype taking about 4 hours. Use a small drill to mark the positions of the rudder cable holes before you do any sanding. As preparation for painting, you may want to use some good wood filler which will match the colour of the timber, and apply this to fill any gaps, especially on the lower hull. We feel acrylic filler is better as it can be thinned and cleaned up with water.

73&74 Use pliers and snap off the MDF bulkhead ears above the deck and then sand any excess away.



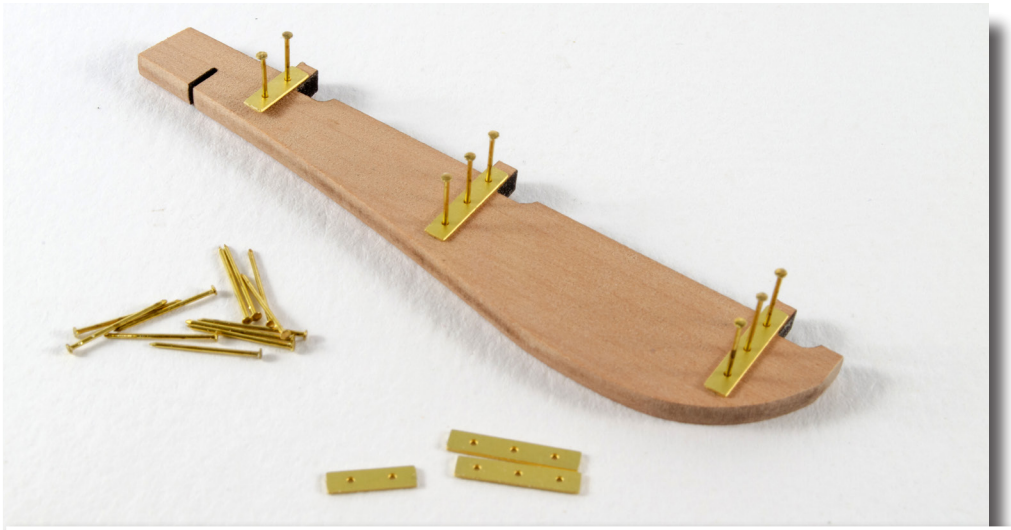
76. At this stage, it's time to make sure the bulwarks are nice and even, and any pear planking above the bulwarks, is removed. To be fair, these probably very little to remove, but we'll do it anyway. Either take a sanding stick or a steel rule which is wrapped with medium grade abrasive paper and draw this across the top of both bulwarks until the sides are even and the char on the inner bulwarks has just about gone.

75. Use a 2mm drill and open up the rudder cable holes.

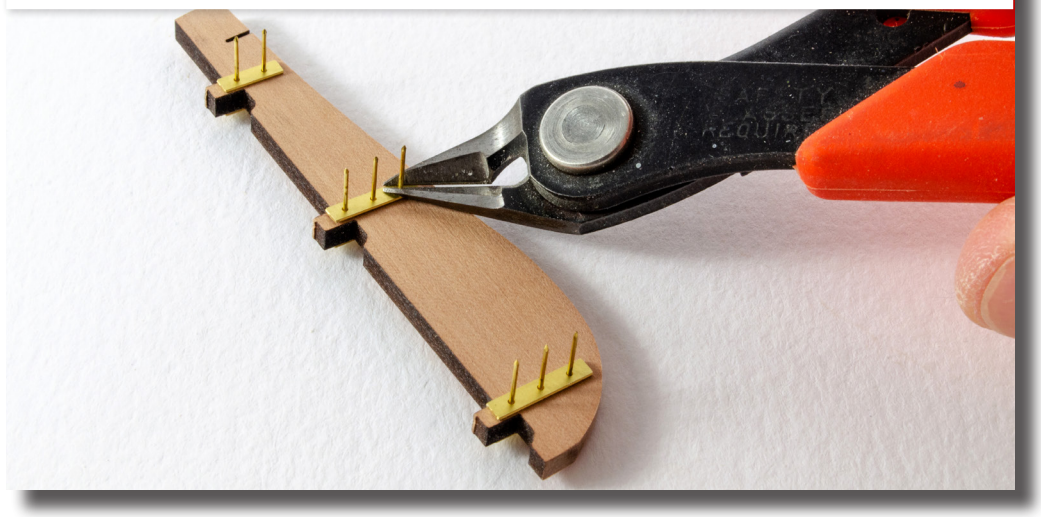


77&78 We now fit the rubbing strakes to the top of the bulwarks. Take a length of the 2mm half round strip and bevel one end. Using clamps, hold this so it's flush with the top of the bulwark and mark the other end with a pencil. Remove the clamps and cut to length. You may need to do this a few times to get the fit correct. When done, apply CA gel to the strip in small spots and carefully apply to the model. Now take another 2mm half-round strip and fit it directly under the first strip. Do this for both sides of the hull.

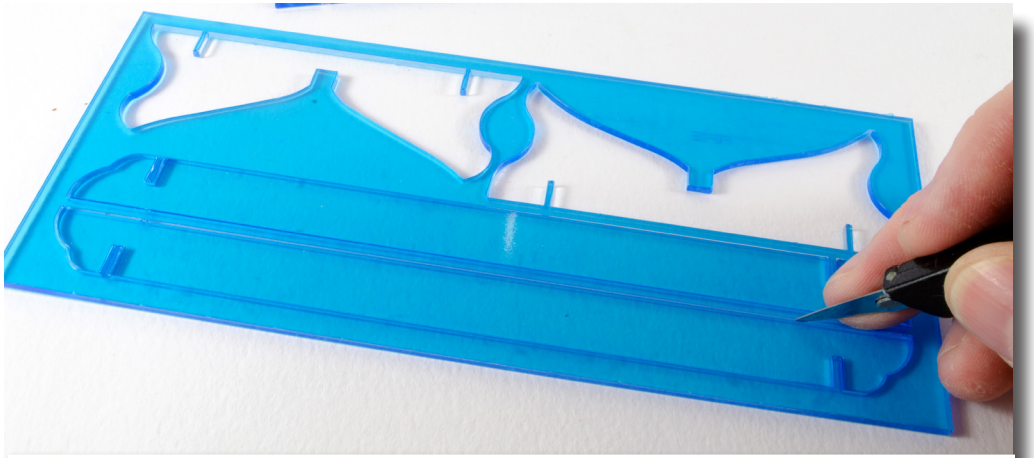
79. We now need to fit the lower two rubbing strakes. These are 1 x 1mm walnut. Now, the positions for these, whilst using the plan as reference, can be a little fluid. This because no two models may be quite the same. You need to make sure you don't obstruct the rudder cable holes, and you also need to make sure you can fit the boat's name plate between any two of them. My first rail was 3mm down from the round strips, and the next one was another 4mm down from the square strip. Don't worry too much about this, but don't space them too for apart for aesthetic reasons.



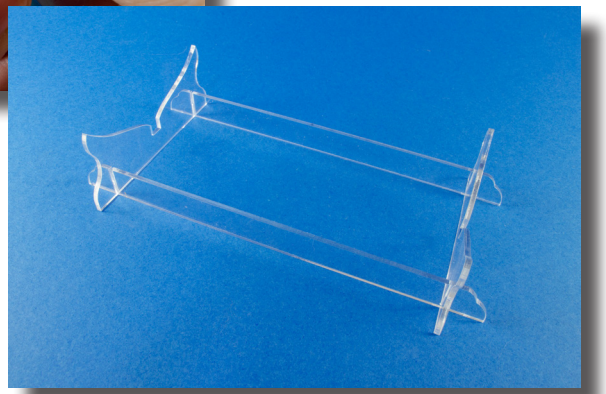
80&81 On the 3mm pear sheet, you will find the rudder (part 30). Remove this and clean up the char from the edges. Remove rudder straps (parts PE3 and PE4) from the photo-etch metal sheet. Use a very sharp blade to cut through the tabs and remove any excess with a small jeweller's file. Note that PE3 are actually two different lengths. First, take PE 4 and add a little CA gel underneath it before pushing pins through it. Do the same with the longer PE3 which fits in the middle of the rudder. The shorter one fits at the bottom. Once you've pushed the pins through completely, you can use these are guides to glue the rudder straps on the other side of the rudder. Now, you have two options. You can either glue the pins in place and cut them off short on the other side of rudder (as shown), or if you want domed heads on both sides, remove the pins completely and cut them about 2mm long and glue them into the holes from both sides of the rudder. Of course, you'll need another 8 nails to do this.

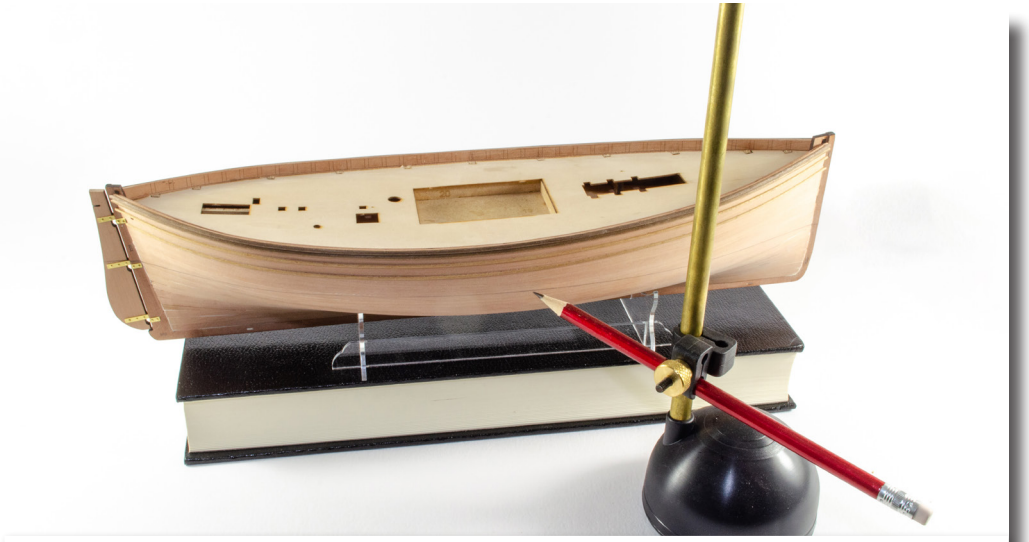


82&83 Remove the rudder straps/rudder post (parts PE5) from the photo-etch sheet and clean them up. Using the same technique as the rudder, place these into position on the stern keel post. You may need to slightly bend the upper parts if up next to the hull. Do not glue the rudder into position yet.



84, 85&86 Time for a change of materials now as we make the acrylic stand. Using a very sharp knife, cut through the tabs holding the parts in place and trim away any excess on the parts. Both sides of the parts are covered in a protective film and you need to peel this away. Now clip the stand together. If the parts are a little tight, don't force them, but very gently file the inside of the slots and test fit so they go together snugly. Note that the parts have a front and rear, so familiarise yourself with how the hull sits on the stand.



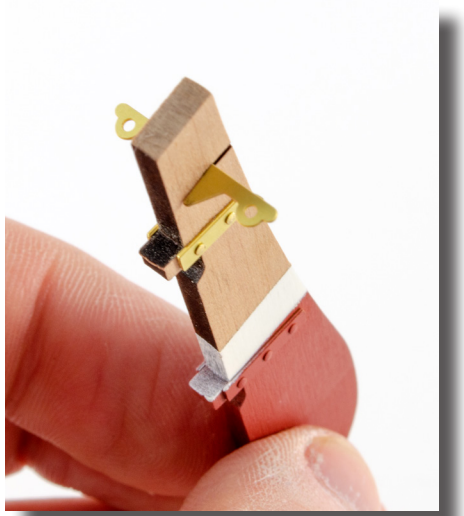


87. Sit the hull correctly on the stand use a waterline tool to mark a line from the bow to the end of the rudder. Amati's waterline tool is excellent for this. Use your plan to reference the position for the line. It generally is just above the middle stern post rudder hinge. You may need to elevate your model a little to comfortably mark the line.

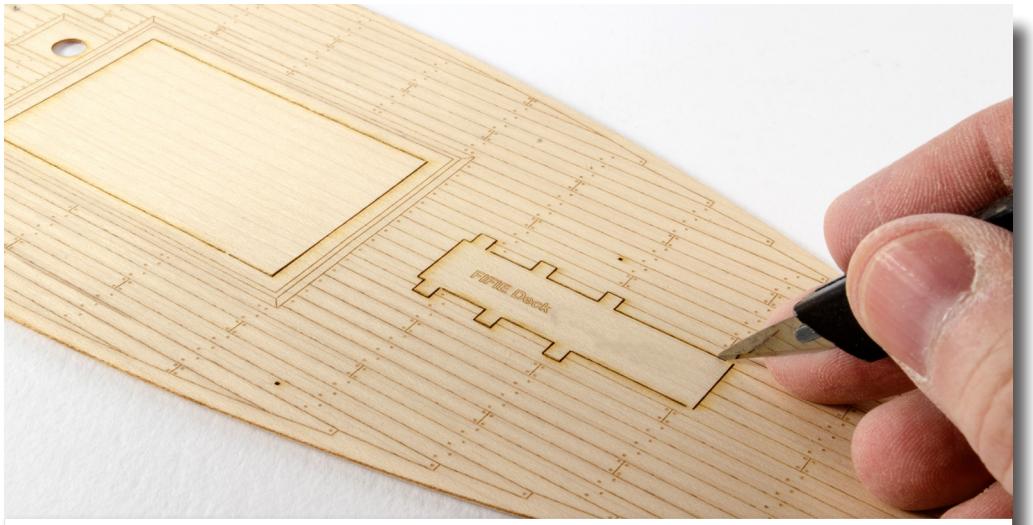
88&89 Mask off the areas above the waterline and use a red oxide primer to paint the exposed areas in thin layers. You will need to rub this down between coats, and if necessary, fill any areas where exposed edges can be seen. Carry on spraying the hull and the rudder until you have a smooth, solid layer. Once thoroughly dry, unmask the hull.

90. Mask off the entire red primer area very carefully, and using the plan sheets as reference, cut thin strips of masking tape and apply them to the hull to create the white area known as a 'boot top'. Once you've applied the demarcation line with masking tape, mask off the rest of the hull, including the deck area, so there's no accidental spray hits this area. One last time, check all the tape is properly stuck down, and then spray the boot top in white and leave to dry.

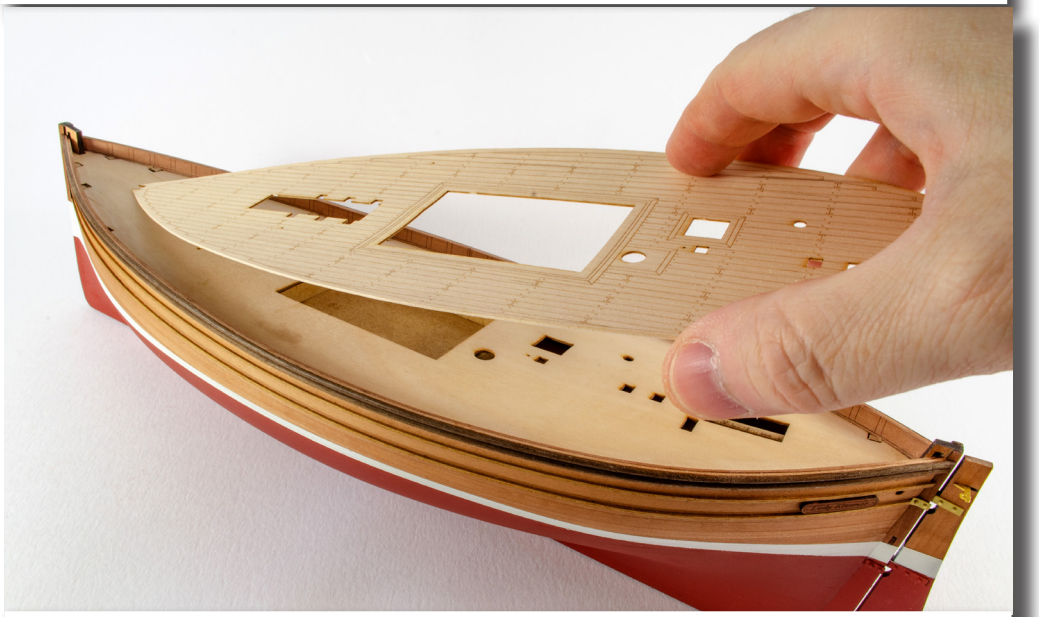
91. The painted hull should look very much like this. Go ahead now and attach the four ‘Lady Eleanor’ nameplates (parts 75N) as shown on the plans. If there isn’t enough space to locate them as shown on the plans, due to how you had to position the rubbing strakes, you can position them as shown on this prototype model. Remember, everyone’s model will be slightly different.



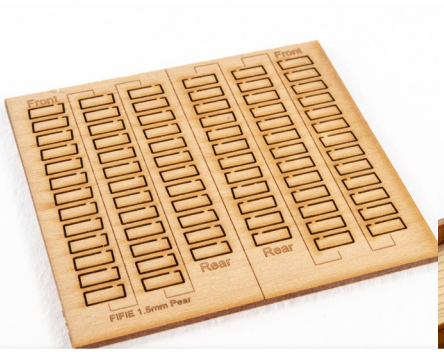
92&93 Take the rudder tiller arm (PE13) and glue it into the slot in the back of the rudder, and finally glue the rudder into the sockets on the stern post.



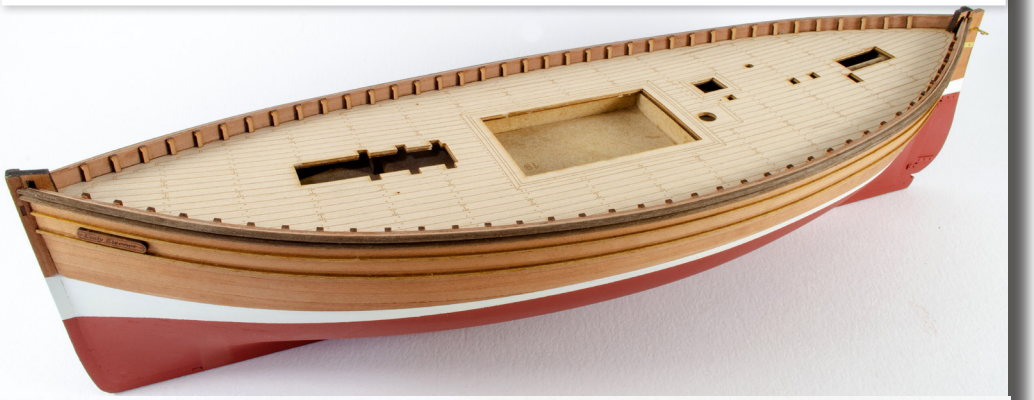
94. It’s now time to prepare and fit the engraved deck. The part shown is the optional maple ply deck, but yours will be very similar. Snip out the various panels to create the openings, as seen here.



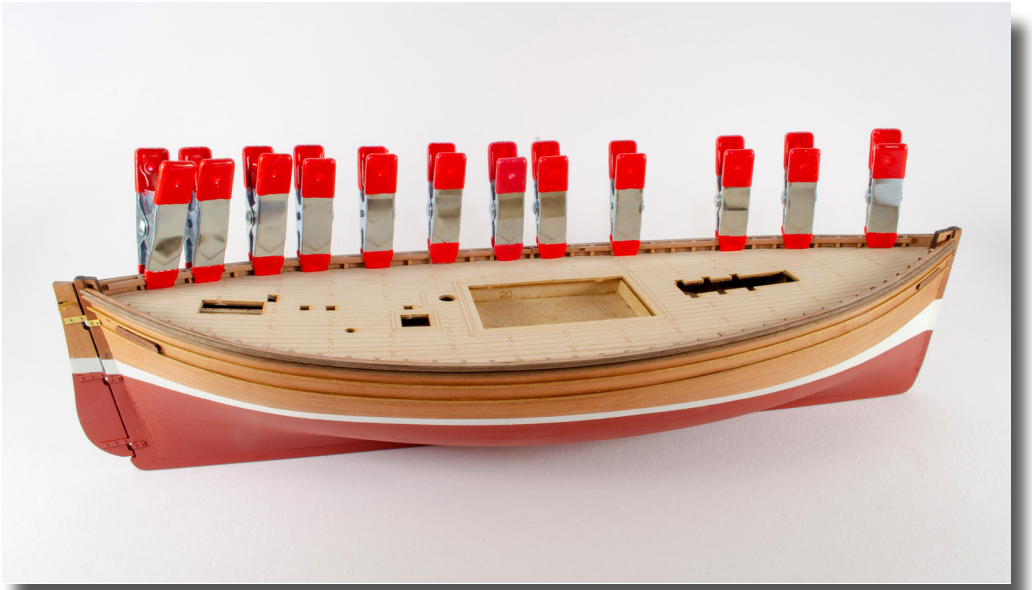
95. Test fit the deck to make sure that it lies flat and pushes snugly down around the bulwarks. The deck should sit around the edges so that the top of it matches the upper engraved line along the inside of the bulwark. If the deck doesn’t fit easily, remove it and gently sand around the edges and try again. Repeat this until it fits perfectly. When it does, glue into place using either CA gel or white glue. You will need clamps to pin the deck around the edges if you use white glue.



96, 97&98 We can now fit the timberheads. On the real boat, these were actually the parts of the ships frames which protruded above deck. There's a lot of them, and you must remove the parts one at a time and glue into place as they are all different. The engraved writing on the sheet shows you the orientation of them. Remove each one in turn and clean up the retention tab area, then glue between the engraved lines on the inner bulwark. You may need to slightly bevel the bottom of the last 2 or 3 of these at the stern, to match the deck camber.

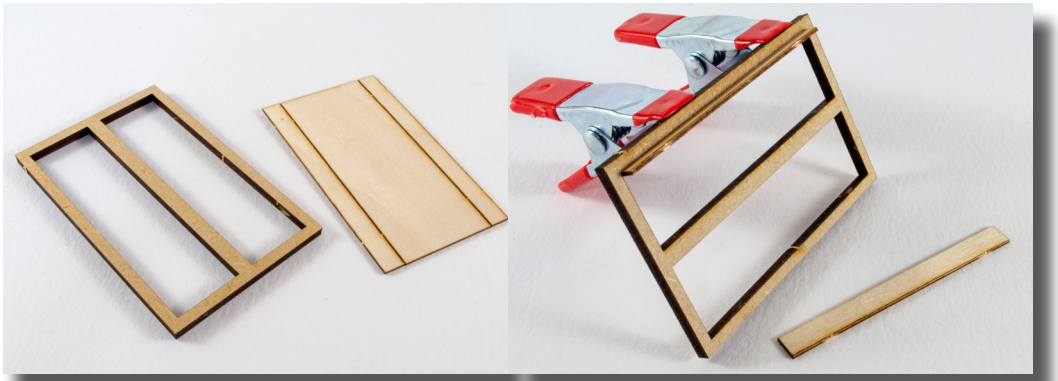


99, 100&101 The inner bulwark rails now need to be fitted. These are supplied in halves, and pre-shaped to make fitting them very easy. Cut a part 49 and 50 from the 1mm pear sheet and remove the retention tag marks. You may want to gently sand the upper sides of these (concave edge) to remove the rest of the laser char. Part 49 is fitted first, and this is the forward bulwark rail. One tip on this is slightly angled and goes towards the bow. The straight end glues to the midships timberhead where the bulwarks were joined. You'll still see this joint on top of the bulwarks. Apply white glue (not CA!) to the upper halves of the timberheads and position the rail. Use clamps to hold until dry. Fit the rear rail section in the same manner, with the ends butting up next to each other on that midships timberhead. The rear section has the cleat slot at the stern end. Fit the bulwark rails to the opposite bulwark and leave to dry.



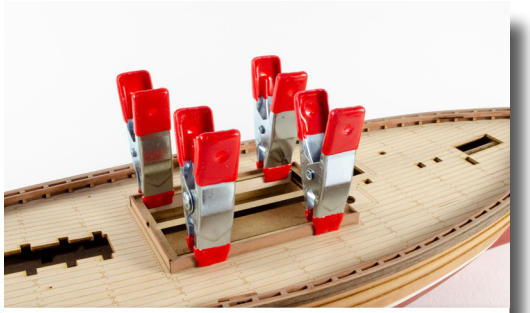
102. Remove the six cleats (parts 71) and glue them into the slots on the bulwark rails.

103. To finish off the outside of the hull, remove the Bow Plate (PE-14) from the photo-etch sheet and bend the top to match the top of the prow. Very slightly bend the bottom area of the part so it matches the curve of the lower prow. Using the metal part as a template, mark the holes with a small drill. Remove the plate and drill those holes a few millimetres deep. We don't advise you try and drill a narrow deep hole here. Glue the metal part to the bow and shorten 12 brass pins. Glue the short pins into the holes so it looks like it has been attached with nails.



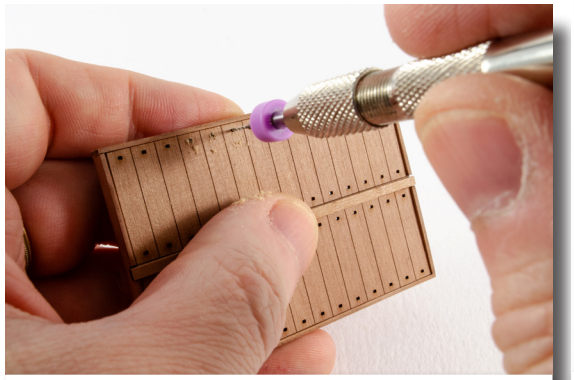
104&105 Take the Fish Hatch Frame (part 22) from the MDF sheet, and the Fish Hatch Inner Combing part that you removed from the middle of the laser engraved deck. Remove the two outer thin strips and glue them to the inside outer edge of the fish hatch frame.

106&107 Dry fit the frame to the upper deck (no glue!) and glue the Fish Hatch Front and Rear Faces (parts 55) to the front and back of the frame. Make sure you don't get any glue on the deck.

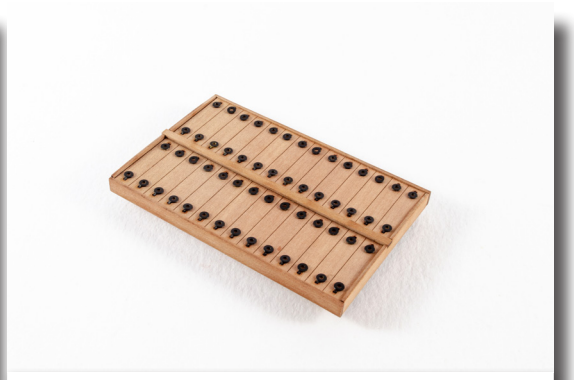


108. Glue the Fish Hatch Side Faces (parts 56) to the frame and clamp until dry.

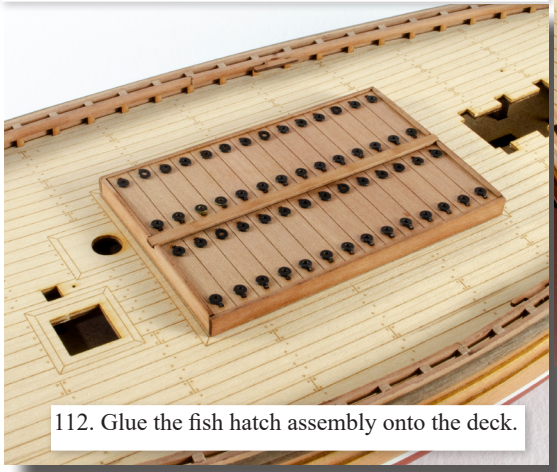
109. Remove the frame and sidewall assembly from the deck and glue the Fish Hatch Top Pattern (part 51) onto the assembly and then the Fish Hatch Front Centre Beam to the top as shown.



110. Use a small drill, drill the holes around the outside of the fish hatch assembly. This is to allow the fit of the Fish Hatch Handles (parts PE-1) to fit into the MDF frame. Alternately, you can cut the eyebolts shorter

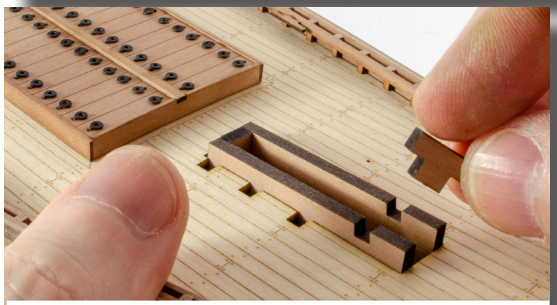


111. Paint the eyebolts and when dry, glue them into the fish hatch assembly using CA.



112. Glue the fish hatch assembly onto the deck.

113. Remove the Foremast Opening Side parts from the 3mm Pear sheet (parts 31) and glue them into position as shown here.



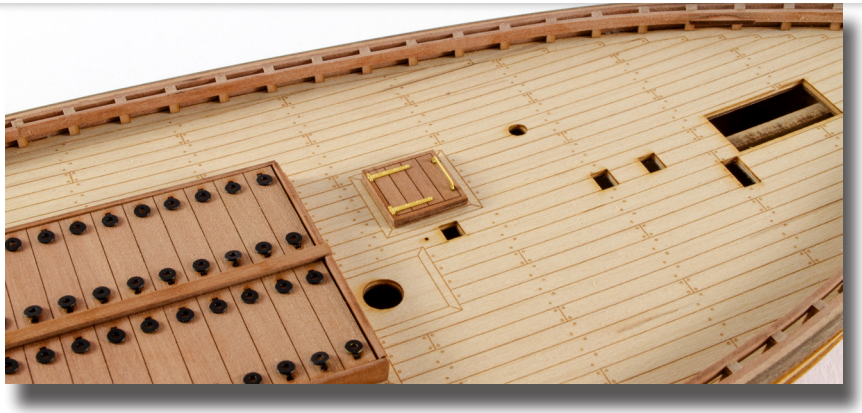
114. Now take the Foremast Opening End (part 32) and glue into its slot in the same channel, nearest the fish hatch. Lastly, glue the Foremast Securing Chock (part 33) into the notches between the two side parts.

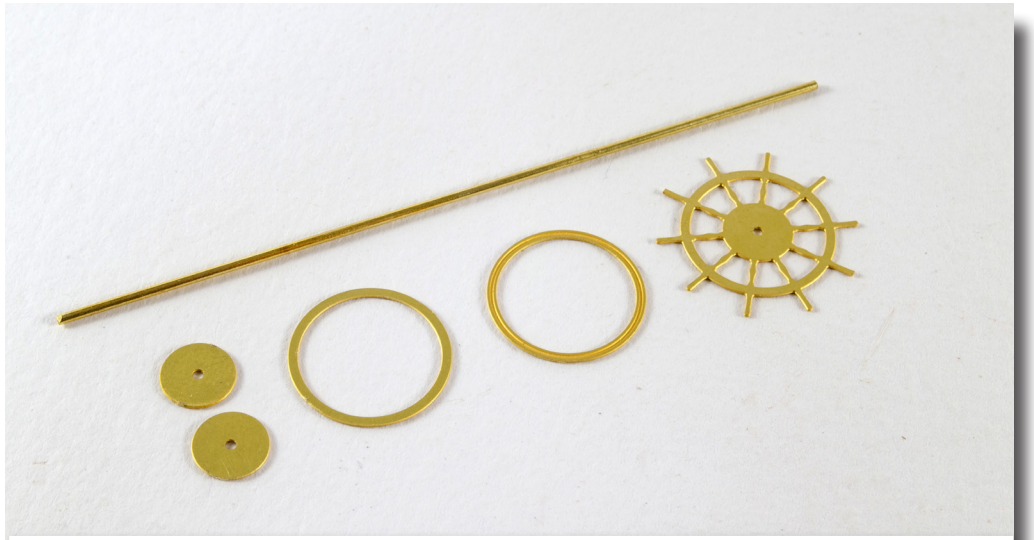
115. Glue the Foremast Opening Cover (part 74) in position.

116. Remove the six Fore Mast Opening Side Cheeks (parts 34) from the 3mm pear sheet and glue into the positions shown.

117. Every sailor needs a seat! Take the Fore Bench (part 73) and glue as shown. If necessary, temporarily plug the square-section foremast into position so help you glue the bench. Once in position, put six brass nails into the securing holes. You can use ones which have been clipped short.

118, 119&120 Remove the Deck Hatch Combing (part 69) and the Deck Hatch Lid (part 70) from the 1mm pear sheet. Also remove two Door Hinge (PE-7) and a Hatch Handle (PE-6) from the photo-etch sheet and assemble as shown. Install the finished unit to the deck in the correct orientation.

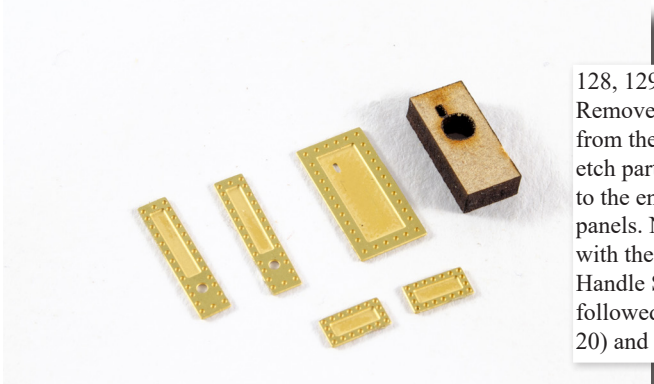




121, 122&123 We can now assemble the steering wheel unit. Remove parts PE-9, PE-10 and PE-11 from the photo-etch sheet. Slide an Inner Face (PE-11) onto the brass rod and then slide the steering wheel onto it. The rod simply helps to keep the parts aligned. Now fit another PE-11 to the other side of the wheel. Glue the Outer Rims (PE-10) to the wheel.

124, 125&126 Paint the wheel in a suitable colour (I used Tamiya Hull Red XF-9) and remove the Steering Wheel Drum End Patterns (parts 71) from the 1mm pear sheet, and the Steering Wheel Drum (part 36) from the 3mm pear sheet. Slide the parts onto the brass rod in the order shown, making sure the engraved faces of the Steering Wheel Standard (part 35) are facing outwards. Glue the unit to the deck and clip the brass rod flush with the ends of the unit.

127. Now glue the Aft Sail Boom Standard (part 37) into place. Note which way the engraving faces. This part locates into the lower deck, so wiggle it until it pops into position.

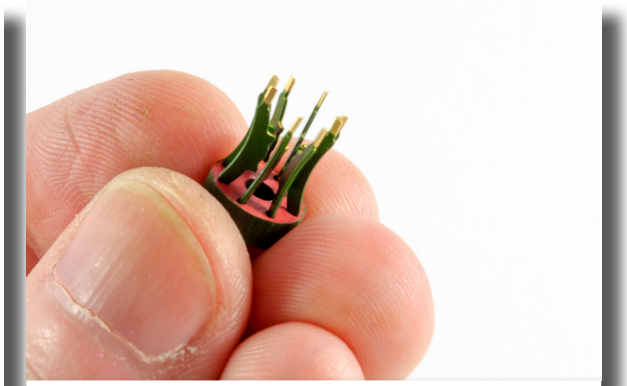


128, 129&130 We can now build the winch. Remove the Steam Winch Top Plate (part 24) from the MDF sheet, and the associated photo-etch parts as shown. Glue the short PE pieces to the ends of the MDF piece, and then the side panels. Note the orientation of the side parts with the holes. Now glue the Steam Winch Handle Stem (PE-21) into the MDF as shown, followed by the Steam Winch Top Plate (PE-20) and then the Steam Winch Handle (PE-22)

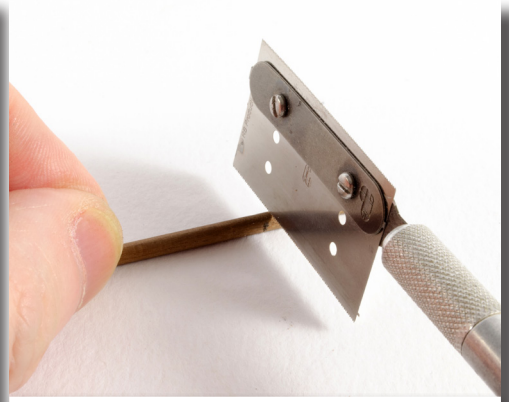

129


130


131. Cut the eight Whelps (PE-17) and the two Steam Winch Ring (PE-16) from the PE sheet, plus the two Steam Winch Upper and Lower Drum (part 23) from the MDF sheet. I have painted these parts in a combination of red and green, which seems to be quite common for these).

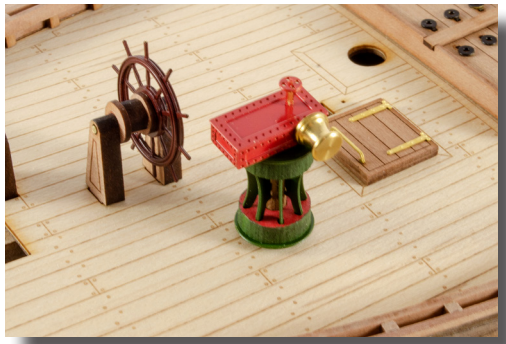

132&133 Push the whelps into one of the drum parts (no glue) and then carefully fit the other drum part to the other side.

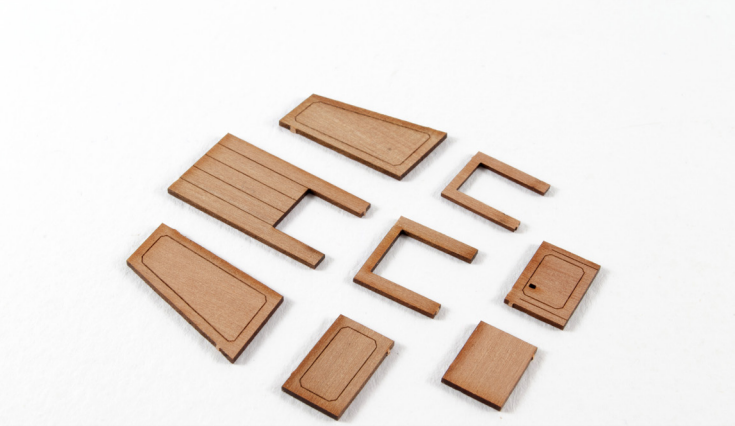

133


134. Cut the winch shaft to 30mm, from a length of 3mm walnut rod.


135. Push the rod through the two winch drums and slide parts PE-16 either side of the winch.


136. Now glue the box unit to one side of the winch and then glue the turned brass Steam Winch Drum to the box as shown.


137.The steam winch can now be fitted to the deck.

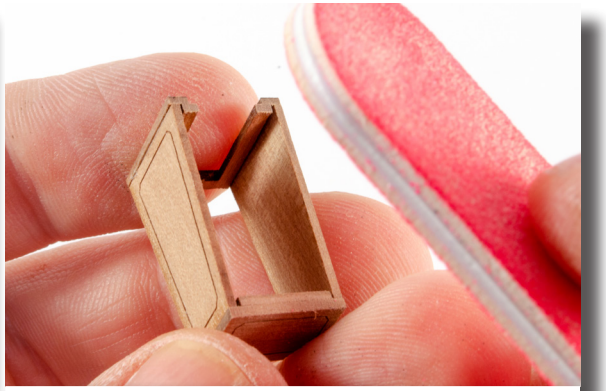


138. We will now build the companionway. Remove the parts shown in this photo from the 1mm wood sheet (parts 58, 59, 60, 61, 61, 63, 64, and 66).

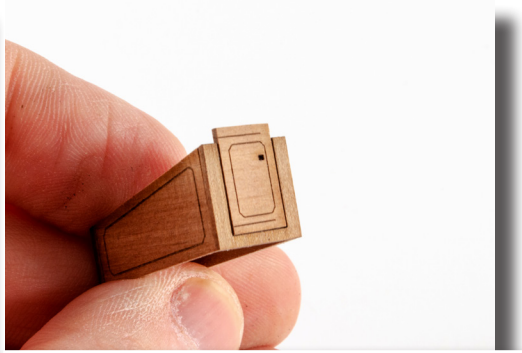
139. Glue the Aft Companionway Front panel (Outer, part 60), to the Aft Companionway Front panel (Inner, part 61). Also glue the Aft Companionway (part 62) to the Aft Companionway Rear Panel (Inner, part 63).

140. Glue the Aft Companionway Sides (parts 58 and 59) to the companionway rear panel that you just made.

141. Now glue the companionway front panel that you made, to the front of this assembly.



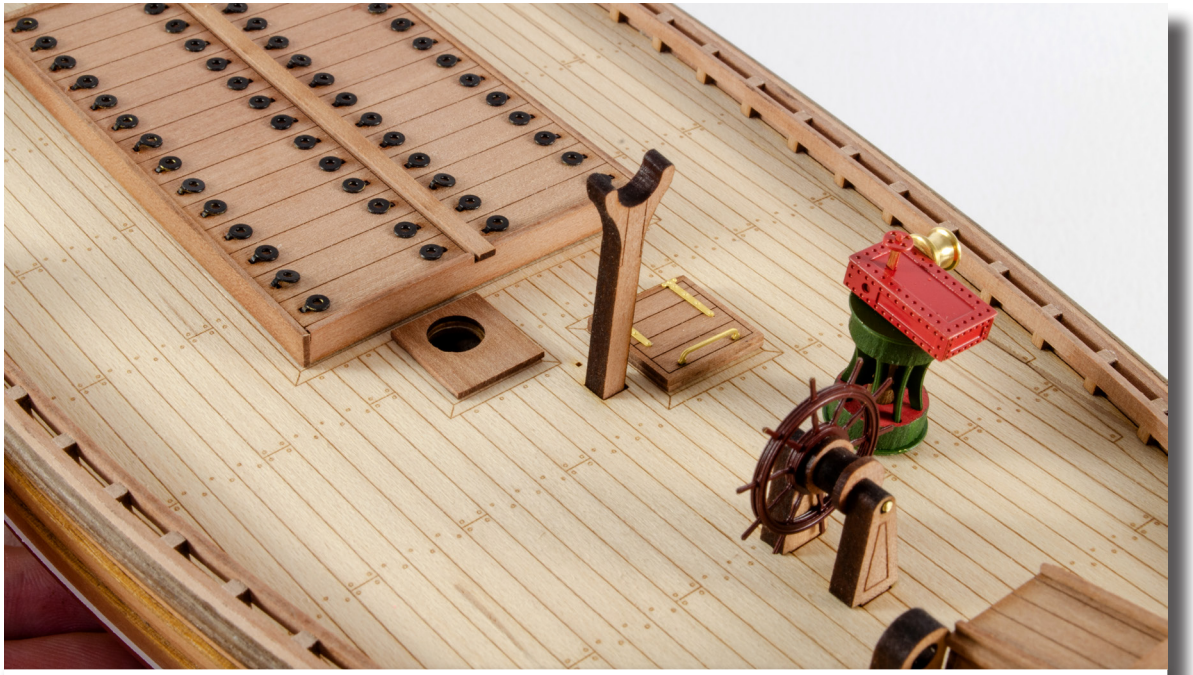
142. When the assembly is thoroughly set, sand the upper and lower sides so all edges are flush with each other.



143. Glue the Aft Companionway Door (part 64) into position. Note the orientation.

145.Remove parts 65, 66, and 67 from the 1mm pear sheet and glue into position as shown. Now remove the photo-etch parts PE-1, PE-6, and PE-7.

146. Once the companionway assembly is complete, glue into position on the rear deck of your Fifie.

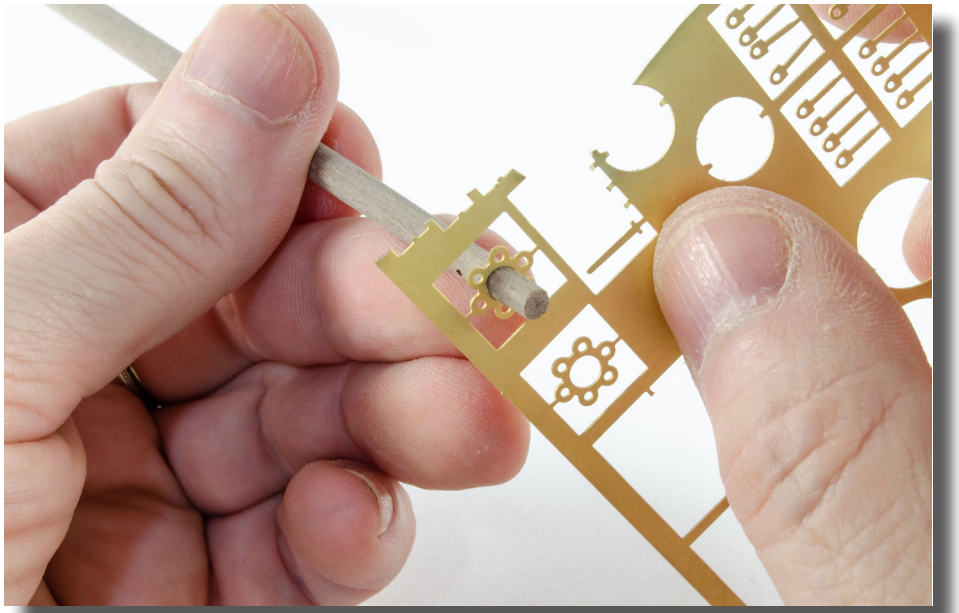


147. Glue the 1mm Aft Mast Base (part 68) into position, and also the Foremast Crutch (part 38). Again, wiggle the last part about a little and you'll find it will lock into the sub deck so that it's angled properly.

This completes the hull assembly, using the large plans, make up the masts and yards and complete the model with either no sails or the optional sail set

Using the plans, the main and aft mase, bowsprit and aft sail boom were cut to size and tapered

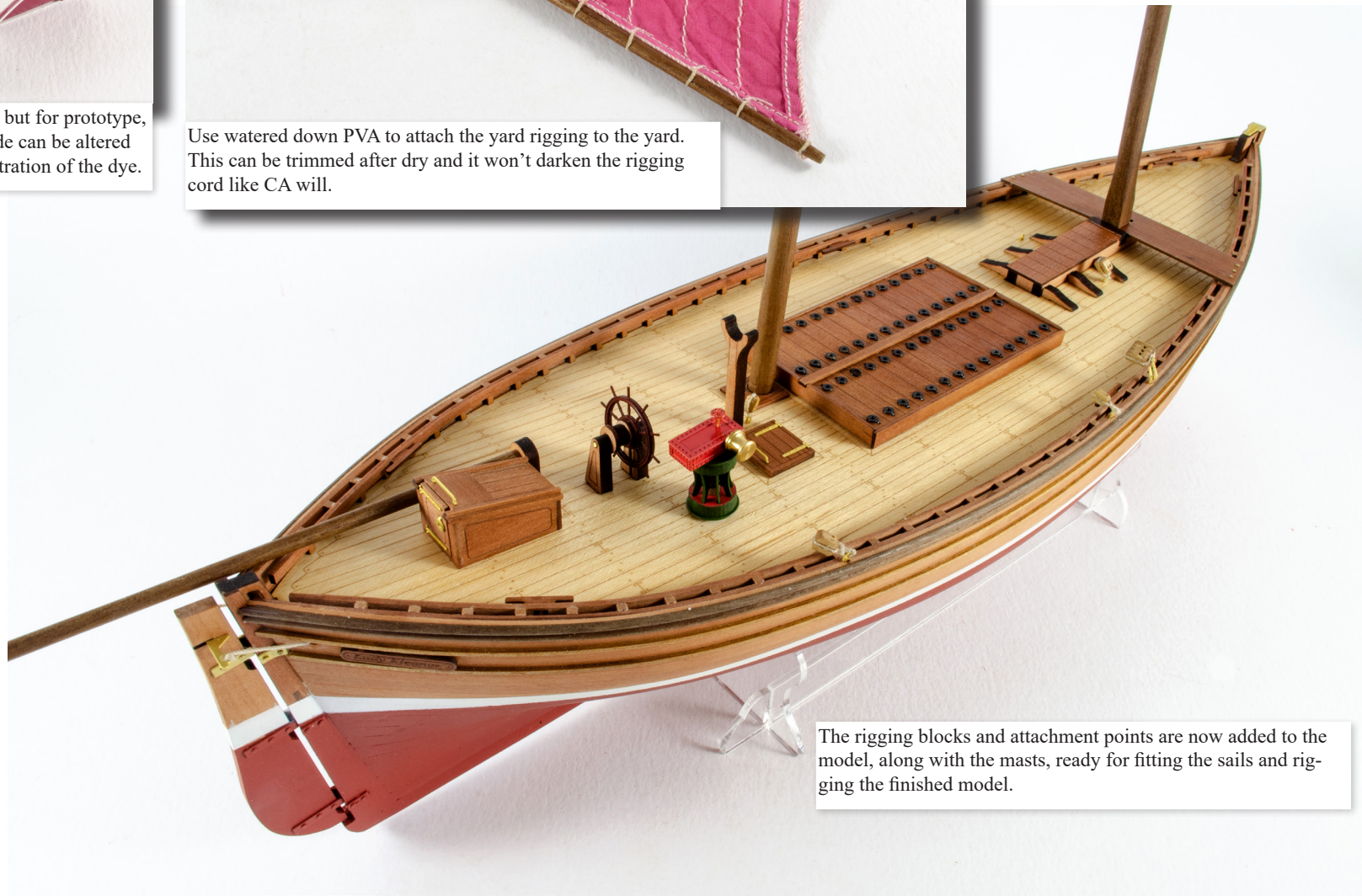
Use a sanding block or a combination of block and small plane to taper the masts to the dimensions shown on the plans.



Use the Mast Ring (PE-8) to make sure that you have tapered the top of the mast to the correct size.

You can use any dye of your choice, but for prototype, this is the product we used. The shade can be altered by increasing/decreasing the concentration of the dye.

Use watered down PVA to attach the yard rigging to the yard. This can be trimmed after dry and it won't darken the rigging cord like CA will.



The rigging blocks and attachment points are now added to the model, along with the masts, ready for fitting the sails and rigging the finished model.

The Fifie Lady Eleanor – 1:64th scale
PARTS LIST

Pt. No	Description	Material	QTY
	3mm MDF		
1	Bulkhead	3mm MDF	1
2	Bulkhead	3mm MDF	1
3	Bulkhead	3mm MDF	1
4	Bulkhead	3mm MDF	1
5	Bulkhead	3mm MDF	1
6	Bulkhead	3mm MDF	1
6a	Bulkhead Thickness Extension Pattern	3mm MDF	4
7	Bulkhead	3mm MDF	1
8	Bulkhead	3mm MDF	1
9	Bulkhead	3mm MDF	1
10	Bulkhead	3mm MDF	1
11	Bulkhead	3mm MDF	1
12	Keel	3mm MDF	1
13	Planking filling Pattern (Front)	3mm MDF	2
14	Planking filling Pattern (Between B/H 1&2)	3mm MDF	2
15	Planking filling Pattern (Aft)	3mm MDF	2
16	Planking filling Pattern (Between B/H 10&11)	3mm MDF	2
17	Planking filling Pattern (Between B/H 9&10)	3mm MDF	2
18	Lower base Pattern for Lower Deck	3mm MDF	1
19	Lower deck	3mm MDF	1
20	Fish Hatch Side Pattern	3mm MDF	2
21	Fish Hatch End Pattern	3mm MDF	2
22	Fish Hatch Frame	3mm MDF	1
23	Steam Winch Upper and Lower Drum	3mm MDF	2
24	Steam Winch Top Plate	3mm MDF	1
25	Keel Alignment Clamp	3mm MDF	8
	3mm Wood		
26	Prow	3mm Wood	1
27	Keel (Front)	3mm Wood	1
28	Keel (Rear)	3mm Wood	1
29	Stern Post	3mm Wood	1
30	Rudder	3mm Wood	1
31	Fore Mast Opening Side	3mm Wood	2
32	Fore Mast Opening End	3mm Wood	1
33	Fore Mast Securing Chock	3mm Wood	1
34	Fore Mast Opening Side Cheek	3mm Wood	6
35	Steering Wheel Standard	3mm Wood	2
36	Steering Wheel Drum	3mm Wood	1
37	Aft Sail Boom Standard	3mm Wood	1
38	Fore Mast Crutch	3mm Wood	1

Pt. No	Description	Material	QTY
	2mm Clear Acetate		
39	Fore Cradle	2mm Clear Acetate	1
40	Aft Cradle	2mm Clear Acetate	1
41	Cradle Spacer	2mm Clear Acetate	2
	0.8mm Birch Plywood		
42	Sub Deck	0.8mm Birch Plywood	1
43	Fish Hatch Inner Combing	0.8mm Birch Plywood	2
	1mm Limewood		
44	Laser Engraved Deck	1mm Limewood	1
	1.5mm Wood		
T1-T37	Bulwark Timberheads (One spare per side)	1.5mm Wood	76
	1mm Wood		
45	Bulwark Pattern (Front Left)	1mm Wood	1
46	Bulwark Pattern (Rear Left)	1mm Wood	1
47	Bulwark Pattern (Front Right)	1mm Wood	1
48	Bulwark Pattern (Rear Right)	1mm Wood	1
49	Inner Bulwark Rail (Front)	1mm Wood	2
50	Inner Bulwark Rail (Rear)	1mm Wood	2
51	Fish Hatch Top Pattern	1mm Wood	1
52	Prow rabbet Pattern	1mm Wood	2
53	Stern Post rabbet Pattern	1mm Wood	2
54	Keel rabbet Pattern	1mm Wood	4
55	Fish Hatch Front and Rear Face	1mm Wood	2
56	Fish Hatch Side Face	1mm Wood	2
57	Fish Hatch Front Centre Beam	1mm Wood	1
58	Aft Companionway Side (Right)	1mm Wood	1
59	Aft Companionway Side (Left)	1mm Wood	1
60	Aft Companionway Front panel (Outer)	1mm Wood	1
61	Aft Companionway Front panel (Inner)	1mm Wood	1
62	Aft Companionway	1mm Wood	1
63	Aft Companionway Rear panel (Inner)	1mm Wood	1
64	Aft Companionway Door	1mm Wood	1
65	Aft Companionway Sliding Hatch	1mm Wood	1
66	Aft Companionway Roof	1mm Wood	1
67	Aft Companionway Hatch Runner	1mm Wood	2
68	Aft Mast Base	1mm Wood	1

Pt. No	Description	Material	QTY
69	Deck Hatch Combing	1mm Wood	1
70	Deck Hatch Lid	1mm Wood	1
71	Cleats for Parts 49 & 50	1mm Wood	6
72	Steering Wheel Drum End Pattern	1mm Wood	2
73	Fore Bench	1mm Wood	1
74	Fore Mast opening Cover	1mm Wood	1
75	'Lady Eleanor' Nameplate	1mm Wood	4

0.4mm Photo Etched Brass

PE-1	Eyebolt/Fish Hatch Handle	0.4mm Photo Etch	68
PE-2	Eyebolt (For Rigging)	0.4mm Photo Etch	16
PE-3	Rudder Strap	0.4mm Photo Etch	4
PE-4	Rudder Strap	0.4mm Photo Etch	2
PE-5	Rudder Strap (Rudder Post)	0.4mm Photo Etch	6
PE-6	Hatch Handle	0.4mm Photo Etch	2
PE-7	Door Hinge	0.4mm Photo Etch	5
PE-8	Mast Ring	0.4mm Photo Etch	2
PE-9	Steering Wheel Main Pattern	0.4mm Photo Etch	1
PE-10	Steering Wheel Outer Rim	0.4mm Photo Etch	2
PE-11	Steering Wheel Inner Face	0.4mm Photo Etch	2
PE-12	Eyebolt for Part PE-14 (Fore Sail)	0.4mm Photo Etch	1
PE-13	Rudder Tiller Arm	0.4mm Photo Etch	1
PE-14	Bow Plate	0.4mm Photo Etch	1
PE-15	Rigging Hook	0.4mm Photo Etch	16
PE-16	Steam Winch Ring	0.4mm Photo-Etch	2
PE-17	Steam Winch Whelp	0.4mm Photo Etch	8
PE-18	Steam Winch Top Plate Side	0.4mm Photo Etch	2
PE-19	Steam Winch Top Plate End	0.4mm Photo Etch	2
PE-20	Steam Winch Top Plate	0.4mm Photo Etch	1
PE-21	Steam Winch Handle Stem	0.4mm Photo Etch	1
PE-22	Steam Winch Handle	0.4mm Photo Etch	1

Pt. No	Description	Material	QTY

Fittings & Materials

F-1	Steam Winch Drum	Brass	1
F-2	Fine Brass Pins	Brass	200
F-3	Parrel Bead	Plastic	20
F-4	1mm Brass Wire x 40mm Long	Brass	1
F-5	3mm Single Block	Wood	8
F-6	4mm Double block	Wood	10
F-7	5mm Triple block	Wood	4
F-8	0.25mm Diameter natural thread	DD 36//8243	20m
F-9	0.5mm Diameter natural thread	DD 25//8243	10m
F-10	6mm Square Dowel x 300mm long (Fore Mast)	Wood	1
F-11	6mm Dowel x 250mm Long (Aft Mast)	Wood	1
F-12	3mm Dowel x 410mm Long	Wood	1
F-13	1 x 5 x 410mm Long Limewood	Wood	30
F-14	1 x 4 x 410 mm Long Second planking	Wood	44
F-15	1x1 x 410mm Wood Strip	Wood	4
F-16	2mm x 410mm Long Half Round Wood Strip	Wood	4
VM-04/S	Sail Set (Optional)	Cloth	2

Laser Cut Sheet Quantities

3mm MDF Laser Cut Sheet	2
3mm Wood Laser Cut Sheet	1
2mm Clear Acetate Laser Cut Sheet	1
1.5mm Wood Laser Cut Sheet	1
1mm Wood Laser Cut Sheet	2
1mm Wood Laser Cut Sheet (Laser Etched Deck)	1
0.8mm Birch Plywood Sub Deck	1
0.4mm Photo Etched Brass Sheet	1

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The Lady Eleanor was designed and developed in the UK by Chris Watton
Finished prototype model with sails made and photographed (plus text) by James Hatch
A thank you to James Pottinger both for his contribution in the introduction text and helpful advice during the development of the Lady Eleanor
27/04/2020